

प्रगति प्रतिवेदन
Progress Report

Volume 1 : Varietal Improvement

अखिल भारतीय समन्वित चावल सुधार परियोजना
All India Co-ordinated Rice Improvement Project



2019



भाकृअनुप - भारतीय चावल अनुसंधान संस्थान
भारतीय कृषि अनुसंधान परिषद

ICAR - Indian Institute of Rice Research

Indian Council of Agricultural Research
Rajendranagar, Hyderabad - 500 030

PROGRESS REPORT 2019

Vol.1

VARIETAL IMPROVEMENT

All India Coordinated Rice Improvement Project

ICAR – Indian Institute of Rice Research
Rajendranagar, Hyderabad-500030, T.S., India

Correct citation:

**ICAR-Indian Institute of Rice Research, 2020
Progress Report, 2019, Vol.1, Varietal Improvement
All India Coordinated Rice Improvement Project
ICAR-Indian Institute of Rice Research
Rajendranagar, Hyderabad – 500 030, T.S, India.**

PREFACE

ICAR-Indian Institute of Rice Research (IIRR) is a premier rice research institute in the country. ICAR-IIRR through “All India Coordinated Rice Improvement Project (AICRIP)” coordinates the multi-disciplinary and multi-location testing of varietal improvement, crop protection and crop management technologies across diverse ecosystems for increasing and stabilizing rice production in India. ICAR-IIRR being the nodal agency facilitates collective planning, supply and exchange of improved germplasm and experimental material, for evaluation, trial monitoring, data collection, compilation, analysis and documentation. ICAR-IIRR and ICAR-NRRI together have monitored the conduct of trials at some of the funded and voluntary centres. More than 300 scientists at 45 funded cooperating research centres and about 73 voluntary centres affiliated to various State Agricultural Universities, State Departments of Agriculture, ICAR Institutions and private sector organizations carried out the planned activities of Breeding, Entomology, Pathology, Agronomy, Soil Science and Plant Physiology disciplines.

The results of 42 breeding and 4 hybrid trials conducted at various locations across the country during *Kharif*, 2019 are presented in this volume. Developing varieties/hybrids with biotic/abiotic stress tolerance and desirable quality that are suitable for the diverse ecologies is a challenging task for the rice breeder which is pursued with utmost perseverance. Determined efforts are being made to usher in green revolution to eastern India by testing and validating suitable varietal technologies for the prevalent fragile ecosystems like rainfed uplands, lowlands, semi-deep and deep water ecologies. Varieties for different soil stresses and cold tolerance for high altitude areas under upland and irrigated conditions is also being addressed. Conventional and molecular breeding approaches are being utilized to break the stagnated yield barrier in the irrigated ecology which contributes >60% of total rice production. Efforts are also underway towards developing rice hybrids with higher heterosis levels among various duration groups, and medium slender grain type hybrids to satisfy the needs of discerning south Indian farmers and consumers. Another priority area is the development of export quality basmati and indigenous short grain aromatic varieties with essential quality characters to meet the preference of both export and domestic markets. Further, Near Isogenic Lines (NILs) developed with resistance to biotic (blast, bacterial blight and gall midge) and abiotic (drought and submergence) stresses are under testing. While emphasis on boro rice improvement continues, efforts to identify material suitable for newly emerging challenges like limited water situation are also being addressed through aerobic trials. Additionally, on pilot basis, trials have been initiated on “New Plant Type (NPT)” and “Nutrient Use Efficiency (NUE) – Nitrogen and Phosphorous”. Breeder seed production of 282 rice varieties was organized at 47 locations as per the DAC indents. ICAR-IIRR also evaluated 16 candidate varieties, 12 Farmers Varieties and 5 extant varieties (VCKs) for DUS testing. Additionally, the strong partnership with IRRI, Philippines provides access to global elite rice germplasm with the exchange of breeding lines through “The International Network for Genetic Evaluation of Rice (INGER)”. Delayed monsoon has been a regular phenomenon owing to climate change therefore, efforts are being made to identify suitable varieties for late sown conditions.

I greatly appreciate the efforts of the principal investigator, scientists, technical, administrative, project and field staff in the Plant Breeding team of this Institute and all the cooperating scientists from both funded and voluntary centres for bringing out this volume.



(S.R.Voleti)
Director.

Contents of Progress Report

Name of the Trial	Page No.	
	Text	Table
SUMMARY	i - xiii	-
UPLAND TRIALS		
Advance Variety Trial 1-Early Direct Seeded (AVT 1-E DS)	1.1	1.8
Initial Variety Trail- Early Direct Seeded (IVT-E DS)	1.6	1.18
LOW LAND TRIALS		
Advance Variety Trial 1- Rainfed Shallow Lowland (AVT 1-RSL)	1.31	1.39
Initial Variety Trial- Rainfed Shallow Lowland (IVT-RSL)	1.36	1.44
Advance Variety Trial 1 - Semi Deep Water (AVT 1-SDW)	1.55	1.61
Initial Variety Trail- Semi Deep Water (IVT-SDW)	1.57	1.65
Initial Variety Trial- Deep Water (IVT-DW)	1.75	1.76
IRRIGATED TRIALS		
Advance Variety Trial 2- Early Transplanted (AVT 2-E TP)	1.79	1.90
Advance Variety Trial 1- Early Transplanted (AVT 1-E TP)	1.81	1.94
Initial Variety Trial- Early Transplanted (IVT- E TP)	1.86	1.113
Advance Variety Trial 1- Irrigated Mid Early (AVT 1-IME)	1.141	1.157
Initial Variety Trial- Irrigated Mid Early (IVT-IME)	1.150	1.174
Advance Variety Trial- 1 Irrigated Medium (AVT 1- IM)	1.203	1.211
Initial Variety Trial- Irrigated Medium (IVT - IM)	1.208	1.229
Advance Variety Trial 1- Late (AVT 1- L)	1.263	1.270
Initial Variety Trial-Late (IVT-L)	1.267	1.280
Advance Variety Trial 1-Boro (AVT 1- Boro)	1.296	1.299
Initial Variety Trial – Boro (IVT-Boro)	1.298	1.302
HYBRID TRIALS		
Initial Hybrid Rice Trial – Early (IHRT-E)	1.307	1.316
Initial Hybrid Rice Trial- Mid Early (IHRT-ME)	1.310	1.327
Initial Hybrid Rice Trial – Medium (IHRT-M)	1.312	1.338
Initial Hybrid Rice Trial – Medium Slender (IHRT-MS)	1.314	1.349
BASMATI TRIALS		
Advance Variety Trial 1-Basmati (AVT 1-BT)	1.358	1.373
Initial Variety Trial- Basmati (IVT – BT)	1.369	1.382
AROMATIC SHORT GRAIN TRIALS		
Initial Variety Trial – Aromatic Short Grain (IVT- ASG)	1.389	1.392
HILLS TRIALS		
Advance Variety Trial 2- Early Hills (AVT 2-E H)	1.401	1.409
Advance Variety Trial-1 Early Hills (AVT 1- E H)	1.404	1.412
Initial Variety Trial- Early Hills (IVT – E H)	1.407	1.416
Advance Variety Trial 2-Medium Hills (AVT 2-M H)	1.421	1.430
Advance Variety Trial-1 Medium Hills (AVT 1 –M H)	1.425	1.433
Initial Variety Trial-Medium Hills (IVT – M H)	1.427	1.437
Advance Variety Trial 1-Upland Hills (AVT 1-U H)	1.443	1.447
Initial Variety Trial- Upland Hills – (IVT – U H)	1.446	1.450

Name of the Trial		Page No.	
		Text	Table
	Initial Variety Trial –Land Races (Hills) (IVT-LR -H)	1.453	1.456
SALINE – ALKALINE TRIALS			
	Advance Variety Trial – 1 Alkaline & Inland Saline Tolerant Variety Trial (AVT 1- AL & ISTVT)	1.460	1.468
	Initial Variety Trial –Alkaline & Inland Saline Tolerant Variety Trial (IVT – AL & ISTVT)	1.463	1.475
	Advance Variety Trial – 1 Coastal Saline Tolerant Variety Trial (AVT 1- CSTVT)	1.483	1.486
	Initial Variety Trial –Coastal Saline Tolerant Variety Trial (IVT – CSTVT)	1.484	1.491
AEROBIC TRIALS			
	Advance Variety Trial 1- Aerobic (AVT 1 - Aerob)	1.497	1.505
	Initial Variety Trial –Aerobic (IVT- Aerob)	1.499	1.515
BIOFORTIFICATION			
	Initial Variety Trial - Rice Biofortification (IVT - Biofort)	1.534	1.537
MS GRAIN			
	Advance Variety Trial 1- Medium Slender (AVT 1-MS)	1.564	1.573
	Initial Variety Trial – Medium Slender (IVT-MS)	1.570	1.585
NEAR ISOGENIC LINES			
	Advance Variety Trial 1- Near Isogenic Lines- Coastal Salinity (AVT 1-NIL-CS)	-	1.602
	Advance Variety Trial 1- Near Isogenic Lines- Drought (AVT 1-NIL-DRT)	-	1.605
	Advance Variety Trial 1- Near Isogenic Lines- Submergence (AVT 1-NIL–SUB)	-	1.609
Phosphorus & Nitrogen Tolerance			
	Initial Variety Trial -Low Phosphorus Tolerance (IVT-LPT)	1.613	1.620
	Initial Variety Trial – Low Nitrogen Tolerance (IVT-LNT)	1.615	1.621
APENDICES			
	Cooperating centers / breeders	1.622	-
	Weather data	1.635	-
	Trials sent and data received	1.644	-
	Monitoring Tour	1.649	-
	Insect Pest and Disease reaction of entries in NSN	1.666	
	Abbreviations	1.682	-
	Acknowledgement	1.683	-

SUMMARY

ICAR-Indian Institute of Rice Research (IIRR) conducts and coordinates multidisciplinary and multi-location evaluation of elite cultures, crop management and crop protection technologies in different agro-climatic zones of the country under All India Coordinated Rice Improvement Project (AICRIP) to enhance rice production. A total of 46 trials (42 varietal trials and 4 hybrid rice trials) were conducted in 820 experiments (671 varietal and 149 hybrid rice) at 118 locations (45 funded, 73 voluntary centres) in 28 states and 2 union Territories across seven zones of the country during 2019 which is the 55th year of AICRIP testing. Hybrid rice experiments were conducted by 10 private seed companies. The 46 trials were constituted with 1319 entries (1225 varietal and 94 hybrid rice) including 182 checks. The overall data receipt was 78.66% of which 89.69% and 65.37% data was received from funded and voluntary centres respectively. The Rice AICRIP testing program is structured into a three-tier system of Initial Variety Trial, Advance Variety Trial-1 and Advance Variety Trial-2 so as to identify the best yielding lines across zones in rice growing ecologies. The primary research objective in the unfavourable rainfed lowland is to develop long duration and submergence/drought tolerant high yielding varieties. Major emphasis was laid on identifying the best lines combining high yield with superior grain quality, resistance to diseases and insect pests in irrigated ecology following conventional and heterosis breeding methods.

The MAS products with introgressed genes/QTLs conferring tolerance/ resistance to drought, submergence, salinity, BLB and blast are verified and validated in trials on Near Isogenic Lines. Improvement in grain quality along with high yield potential was focussed in Basmati and Aromatic short grain trials. Alkaline and inland saline as well as coastal saline tolerant variety trials are evaluated to identify the stress tolerant elite cultures. In view of the growing water scarcity, Aerobic trials were constituted to identify appropriate genotypes for aerobic method of rice cultivation. Separate NPT trial was conducted to evaluate the yield performance of entries derived from *indica*/tropical *japonica* crosses with ideal plant type traits including strong culm, more grain number with low unproductive tillers. The genetic improvement of rice genotypes with tolerance to low phosphorus and nitrogen was addressed to minimize usage of nitrogenous and phosphatic fertilizers thereby reducing cost of rice production.

LIST OF COORDINATED TRIALS, KHARIF 2019

Varietal Trials				Hybrid Trials
Ecosystem	AVT 2	AVT 1	IVT	IHRT
Rainfed Upland- DS		AVT 1-E DS	IVT-E-DS	
Rainfed shallow lowland		AVT 1-RSL	IVT-RSL	
Semi-deep water		AVT 1-SDW	IVT-SDW	
Deep water			IVT-DW	
Early - TP	AVT 2-E TP	AVT 1-E TP	IVT-E TP	IHRT-E
Mid Early		AVT 1-IME	IVT-IME	IHRT-IME
Medium		AVT1-IM	IVT-IM	IHRT-IM
Late		AVT1-Late	IVT-Late	
Boro		AVT 1-Boro	IVT-Boro	
Basmati		AVT 1-BT	IVT-BT	
Aromatic short grain			IVT-ASG	
Saline alkaline		AVT 1-AL & ISTVT	IVT-AL & ISTVT	
		AVT 1-CSTVT	IVT-CSTVT	
Hills	AVT 2-E (H)	AVT1-E (H)	IVT-E(H)	
	AVT 2-M (H)	AVT1-M (H)	IVT-M(H)	
		AVT 1-U (H)	IVT-U(H)	
			IVT-LR (H)	
Aerobic		AVT1-Aerobic	IVT-Aerobic	
Bio-fortification			IVT-Biofort	

Varietal Trials				Hybrid Trials
Ecosystem	AVT 2	AVT 1	IVT	IHRT
Medium Slender Grain		AVT 1-MS	IVT-MS	IHRT-MS
Near Isogenic Lines (CS)		AVT 1-NIL (CS)		
Near Isogenic lines (Drt)		AVT 1-NIL (Drt)		
Near Isogenic lines (Sub)		AVT1-NIL (Sub)		
Near Isogenic Lines (Bl, BLB)		AVT 1-NIL (Bl & BLB)		
Near Isogenic Lines (BAS-HT)		AVT 1-NIL (BAS-HT)		
Low Phosphorus Tolerance			IVT-LPT	
Low Nitrogen Tolerance			IVT-LNT	

Particulars of Zones, States and test Locations

Region / State	Locations	
	Funded	Voluntary
ZONE I – HILLY AREAS		
North Western Hills		
Jammu & Kashmir	Khudwani (1)	Rajouri, Wadura, Pombay (3)
Himachal Pradesh	Malan (1)	Palampur, Dhaulakhan (2)
Uttarakhand		Almora, Bageshwar, (2)
North Eastern Hills		
Manipur		Imphal-CAU (1)
Nagaland	Kohima (1)	
Sikkim		Gangtok (1)
Meghalaya	Upper Shillong (1)	ICAR-Umiam, CAU-Umiam (2)
West Bengal		Kalimpong (1)
Southern Hills		
Karnataka	Ponnampet (1)	Sirsi (1)
ZONE II – NORTHERN		
New Delhi		IARI- New Delhi (1)
Uttarakhand	Pantnagar (1)	
Punjab	Ludhiana (1)	Gurdaspur, Kapurthala, Rauni (3)
Haryana	Kaul (1)	Karnal (CSSRI), Palwal, Kurukshetra, Panipat (4)
Uttar Pradesh	Nagina, Kanpur (2)	
Jammu & Kashmir	Chatha (R.S. Pura) (1)	
Rajasthan	Kota (1)	Banswara (1)
ZONE III – EASTERN		
Orissa	Jeypore, Chiplima (2)	Bhubaneswar, NRRI (Cuttack), (2)
Bihar	Bikramganj (Patna), Pusa (2)	Patna- ICAR, Sabour(2)
Jharkhand	Ranchi (1)	Hazaribagh, Gharkatanga (2)
West Bengal	Bankura, Chinsurah (2)	Canning, Pundibari, Chakdha, Hathwara (4)
Uttar Pradesh	Masodha ,Ghaghrahat, Varanasi (3)	Lucknow, BEDF-Modipuram, Gautam Budha Nagar, SVPuat, Meerut (4)
ZONE IV – NORTH EASTERN		
Assam	Titabar (1)	Gerua, Karimganj (2)
Manipur	Wangbal (1)	Lamphalpat, (1)
Tripura	Arundhutanagar (1)	Lembucherra (1)
ZONE V – CENTRAL		
Madhya Pradesh	Rewa (1)	Waraseoni, Jabalpur (2)
Chhattisgarh	Raipur, Jagadapur (2)	Bilaspur, Ambikapur (2)
Maharashtra	Sakoli (1)	Sindewahi (1)
ZONE VI - WESTERN		
Maharashtra	Karjat, Tuljapur (2)	Panvel, Radhanagari, Shirgaon, Phondaghat, Vadagaon, Parbhani, Palghar (7),
Gujarat	Nawagam, Navsari (2)	Derol, Vyra, Danti, Dabhoi, (4)
Goa		Goa (1)
ZONE VII - SOUTHERN		
Andaman & Nicobar		Port Blair (1)
Andhra Pradesh	Maruteru (1)	Ragolu, Bapatla, Machilipatnam, Nellore, (4)
Telangana	Rajendranagar, Warangal (2)	IIRR, Jagtial, Kunaram, Rudrur, Kampasagar (5)
Tamil Nadu	Aduthurai, Coimbatore (2)	Trichy, Annamalaiagar, Tirur, (3)
Kerala	Moncompu, Pattambi (2)	Vyttila (1)
Karnataka	Mandya, Mugad, Ponnampet, Brahmavar, Gangavati (5)	Sirsi, Kathalgere (2)
Puducherry	Kurumbapet (1)	Karaikal (1)
Total locations	45	73

Underline: ICAR Institutions

RAINFED UPLAND ECOSYSTEM

AVT 1 E DS:

- Under drought condition, IET 27523 promoted to third year of testing in Zone III. Among 5 NILs tested for drought tolerance in different zones, IET 28834 (RP Anjali) and IET 28835 (RP Anjali) and IET 28836 (RP – Vandana) are promoted to second year of testing in Zone III. Two NILs viz., IET 28837 (RP-Varalu) and IET 26753 (RP-Varalu) did not experience drought in Zone VII and hence recommended for repetition for next season in Zone VII.
- **IVT E DS:** Under drought condition, 3 entries viz., IETs 28250, 28253 and 28256 are promoted to second year of testing on overall mean basis.
- On Zonal mean basis:
 - Zone III: IETs 28241, 28248, 28256 and 28258 are promoted to 2nd year of testing.
 - Zone IV: IETs 28250, 28242, 28253 and 28259 are promoted to second year of testing.

RAINFED LOWLAND ECOSYSTEM

During Kharif 2019 rainfed lowland trials were evaluated under three ecologies namely rainfed shallow lowland (RSL), semi deep water (SDW) and deep water (DW) ecology. A total of 74 test entries were evaluated along with suitable checks in five trials namely AVT1 -RSL (7 test entries), IVT -RSL (28 test entries), AVT 1-SDW (7 test entries), IVT-SDW (27 test entries) and IVT-DW (5 test entries).

Rainfed Shallow Lowland

- **AVT 1-RSL:** Of seven entries tested across 3 zones (III, IV and VII), two entries were found superior and promoted to AVT-2-RSL.
- Zone VII: IET Nos. 27537 and 27547
- **IVT-RSL:** In IVT-RSL, of 31 test entries evaluated across 14 locations in the first year of testing, The entries namely IET 28281 (overall), and IET 28283 and IET 28276 (Zone III), IET 28283, IET 28281, IET 28276, and IET 28264 (Zone VII) achieved required yield advantage over the best check and have been promoted for second year of testing in respective zones.

Semi Deep and Deep Water

A total of 45 test entries were evaluated in three trials (AVT1-SDW, IVT-SDW and IVT-DW) under lowland ecology. The salient findings of lowland trials are summarized below.

- **AVT 1-SDW:** Out of the seven test entries in AVT1-SDW, one test entry IET 25912 was in third year and remaining six were in second year of testing. Among test entries, IET 25912 recorded 16% yield advantage over the best check in third year of

testing. IET 25912 (CR 2667-5-1-2-1-1) showed consistence superior performance across the three years in Zone III and found promising for the state of Odisha state.

- **IVT-SDW:** In IVT-SDW, out of 33 test entries evaluated, 14 entries namely IETs 28291, 28292, 28293, 28294, 28296, 28299, 28302, 28304, 28305, 28306, 28311, 28313, 28315, and 28317 have achieved required yield advantage over the best, hence they have been promoted to second year of testing.
- **IVT-DW:** Of five test entries in IVT-DW, four entries were in first year of testing and one test entry IET 26741 (repeat) was in second year of testing. Among these test entries, IET 28319 (17%) and IET 26741 (31%) recorded required yield advantage (15%) over the best check, hence, promoted to second and third year of testing respectively.

IRRIGATED ECOSYSTEM

Irrigated Early Transplanted

- **AVT-2 E TP** was conducted in zone II and zone V. In zone II, none of the entries showed required yield superiority over the best check and hence none found promising. Whereas in zone V, two hybrid entries IET 26468 and IET 26477 showed required yield superiority of 37.5 and 29 % over the best varietal check and 27.01 and 19 % over hybrid check respectively. Based on three years performance of entries, IET 26468 (JKRH 2354) and IET 26477 (RH-150025) showed yield superiority over the best varietal and hybrid checks in all three years of testing and found promising for the state of Chhattisgarh only.
- **AVT 1-E TP** was conducted in six zones viz., II, III, IV, V, VI and VII. On zonal basis, the following entries were promoted in different zones. Three entries IET's 27869, 27914 and 27883 in zone II; Seven entries IET's 27866, 27329, 27328, 27332, 27340, 26898 and 27880 in zone III; six entries IET's 27869, 27866, 27892, 27914, 27920 and 27905 in zone V and one entry IET 27328 in zone VII.
- Based on days to 50 % flowering, two entries viz., IET 27907 and IET 27923 shifted from AVT 1-E TP to AVT -1-IME.
- **IVT-E TP:** Promoted on over all mean basis: IETs 28332, 28343, 28354 and 28377.
- Promoted based on zonal mean basis:
- Zone III- IETs 28333, 28343 and 28356.
- Zone V- IET 28343.
- Zone VII- 28329, 28332, 28343, 28366.

Irrigated Mid Early

- **AVT 1-IME:** Of 48 entries evaluated in 6 zones (II, III, IV, V, VI and VII), eight entries are found to be promising and promoted to AVT-2-IME.
- Zone V: IET Nos. 27358, 27356, 27362, 27360
- Zone VI: IET Nos. 27360, 27358

- On the basis of yield improvement over recurrent parent, similarity in morphological traits with recurrent parent and tolerance to coastal salinity, two near isogenic lines (NILs) namely IET 28008 and IET 28010 with *saltol* QTL are promoted to AVT- 2-NIL-CS.
- **IVT-IME:** Of 61 entries tested across 4 zones (Zone II, III, V and VI), twenty seven entries were found promising with >5% yield gain over the best check and promoted to AVT-1-IME
- Zone II: IET Nos. 28391, 28396, 28409
- Zone III: IET Nos. 27695, 28388, 28395, 28401, 28421
- Zone V: IET Nos. 28386, 28387, 28389, 28393, 28396, 28397, 28403, 28415, 27695, 28425, 28433
- Zone VI: IET Nos. 28387, 28393, 28395, 28402, 28409, 28415, 28416, 28421

Irrigated Medium

- **AVT1-IM:** Entries promoted to 3rd year of testing: IETs 27689 and 27380 in Z-III and IET 27705 in Z-VII
- IETs 27384, 27387, 27263, 26535, 26086 and 27686 are dropped despite having required yield superiority due to inferior grain quality traits
- **AVT1-IM-NILs:** Due to yield inferiority over recurrent parent under normal irrigated conditions, IET 27280 is discontinued and IET 28792 is dropped.
- Due to inferiority in yield to RP under normal conditions and grain type differences between RP and NIL, IETs 28782 and 28018 are dropped
- IET 28790 had shown no significant yield improvement over RP/SC & yield inferiority over TC (-10%) under stress, hence dropped
- IET 28017 was found inferior in yield to RP both under normal and drought stress conditions, hence dropped
- Based on significant yield superiority over RP and sensitive checks and on par/superior yield superiority over tolerant check under respective abiotic stresses, three **NILs are considered for promotion:**
- IET 28783: Promoted to AVT2-NIL (CS)
- IET 28791 and IET 28789: Promoted to AVT2-NIL (Sub)
- **IVT-IM:** Two entries are promoted on overall basis, 17 entries on zonal basis and 5 are shifted to IVT depending on duration as given below

Entries promoted to AVT1-IM

- Overall basis-IETs 28444 and 27900
- Zone II: IETs 28442, 27749, 28487 and 28489
- Zone III: IETs 28439, 28447, 28451, 28452, 27771, 28471, 28472, 28475, 28481, 28483, 28491 and 28493
- Zone V: IETs 28439, 28451, 28481, 28489 and 28490
- Zone VI: IETs 28481, 28489 and 28490
- Shift to IVT-L: IETs 28440 and 28455
- Shift to IVT-IME: IET 28467

Irrigated Late

- **AVT1-L:** Only one entry IET 27637 is promoted to 3rd year of testing in Z-V
- **AVT1-L-NILs:** Seven entries IETs 27285, 28785, 27286, 28786, 28014, 28803 and 28801 exhibited yield inferiority over the recurrent parent under normal conditions and hence dropped. Remaining 13 NILs with on par/superior yield performance over the RP are further considered for trait verification.
- Due to blast and/or bacterial blight susceptibility, 5 entries (IETs 28797, 27290, 28796, 28799 and 28798) and one entry-IET 28793 due to on par performance with RP and inferior performance as that of TC under stress are dropped.
- The following three entries with similarity with RP and resistance to trait under consideration are promoted.
- **Promoted to AVT2-NIL (BL&BB): IETs 28800 and 28801 (BB); IETs 28804 and 28805 (BL+BB)**
- **Promoted to AVT2-NIL (Sub): IET 28794**
- **Promoted to AVT2-NIL (CS): IET 28784**
- **IET 27294** with added yield advantage of +20.11% over RP and resistance to BB is promising for the Improved Samba Mahsuri growing areas of the country.

Note: Entries in AVT1-L and AVT1-L (NILs) will be considered as promoted after the availability of quality data.

- **IVT-L:** Six entries on overall basis, 11 entries on zonal basis are promoted to AVT1-L and 12 entries are shifted to IVT based on duration as listed below.
- Promoted to AVT1-L
- Overall basis: IETs 28509, 28551, 28513, 28538, 28497 and 28536
- Zone V: IETs 28510 and 28508
- Zone VI: IETs 28501, 28502, 28507, 28508, 28515, 28544
- Zone VII: IETs 28500, 28519, 28527, 28548, 28549
- Shift to IVT-IME: IET 28499, 28506
- Shift to IVT-IM: IETs 28498, 28503, 28514, 28523, 28529, 28530, 28535, 28540, 28546, 28552

BORO TRIAL

- **AVT 1- BORO:** Of the 10 test entries, one entry (IET 27318) was in second year and nine entries were in third year of testing. Among the test entries in Zone IV, IET 26435 recorded 5.51% yield superiority over the best check in the third year of testing. IET 26435 (TRC 2016-14) showed consistence superior performance across three years in Zone IV and found promising for the state of Tripura
- **IVT-BORO:** In IVT Boro 2018-19 trial, four entries IETs 28102, 28091, 28089, 28109 are promoted to second year of testing on overall mean basis.

- On Zonal mean basis: Zone III: IETs 28102, 28089, 28109, 28092 and 28099 are promoted to second year of testing in Zone III.

HYBRID RICE

During Kharif 2019, totally 77 hybrids were evaluated in four hybrid rice trials viz., IHRT-E, IHRT-ME, IHRT-M, IHRT-MS, in different locations representing North, East, Northeast, Central, West and South zones of the country. Hybrids with more than 10 percent yield advantage over the varietal check and 5 percent over the hybrid check are identified as promising. Details of the top three ranking hybrids in each of the trials are given below.

Promising hybrids identified in different hybrid rice trials (2019)

Name of the Hybrid	IET No.	DFF	Promising in
IHRT-E			
LP 19201	28111	95	Overall
LP 18204	28113	92	Overall
RH 169269	28122	90	Overall
IHRT-ME			
PHI 19107	28136	97	Overall
PHI 19108	28139	102	Zone III, VI & VII
NK 5251++	28143	99	Zone VII
IHRT-M			
PHI-19104	28162	101	Overall
HRI 202	28160	102	Zone III & VII
RNE 0148	28174	104	Zone II & VI
IHRT-MS			
PHI 19101	28180	104	Overall
MEPH 155	28177	101	Zone VI
HRI 203	28181	101	Zone VI

List of public sector institute nominated hybrids (2019)

S.No.	Public sector	Number of hybrids nominated
1	IIRR, Hyderabad	9
3	NRRI, Cuttack	6
4	JNKVV, Jabalpur	1
5	IGKV, Raipur	3
7	TNAU, Coimbatore	2
8	RARS, Warangal	1
9	RARS, Maruteru	3
	Total	25

BASMATI TRIAL

- **AVT 1-BT** constituted of 28 entries including six varietal test entries; two hybrid entries; thirteen near isogenic lines and four recurrent parents (Pusa Basmati 1, Pusa Basmati 6, Pusa Basmati 1121 and Pusa Basmati 1509). Two entries IETs 26995 and

26999 are in 3rd year of testing, six entries are in second year of testing and thirteen entries (near isogenic lines) are in first year of testing.

- Based on three years performance of entries, IET 26999 (Indam 100-012) found promising for the state of Uttar Pradesh only. Whereas, the entry IET 26995 (Pusa 1692-10-20-1-1-1) did not show superior performance over best varietal check in the third year of testing, hence not found promising for any state.
- Out of 6 test entries present in second year of testing, only one varietal test entry IET 27720 showed superior yield performance over best varietal check, but had low AC (17.9%). Hence, none promoted to third year of testing.
- Among thirteen near isogenic lines (NIL's), four NIL entries having Imazethapyr herbicide tolerance, two each in the genetic background of Pusa Basmati 1121 (IET 28812 and IET 28813) and Pusa Basmati 1509 (IET 28814 and IET 28815) were promoted to second year of testing. Two entries having bacterial leaf blight and blast resistance, IET 28806 in the genetic background of Pusa Basmati 1121 and IET 27722 in the genetic background of Pusa Basmati 1509 were promoted to second year of testing.
- **In IVT- BT** trial, out of 19 entries tested, nine entries viz., IETs 28579, 28575, 28577, 28572, 28586, 28583, 28573, 28582 and 28589 were promoted based on their yield superiority as well as quality requirement as Basmati rice.

AROMATIC SHORT GRAIN

- **IVT-ASG:** In IVT-ASG of 26 test entries evaluated across 20 locations in the first year of testing, in Overall mean basis: IET 28563 in Zone III: IET 28563 in Zone V: IET 28563 and IET 28571, in Zone VI: IET 28556 and IET 28566 and in Zone VII: IET 28566 achieved required yield advantage over the best check and have been promoted for second year of testing in respective zones.

SALINE ALKALINE TRIALS

Alkaline and Inland saline tolerant variety trials

- **AVT1-AL & ISTVT:** Among the five test entries, four entries (IET Nos. 27823, 27807, 27809 and 27804) were in second year of testing and one entry (IET 27077) was in third year of testing. None of the entries exhibited superior performance over the best check- CSR 23 and hence no entry is promoted.
- **IVT- AL & ISTVT:** Among 18 test entries, 5 entries namely IET 28591, IET 28598, IET 28601, IET 28606 and IET 28608 achieved required level of yield advantage over the best check. Hence, these 5 test entries were promoted to second year of testing.

Coastal Saline tolerant variety trials

- **AVT-1-CSTVT:** AVT-1-CSTVT consisted of 16 entries of which two entries are in 2nd year of testing (IET Nos. 27836 and 27826); one entry is in 3rd year of testing (IET

27037) and five checks. Among the test entries in AVT1- CSTVT, none of the entries recorded the required superiority over the best check and hence none merit for promotion.

- **IVT-CSTVT:** IVT-CSTVT consisted of 27 entries including five checks. Among the 22 test entries in IVT- CSTVT, none of the entries recorded the required superiority over the best check and hence none merit for promotion.

HILLS

A total of 9 trials namely, IVT-E(H), AVT1-E(H), AVT 2-E (H), IVT-M(H), AVT1-M(H), AVT 2-M (H), AVT 1-U (H), IVT-U(H) and IVT-LR (H), were conducted with 23,15,7,23,11,10, 15,10 and 17 entries respectively thus making a total of 131 entries. Each trial was evaluated at low, medium and high hills: IVT-E(H), AVT-1E(H) and AVT 2-E (H) at 28 locations (9 low, 7 medium, 12 high), IVT M(H), AVT 1-M (H) and AVT-2M (H) at 41 locations (18 low, 8 medium, 15 high), IVT-U(H) and AVT 1-U(H) at 12 locations (6 low, 4 medium, 2 high), IVT- LR (H) at 5 locations (3 low, 1 medium and 1 high).

Early duration hills

- **AVT 2-E (H):** A total of four entries were in test entries, of which three entries (IET 25819, IET 25826 and IET 26576) performed better than the best check in the third year of testing. IET 25819 (VL 32224) showed consistence yield across three years in Medium Northern Hills and found promising for the state of Uttarakhand and Himachal Pradesh. Another test entry, IET 26576 (SKAU 500) showed consistence yield across three years in High Hills elevation and found promising for the state of Jammu and Kashmir.
- **AVT 1-E (H):** Among the 12 test entries tested in second year of testing, three test entries namely, IET 27468, IET 27471 and IET 27472 achieved required yield superiority and quality parameters in low northern hills altitude and were promoted to third year of testing.
- **IVT-E (H):** Among the 20 test entries tested, two entries each under northern low elevation (IET 28200 and IET 28196) and northern medium elevation (IET 28202 and IET 28206), while three entries (IETs 28193, 28205 and 28192) under high elevation recorded the required yield advantage over the best check, hence they have been promoted to second year of testing in northern low elevation.

Medium duration hills

- **AVT 2-M (H):** of the seven test entries tested in third year of testing, two entries (IET 26594 and 26597) in low altitude northern hills and three entries (IET 26594, 26596 and 26579) in medium altitude northern hills recorded required yield advantage over the best check in third year of testing, however, none of the entries failed to meet consistent yield superiority and quality parameters across three years of testing.

- **AVT 1-M (H):** A total of eight test entries tested in AVT1-M (H) under different elevations and none of the tested achieved the required yield advantage over the best check, hence, none is promoted.
- **IVT-M (H):** of the 20 test entries tested, two entries (IET 28222 and 28210) in northern low altitude hills, five entries (IETs 28212, 28222, 28210, 28220 and 28216) in northern medium altitude hills and three entries (IETs 28217, 28224 and 28227) in high altitude hills showed required superior yield performance over the best check and hence, these test entries have been promoted to second year of testing.

Rainfed Upland Hills

- **AVT 1-U (H):** A total of six test entries in second year of testing and one entry in third year of testing were tested in AVT1-U (H). The two entries (IET 27498 and IET 27504) in northern low elevated hills, while one entry (IET 27504) in medium elevation hills recorded required yield advantage over the best check. Based on yield consistency and desirable grain quality traits, IET 26605 ((VL 20073) is found promising in medium elevated hills of Uttarakhand.
- **IVT-U (H):** Of the 12 entries six entries (IET 28230, 28233, 28229, 28235, 28231, 28236) achieved required yield advantage over the best check in Lower Northern Elevation Hills and are promoted to the second year of testing.

Land Races Hills

- **IVT-LR (H):** Of 13 test entries, based on yield superiority over best check, two entries viz., IET 28043 and 28042 found to be superior across northern low, medium and high elevation hills. In addition, three entries (IET's 28042, 28043 and 28041) in northern low elevation hills, and two entries (IET 28053 and IET 28043) in northern high elevation hills recorded required yield superiority over the best check. However, the trial is to be repeated as such for one more year.

AEROBIC TRIALS

- **AVT 2 – AEROB:** Based on the yield advantage of 5% over the BVC in case of varietal entries and 10% over the BVC and 5% over the HC in case of hybrids, the following entries were found promising in AVT 2 - AEROB:
 - Zone III: IET 26194 (superiority in Bihar only)
- **AVT 1 - AEROB:** Based on the yield advantage of 5% over the BVC in case of varietal entries and 10% over BVC and 5% over the HC in case of hybrids, the following entries were promoted to AVT 2 - AEROB:
 - Zone II: IET 27951
- **IVT-AEROB:** In IVT-AEROB of 64 test entries evaluated across 23 locations in the first year of testing, in Zone II: IET 28637 and IET 28658, in Zone III: IET 28650*(Hybrid), IET 28637, IET 2864, IET 28653, IET 28658, IET 28669, IET

28631, IET 28636, IET 28672 and IET 28678, in Zone V: IET 28631, IET 28634, IET 28637, IET 28642, IET 28673 and IET 28674, in Zone VI: IET 28635, IET 28640, IET 28671, IET 28673 and IET 28677 and in Zone VII: IET 28631 and IET 28645 achieved required yield advantage over the best check and have been promoted for second year of testing in respective zones.

BIOFORTIFICATION TRIALS

- **AVT 2 – BIOFORT:** Based on 5% yield superiority over the BVC in case of varietal entries; 10% over the BVC and 5% over the HC in case of hybrids coupled with zinc content of ≥ 24.0 ppm, the following entries were found promising in AVT 2-Aerob:
- **Zone V:** IET 27179 (discontinued tentatively owing to available zinc data, will be re-considered when complete data set is available)
- **AVT 1 – BIOFORT:** The following entries were promoted to AVT 2 - MS based on the yield superiority of 5% over the BVC in case of varietal entries; 10% over the BVC and 5% over the HC in case of hybrids along with zinc content of ≥ 24.0 ppm:
- **Zone VI:** IET 27984 (tentatively promoted but will be re-considered when complete data set is available)
- **IVT – BIOFORT:** Based on the yield advantage of 5% over the BVC in case of varietal entries and 10% over BVC and 5% over the HC in case of hybrids coupled with zinc content of ≥ 24.0 ppm, the following entries were promoted to AVT 1 - BIOFORT:

NOTE: All the following entries in IVT have been promoted but will be re-considered once the complete Zinc content data is available.

IET No	Over BPT 5204 (days to 50% flowering >100 days)	Over BVC among IR 64 or DRR Dhan 45 (days to 50% flowering <100 days)
Zone II		
1	IET 28705 (19.7)	None
2	IET 28706 (6.1)	
3	IET 28707 (23.4)	
4	IET 28713 (28.1)	
Zone III		
1	IET 28695 (11.0)	IET 28694 (8.0)
2	IET 28706 (6.1)	IET 28696 (17.6)
3	IET 28710 (6.8)	IET 28701 (12.9)
4		IET 28702 (9.2)
5		IET 28703 (13.9)
6		IET 28705 (15.2)
7		IET 28713 (22.8)
8		IET 28714 (18.9)
9		IET 28717 (13.2)
Zone V		
1	IET 28705 (43.7)	IET 28698 (6.6)

IET No	Over BPT 5204 (days to 50% flowering >100 days)	Over BVC among IR 64 or DRR Dhan 45 (days to 50% flowering <100 days)
2	IET 28707 (7.0)	IET 28702 (6.6)
3	IET 28710 (24.8)	IET 28704 (6.3)
4		IET 28713 (10.4)
5		IET 28714 (10.8)
6		IET 28717 (15.1)
7		IET 28718 (12.4)
8		IET 28719 (8.0)
Zone VI		
1	IET 28705 (39.1)	IET 28701 (9.0)
2	IET 28714 (26.0)	IET 28702 (8.5)
3	IET 28715 (6.0)	IET 28713 (5.6)
Zone VII		
1	IET 28695 (14.0)	IET 28691 (7.7)
2	IET 28705 (19.5)	IET 28696 (12.3)
3	IET 28707 (12.6)	IET 28701 (9.0)
4	IET 28714 (7.4)	IET 28717 (6.5)
5		IET 28718 (7.4)
Overall		
1	IET 28695 (9.6)	IET 28701 (6.5)
2	IET 28705 (26.1)	IET 28702 (5.1)
3	IET 28706 (9.2)	IET 28713 (6.5)
4	IET 28707 (13.3)	IET 28717 (8.0)
5	IET 28710 (5.5)	
6	IET 28714 (17.3)	

- **IVT – BIOFORT (promotions based on grain protein content):** Based on the yield advantage of 5% over the BVC in case of varietal entries and 10% over BVC and 5% over the HC in case of hybrids coupled with protein content of $\geq 10.0\%$, the following entries are promoted to AVT 1 - BIOFORT:
- **Zone III:** IET 28714, IET 28699

MEDIUM SLENDER GRAIN TRIALS

- **AVT 2 –MS:** The following entries were found promising in AVT 2 - MS based on the yield superiority of 5% over the BVC in case of varietal entries; 10% over the BVC and 5% over the HC in case of hybrids:
- **Zone IV:** IET 25802 (superiority in Tripura only)
- **Zone V:** IET 27117 (yield advantage in Maharashtra only)
- **AVT 1 - MS:** The following entries were promoted to AVT 2 - MS based on the yield superiority of 5% over the BVC in case of varietal entries; 10% over the BVC and 5% over the HC in case of hybrids:

- **Zone IV:** IET 27394
- **IVT-MS:** In IVT-MS, of 64 test entries evaluated across 23 locations in the first year of testing, following entries under different conditions i.e. Overall : IET 28730, IET 28732 and IET 28757, Zone IV: IET 28750, IET 28757 and IET 28778 Zone V: IET 28746 and IET 28757 Zone VI: IET 28727 and IET 28768 Zone VII: IET 28730, IET 28732, IET 28754, IET 28757 and IET 28760 achieved required yield advantage over the best check and have been promoted for second year of testing in respective zones.

PHOSPHORUS AND NITROGEN TRIALS

IVT Low Phosphorus Trial

- Based on the performance of entries under low Phosphorus fertility level, 11 entries viz., IET 28061, IET 28076, IET 28075, IET 28816, IET 28066, IET 28070, IET 28818, IET 28821, IET 27641, IET 28065, IET 28776 are promoted to second year of testing.

IVT Low Nitrogen Trial

- Based on yield advantage under 50% nitrogen application across the locations, nine entries viz., IET 28087, IET 27730, IET 28080, IET 28831, IET 28081, IET 28830, IET 28827, IET 28084 and IET 28828 are promoted to second year of testing. At higher level of nitrogen application (150%) three entries viz., IET 28827, IET 28084 and IET 28088 recorded higher yield than the check hence suitable for higher dose of nitrogen (150% RDF).

RAINFED UPLAND

Rice in typical upland ecosystem is grown under direct seeding with minimum input use. The rainfed upland ecosystem is spread in most of the states across the country, with maximum area coverage in eastern India. A number of abiotic and biotic stresses depress rice yields in rainfed uplands which are mostly populated by resource poor farmers. Water is the main limiting factor in rainfed upland ecosystem compounded further by uneven rainfall distribution during the growing season. Short duration with early seedling vigour, weed competitiveness, inbuilt tolerance to drought and other biotic stresses are the main objectives to breed suitable varieties for this harsh ecology. Under direct seed conditions, genotypes with less than 80 days to 50% flowering are grouped in early duration. Two experiments IVT- E DS and AVT 1- E DS were conducted under direct seeded rainfed conditions. The superior drought tolerant genotypes are mentioned below.

ADVANCE VARIETY TRIAL 1 - EARLY DIRECT SEEDED (AVT 1-E DS)

Locations: 4

Test Entries: 25

Checks: Sahbhagidhan and Vandana (RP) – National, Govind (Northern), Narendra 97 (Eastern & North Eastern), Samaleshwari (Central), Varalu (RP) and Tulasi (Western & Southern) & Anjali –Zonal, US 314 – Hybrid, Gangavati Ageti (Sensitive) and Local check **Table:1.1**

The trial was constituted with 25 test entries which are in second year of testing and 7 checks, national (Sahbhagidhan and Vandana), regional (Govind, Narendra 97, Samaleshwari, Varalu and Tulasi), Anjali (ZC and RP), Gangavati Ageti (Sensitive check), Varalu (RP) and local check. Test entries includes six Near Isogenic Lines (NILs) in the background of Anjali (2 NILs), Vandana (One NIL) and Varalu (3 NILs). The trial was sent to 21 locations and data received from 14 locations. The trial was evaluated under rainfed direct seeded conditions covering states Odisha, Jharkhand, Bihar, West Bengal, Manipur, Madhya Pradesh, Chhattisgarh, Gujarat, Tamil nadu in zones III, IV, V, VI and VII. In all 14 locations, the trial was sown in the month of July. Out of 14 locations, seven locations experienced drought during the crop growth period viz. Pusa, Ranchi, Hazaribag, Imphal CAU, Rewa, Derol and Vyara. Rest seven of the locations viz., Jeypore, Sabour, Hathwara, Bankura, Raipur, Jagadalspur and Coimbatore received good rainfall and classified as normal locations. The test entries were evaluated zone wise and hence analysis and discussion of results is done zone wise.

General information on drought situation in different locations

Location	Drought situation	Expt. yield (kg/ha)	CV (%)
Jeypore	Normal	5406	11.11
Sabour	Normal	3133	10.39
Hathwara	Normal	3855	11.21
Bankura	Normal	3632	23.38
Raipur	Normal	4925	12.20
Jagadalspur	Normal	4128	23.14
Coimbatore	Normal	4249	18.20
Pusa	Drought	1333	12.76

Location	Drought situation	Expt. yield (kg/ha)	CV (%)
Ranchi	Drought	1233	18.32
Hazaribag	Drought- 3 drought spells during tillering, booting and flowering stage	1342	12.42
Imphal, CAU	Drought moderate drought throughout the crop growth period	2357	10.07
Rewa	Drought – one long drought spell during flowering and grain filling stage	495	21.00
Derol	Drought	1449	13.60
Vyara	Drought	1862	15.39

Performance of entries under drought situation

Drought situation was experienced at seven locations viz., three locations in Zone III (PUSA, Ranchi, Hazaribagh), one location in Zone IV (Imphal CAU), one location in Zone V (Rewa) and two locations in Zone VI (Derol and Vyara). Locations with less than 1000 kg/ha mean experimental grain yield were not considered for analysis. Rewa recorded very low mean experimental yield of 495 kg/ha and hence not considered for analysis. The performance of NILs under drought is discussed separately since NILs are to be compared with recurrent parent for the trait of interest.

Zone III

In zone III, drought was experienced at three locations, viz., Pusa, Ranchi and Hazaribagh. The grain yield under drought ranged from 640 kg/ha (IET 27530) to 1962 kg/ha (IET 27523); days to 50% flowering ranged from 65 days (IET 28836, IET 28836 and Vandana, NC) to 101 days (IET 27530); plant height ranged from 69.9 cm (IET 27532) to 110.3 cm (IET 27514); and number of panicles/m² ranged from 108 (IET 27530) to 187 (IET 28834). Among the checks, Local checks yielded the highest grain yield of 1558 kg/ha. The data pertaining to grain yield, days to 50% flowering, plant height, number of panicles/m² and quality are presented in tables 1.2, 1.3, 1.4, 1.5 and 1.6. Among the test entries, four entries, IET 27523, IET 28834, IET 28835 and IET 28836 out yielded the best check (Local check) by 26%, 22%, 9% and 6%. The performance of three NILs IET 28834, IET 28835 and IET 28836 under drought in Zone III is discussed separately since NILs are to be compared with recurrent parent for the trait of interest. Now performance of IET 27523 is discussed below.

Performance of promising entries of AVT 1 E DS under drought condition in Zone III during Kharif 2019

IET No./ Designation/ Cross combination	GY/ FD/ GT	Yield adv. (%) over NC/ZC/LC	% increase over best check		
			State Rank	Yield	% BC
IET 27523	1962	34	JH 2	2188	33
CRR 514-6-1-1-1-6	78	77			
Browngora / N 22 // CR 413-2-2	LS	26			
Sahbhagidhan NC	1459				
	82				
Zonal check	1109				
	81				
Local check	1558				
	83				
Gangavati Ageti (Sensitive check)	666				
	76				

Bold Italics: Best check & over the best check; NC- National Check; ZC- Zonal Check; LC- Local Check; GY: Grain Yield

Zone IV

In zone IV, drought was experienced at Imphal CAU in Manipur and the mean grain yield at this location was 2357 kg/ha, and CV was 10.07%. The grain yield under drought condition ranged from 1405 kg/ha (IET 28835) to 4779 kg/ha (Local check); flowering duration ranged from 70 days (IET 27508) to 83 days (IET 27514); and number of panicles/m² ranged from 127 (Zonal check) to 228 (IET 28834). Yield of checks was 4779 kg/ha (Local check), 3323 kg/ha (National check, Vandana) and 3190 kg/ha (Zonal check). None of the entries outperformed the best check (Local check) in zone IV under drought condition. Hence **none of the entries found superior/got promoted in zone IV under drought condition.**

Zone V

In Zone V, only one location Rewa experienced drought, but it recorded very low mean experimental yield of 495 kg/ha and hence not considered for analysis. Therefore, **none of the entries found superior/got promoted in zone V under drought condition.**

Zone VI

In zone VI, drought was experienced at Derol and Vyara and the experimental mean grain yield and CV at these locations was 1449 kg/ha & 13.6% and 1862 kg/ha & 15.36% respectively. The grain yield under drought condition in Zone VI ranged from 866 kg/ha (Anjali) to 2299 kg/ha (Sahbhagidhan, NC); Days to 50% flowering ranged from 68 days (Vandana & Local check) to 100 days (IET 27512); plant height ranged from 77 cm (IET 27532 to IET 27514); and number of panicles/m² ranged from 66 (Anjali) to 130 (IET 27514). None of the entries outperformed the best check (Local check) in zone IV under drought condition. Hence **none of the entries found superior/got promoted in zone VI under drought condition.**

Performance of entries under normal rainfall condition

Seven locations viz., Jeypore, Sabour, Hathwara, Bankura, Raipur, Jagadapur and Coimbatore in Zone III, Zone V and Zone VII received normal rainfall and did not experienced drought hence these are classified as normal locations.

Zone III

In eastern zone (Zone III), four locations viz., Jeypore, Sabour, Hathwara and Bankura are classified under normal rainfall locations. The mean grain yield of four locations ranged from 2810 kg/ha (IET 28834) to 5057 kg/ha (IET 27518) with experimental mean of 4023 kg/ha. Days to 50% flowering ranged from 64 days (IET 28834 and Vandana, NC) to 93 days (IET 27513); plant height ranged from 86 cm (IET 27532) to 132 cm (IET 27523) and number of panicles/m² ranged from 193 (IET 26351) to 281 (IET 27530). Among the test entries, only one entry, IET 27518 yielded 5057 kg/ha which is superior to the best check (Local Check) by 8% in zone III under normal rainfall condition.

Zone V

In Central zone (Zone V), two locations viz., Raipur and Jagadapur are classified under normal rainfall locations which have recorded average of experimental grain yield of 4925

kg/ha and 4128 kg/ha and CV of 12.2% and 23.14% respectively. The mean grain yield of two locations ranged from 2164 kg/ha (Vandana) to 5974 kg/ha (IET 27517) with experimental mean of 4505 kg/ha. Days to 50% flowering ranged from 66 days (Vandana) to 88 days (IET 27517); Plant height ranged from 84.7 cm (IET 27532) to 120.5 cm (IET 27523); and number of panicles/m² ranged from 159 (Anjali, ZC) to 234 (Gangavati Ageti). Among the test entries, IET 27517 (11%) and IET 27528 (9%) out yielded the best check (National check, Sahbhagidhan) in zone III under normal rainfall condition.

Zone VII

In Southern zone (Zone VII), only one location Coimbatore is classified under normal rainfall location. Coimbatore recorded experimental mean yield of 4249 kg/ha and CV of 18.2%. In Zone VII, the grain yield ranged from 2208 kg/ha (Vandana, NC) to 5274 kg/ha (IET 27526). Days to 50% flowering ranged from 78 days (Anjali-ZC, Vandana-NC) to 103 days (IET 27517); Plant height ranged from 79.63 cm (IET 26753) to 115.83 cm (Zonal check); and number of panicles/m² ranged from 327 (IET 27534) to 485 (IET 27526). Among the test entries, IET 27526 (7%), IET 27528 (5%) and IET 27512 (9%) out yielded the best check (Local check Anna R 4) in zone VII under normal rainfall condition.

Near Isogenic Lines (NILs)

Six Near Isogenic Lines (NILs) are tested in AVT 1 E DS trial. Out of 6 NILs, five NILs (IETs 28834, 28835, 28836, 28837 and 26753) were introgressed with drought QTLs and one NIL IET 28795 was introgressed with Blast gene.

Performance of Near Isogenic Lines (NILs) under drought

NILs are evaluated in zones for which respective Recurrent parent is released or notified. Out of 5 NILs, 3 NILs viz., IET 28834, IET 28835, IET 28836 are evaluated in Zone III, IET 28834, IET 28835 are evaluated in Zone IV and IET 28837 & IET 26753 are evaluated in Zone VII). Zone wise performance of NILs is discussed below

Zone III

NIL	Grain yield (kg/ha)	% increase over RP	Remarks
IET 28834 (RP – Anjali)	1903	71.59	Promoted
IET 28835 (RP – Anjali)	1693	52.66	Promoted
IET 28836 (RP – Vandana)	1646	26.81	Promoted
Anjali (RP)	1109		
Vandana (RP)	1298		
GNV Ageti (Sensitive check)	666		

RP – Recurrent Parent

IET 28834, IET 28835 and IET 28836 recorded grain yield of 1903 kg/ha, 1693 kg/ha and 1646 kg/ha under drought condition in Zone III and exhibited 71.59%, 52.66% and 26.81 % increase over respective recurrent parent, hence these **three NILs IET 28834, IET 28835 and IET 28836 are promoted to second year of testing in Zone III.**

Zone IV

NIL	Grain yield (kg/ha)	% increase over RP	Remarks
IET 28834 (RP – Anjali)	2043	-	Not Promoted
IET 28835 (RP – Anjali)	1405	-	Not Promoted
Anjali (RP)	2306	-	
GNV Ageti (Sensitive check)	2190		

RP – Recurrent Parent

IET 28834 and IET 28835 recorded grain yield of 2043 kg/ha and 1405 kg/ha under drought condition in Zone IV whereas RP Anjali yielded 2306 kg/ha. Even sensitive check yielded 2190 kg/ha which is more than yield of NILs and implies that it sufficient drought was not experienced to differentiate between NILs and RP. **Hence none of the NILs are promoted in Zone IV.**

Zone VII

In Zone VII, two NILs IET 28837 and IET 26753 introgressed with drought QTLs are tested. Coimbatore is the only one location in Zone VII in which AVT 1 E DS trial was conducted. But this location also did not experience drought and classified as normal location. **Hence IET 28837 and IET 26753 did not experience drought and recommended for repetition for next season.**

NIL for Blast: IET 28795 was introgressed with blast resistant gene. The blast resistance reaction of this entry was obtained from NSN 1 screening nursery from plant protection division. As per the data, the NIL IET 28795 recorded leaf blast resistance score of 5.4 whereas recurrent parent Varalu recorded 6.0. Both NIL and RP are falling under susceptible reaction and no significant difference between NIL IET 28795 and Varalu, RP. **Hence IET 28795 is not promoted.**

INITIAL VARIETY TRIAL-EARLY DIRECT SEEDED (IVT-E DS)**Locations: 16****Test Entries: 23**

Checks: Sahbhagidhan and Vandana – National, Govind (Northern), Narendra 97 (Eastern & North Eastern), Samaleshwari (Central), Varalu (Western) and Tulasi (Southern) & Anjali – Zonal, US 314 – Hybrid, Gangavati Ageti (Sensitive) and Local check

Table:1.7

The trial was constituted with 30 entries, including 7 checks, national (Sahbhagi dhan and Vandana), Zonal (Govinda, Narendra 97, Samaleshwari, Varalu and Tulasi - Early), Anjal, Hybrid (US 314), Gangavati Ageti (Sensitive check) and local check. Among 23 test entries, one entry was hybrid and remaining 22 were varietal entries. The trial was sent to 21 locations but data from 5 locations (Banswara, NRRI Cuttack, Gharkhatanga, Masodha and Tirur) was not received. The trial was evaluated at 16 locations under rainfed direct seeded condition covering states of Odisha, Bihar, Jharkhand, West Bengal, Tripura, Manipur, Madhya Pradesh, Chhattisgarh, Gujarat, Tamil Nadu and Karnataka in zone III, zone IV, zone V, zone VI and zone VII. In all 16 locations, the trial was sown in the month of July.

Considering the situation, the locations were grouped into two groups viz., drought and normal rainfall locations for analysis of data and accordingly the performance of entries discussed. Drought situation was experienced at 4 locations viz., Ranchi, Hazaribag, Rewa and Derol during flowering and grain filling stage whereas rest 12 of the locations experienced normal rainfall situation. The entries are promoted based on the performance under drought conditions. The information on drought and general performance is given below.

General information on drought situation in different locations

Location	Drought situation	Expt. yield (kg/ha)	CV (%)
Jeypore	Normal	4709	11.16
Pusa	Normal	6456	11.12
Sabour	Normal	3072	12.63
Ranchi	Drought – flowering and grain filling	929	17.22
Hazaribag	Drought - tillering, booting & flowering	1518	13.79
Hathwara	Normal	3905	19.98
Bankura	Normal	6148	12.55
Lembucherra	Normal	3947	28.51
Imphal, CAU	Normal	3039	8.37
Rewa	Drought - grain filling	529	18.37
Raipur	Normal	4280	15.34
Jagadalspur	Normal	4545	23.88
Derol	Drought	1967	11.66
Vyara	Normal	3598	13.64
Coimbatore	Normal	4193	16.26
Mugad	Normal	4701	24.92

Performance of entries under Drought condition

Drought condition was experienced at four locations in Zone III, V and VI viz., Ranchi, Hazaribag, Rewa and Derol. The experimental mean grain yield at Ranchi, Hazaribag, Rewa and Derol was 929 kg/ha, 1518 kg/ha, 529 kg/ha and 1967 kg/ha and CV was 17.22%, 13.79%,

18.41%, 11.6% respectively. The locations Ranchi and Rewa recorded lower grain yield (<1000 kg/ha), hence not considered for analysis. The data from Hazaribag and Derol was considered for analysis. Overall grain yield under drought condition ranged from 809 kg/ha (IET 28257) to 2626 kg/ha (US 314, Hybrid check); days to 50% flowering ranged from 67 days (Local check) to 100 days (IET 28257); plant height ranged from 77.5 cm (IET 28247) to 111.9 cm (IET 28258) and number of panicles per m² ranged from 96 (IET 28253) to 195 (IET 28262). The data pertaining to yield, days to 50% flowering, plant height and number of panicles/m² are presented in tables 1.8.1.9, 1.10 and 1.11.

On the basis of overall mean, three entries viz., IETs 28250, 28253 and 28256 out yielded the best check (Sahbhagidhan-2202 kg/ha), hence these entries are promoted to second year of testing in AVT 1 E DS on overall mean basis.

Over all mean performance of promising entries under drought condition in IVT E DS during Kharif 2019

IET No./ Designation/ Cross combination	GY/ FD/ GT	Yield advantage (%) over NC/ZC/LC	% increase over best check			
			Zone	State		
				State Rank Yield		% BC
IET 28250 RCPR 64 -IR 97069-1-1-1-1 IR09L317 / IR10L 137	2446 88 LS	11 34 41	Zone VI	GU	2 3106	11
IET 28253 CRR 688-25-B-1-B-4 IR 80501-25-B-1 / Vandana	2409 80 LB	9 32 39	Zone VI	GU	4 3106	9
IET 28256 R 2220-382-1-243-1 R1546-1328-1-40-1/ Mahamaya	2320 91 MS	5 27 34	Zone III	JH	3 2393	18
<i>Sahbhagidhan NC</i>	<i>2202</i> <i>83</i>					
Zonal check	1823 87					
Local check	1612 67					
Gangavati Ageti (Sensitive check)	1437 83					

Bold Italics: Best check & over the best check; NC- National Check; ZC- Zonal Check; LC- Local Check; GY: Grain Yield, MD-Moderate drought

Zone III

In Zone III, IETs 28241 (21%), 28248 (19%), 28256 (18%) and 28258 (9%) produced superior yield over best check hence promoted to second year of testing in Zone III.

Zone VI

In Zone VI, IETs 28250 (31%), 28242 (25%), 28253 (22%) and 28259 (10%) produced superior grain yield than best check hence promoted to second year of testing in Zone VI.

Performance of entries under normal condition

On overall mean basis under normal condition, grain yield ranged from 2886 kg/ha (Vandana) to 5401 kg/ha (US 314, Hybrid check) with experimental mean of 4407 kg/ha. Days to 50% flowering ranged from 63 days (Vandana, NC) to 88 days (IET 28262), plant height ranged from 84.5 cm (IET 28245) to 117.67 cm (IET 28258) and number of panicles/m² ranged

from 220 (IET 28248) to 282 (Zonal Check). Among the test entries, three entries, IETs 28251, 28255 and 28262 out yielded the best check on overall mean basis.

List of entries promoted to AVT 1 E DS for second year of testing

- **Over all mean: IETs 28250, 28253 and 28256**
- **Zone III: IETs 28241, 28248, 28256 and 28258**
- **Zone VI: IETs 28250, 28242, 28253 and 28259.**

Table 1.1: Composition of entries in Advance Variety Trial 1–Early Direct Seeded (AVT 1E-DS), Kharif 2019

Entry No.	IET No.	Designation	Cross Combination	Grain Type
2nd year of testing:				
101	27514	RCPR55-IR 84898-B-168-24-1-1-1	IR 78877-208-B-1-1 / IR 78878-53-2-2-2	LB
102	27525	R-RF-127	Selection from IR 83929-B-B-132-2	LS
103	27531	ORJ 1345 (TP 30531)	IR11L152 / Sabitri	LS
104	27517	CR 4114-3-1-1-2-2	CR 3848-1-1-2-1-1 / Vandana	LS
105	26635 (R)	CRR 754-1	CRR 680-B-B-25-4 / Anjali	SB
106	27530	CR 3506-1-2-3-4-1-1	IR 36 / Tapaswini	MS
107	27518	BRR 0086	MTU 1010 / CRR 595-9-1	LB
108	27508	CRR 514-6-1-1-1-12	Brown gora / N 22 // CR 143-2-2	LB
109	Shabhagidhan (NC)			
110	26636 (R)	R 1882-301-1-234-1	R 1207-2282-2-1 / RP 4092	MS
111	26633 (R)	RCPR 17-IR 83929-B-B-291-3-1-1	IR 78878-53-2-2-2 / CT 6510-24-1-2	SB
112	27532	NVSR 2227	GR-5 / Danteswari	LB
113	27523	CRR 514-6-1-1-1-6	Brown gora / N 22 // CR 143-2-2	LS
114	27513	CR 3549-7-2-1-1-1-3	ADT 43 / Annapurna	SB
115	27528	RCPR 49-IR 84899-B-182-3-1-1-2	IR 78877-208-B-1-1 / IRR 132	LB
116	27526	CR 4114-1-2-1-1-1	CR 3848-1-1-2-1-1 / Vandana	LS
117	27521	JDP 1617(IR14L572)	IR10L146 / IR10L149	LS
118	27512	CR 4121-5-2-1-1-1	CR 3846-2-1-2-1-1 / CR Dhan 203	LS
119	26351 (R)	CRR 708-1-B-2-B-B-1	NDR 1045-2 / CR 2340-11	SB
120	27534	CRR 716-4-3	IR 78933-B-24 / Anjali	LB
121	GNV Ageti – Sensitive Check			
122	28834	CRR 809-11-1-9-B	IR 84984-83-15-481-B / 3*Anjali // IR 81896-B-B-195 / 3* Anjali	SB
123	28835	CRR 752-3-1-B	Anjali*3 / IR 81896-B-195	SB
124	Anjali (ZC for all zones & RP)			
125	28836	CRR 677-1	IR 79971-B-102-B-B / 3* Vandana	LB
126	Vandana (NC & RP)			
127	28795	RP 6320-MSM -94-Bio-62-4-15	Varalu *3 / Samba Mahsuri NIL	LS
128	28837	RP 6270-MSM 60-Bio-62-4-15	Varalu *3 / Vandana NIL	LS
129	26753	RP 6270-MSM 36-Bio-62-4-15	Varalu *3 / Vandana NIL	LS
130	Varalu (RP)			
131	Govind (Northern), Narendra 97 (Eastern), Samaleshwari (Central), Varalu and Tulasi (Western & Southern)—ZC			
132	Local Check			

Table 1.2: Grain yield (Kg/ha) of entries of AVT 1 EDS Zone III Drought, Kharif 2019

Entry	IET No.	Zone III Drought									
		BI (1)		JH			JH (2)		ZONE (3)		
		PSA		RCI		HZB	Mean		Mean		
101	27514	1378		1200		1781	9	1491		1453	
102	27525	1245		1178		2470	1 *	1824	5 11%	1631	5 4.69%
103	27531	1733	1	1266		993		1130		1331	
104	27517	1511	8	356		556		456		808	
106	27530	1689	3	178		52		115		640	
107	27518	1600	6	467		434		451		834	
108	27508	1289		1445	8	1858	8	1652	8	1531	9
109	Shabhagidhan (NC)	1289		1222		1866	7	1544	10	1459	
112	27532	800		1289		1007		1148		1032	
113	27523	1511	8	1911	4	2465	2 *	2188	2 * 33%	1962	1 * 26%
114	27513	1600	6	289		677		483		855	
115	27528	1333		1778	6	1563		1671	7	1558	7
116	27526										
117	27521	1645	5	1133		1172		1153		1317	
118	27512	1466	10	800		399		600		888	
119	26351	1733	1	1044		1649	10	1347		1475	10
120	27534	1289		1378	9	2014	6	1696	6	1560	6
121	GNV Ageti – Sensitive Check	933		422		642		532		666	
122	28834	1200		2311	1	2198	4 *	2255	1 * 37%	1903	2 * 22%
123	28835	711		2111	2	2257	3 *	2184	3 * 33%	1693	3 9%
124	Anjali (ZC for all zones & RP)	978		1333	10	1017		1175		1109	
125	28836	978		1911	4	2049	5	1980	4 * 20%	1646	4 6%
126	Vandana (NC & RP)	1022		1578	7	1295		1437		1298	
131	Zonal Check (ZC)	1689	3	933		573		753		1065	
132	Local Check (LC)	1378		2067	3	1229		1648	9	1558	7
Exp. Mean		1333		1233		1342		1288		1303	
CD		279.65		371.32		273.93		192.44		156.45	
CV%		12.76		18.32		12.42		9.09		7.31	
D/S		7/18/2019		7/10/2019		7/12/2019					
Local Check Name		R.Bhagwati		BVD-110		CR Dhan 40					

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 1.2 contd.: Grain yield (Kg/ha), Days to 50% flowering, Plant height (cm) and panicles/m² of entries of AVT 1 EDS Zone IV Drought, Kharif 2019

ENTRY	IET No.	Zone IV Drought			
		Yield		Flowering	Panicles
		MAN		MAN	MAN (1)
		IMP		IMP	IMP
101	27514	1825		83	131
102	27525	2843	4	82	131
103	27531	1901		75	136
104	27517	2075	10	79	146
108	27508	2675	5	70	164
109	Shabhagidhan (NC)	2052		80	137
112	27532	1684		80	141
113	27523	2472	6	82	147
115	27528	2377	7	81	137
116	27526	1927		81	167
117	27521	1898		82	137
118	27512				
120	27534	1824		82	141
121	GNV Ageti – Sensitive Check	2190	9	79	219
122	28834	2043		79	228
123	28835	1405		79	175
124	Anjali (ZC for all zones & RP)	2306	8	79	154
126	Vandana (NC & RP)	3323	2	78	151
131	Zonal Check (ZC)	3190	3	80	127
132	Local Check (LC)	4779	1	76	214
Exp. Mean		2357		79	157
CD		394.4			
CV%		10.07			
D/S		29-07-2019			
Local Check Name		CAU R3			
*Superior to best check %superior over best check					
#Superior over hybrid check %Superior over hybrid check					

Table 1.2 contd.: Grain yield (Kg/ha), Days to 50% flowering, Plant height (cm) and panicles/m² of entries of AVT 1 EDS Zone V Drought, Kharif 2019

ENTRY	IET No.	Zone V Drought				
		Yield		Flowering	Plant Height	Panicles
		MP		MP	MP	MP
		@REW		@REW	@REW	@REW
101	27514	1173	1	86	111.33	233
102	27525	1043	2	82	78.33	225
103	27531	376	10	93	82.00	45
104	27517			92	76.33	
108	27508	530	6	94	79.00	97
109	Shabhagidhan (NC)	559	5	85	88.33	223
112	27532	114		84	60.00	85
113	27523	772	3	88	85.00	151
115	27528	302		67	78.00	73
116	27526			92	75.00	
117	27521	170		98	69.00	50
118	27512			92	78.00	
120	27534	428	8	85	96.00	153
121	GNV Ageti – Sensitive Check	424	9	80	67.00	137
124	Anjali (ZC for all zones & RP)	155		74	59.67	124
126	Vandana (NC & RP)	567	4	68	80.67	98
131	Zonal Check (ZC)	321		88	52.00	221
132	Local Check (LC)	495	7	87	50.67	187
Exp. Mean		495		85	75.91	140
CD		172				
CV		21				
D/S		16-07-2019				
Local Check Name						
*Superior to best check %superior over best check						
#Superior over hybrid check %Superior over hybrid check						

Table 1.2 contd.: Grain yield (Kg/h) of entries of AVT 1 EDS Zone VI Drought, Kharif 2019

Entry No	IET No.	Zone VI				Zone VI (2)	
		GU				GU (2)	
		DRL		VYR		Mean	
101	27514	1790	3	1833		1812	9
102	27525	1779	4	2361	6	2070	4
103	27531	1608	7	1667		1637	
104	27517	1571	9	1389		1480	
105	26635	1405		1667		1536	
108	27508	1328		2167	9	1747	10
109	Shabhagidhan (NC)	1986	1	2611	2	2299	1
110	26636	1767	5	2639	1	2203	2
111	26633	1910	2	2194	8	2052	5
112	27532	1216		667		941	
113	27523	1636	6	2528	3	2082	3
115	27528	1604	8	2500	4	2052	6
116	27526						
117	27521	1345		2389	5	1867	7
118	27512	1465	10	667		1066	
119	26351	1264		1833		1548	
120	27534	946		2083	10	1514	
121	GNV Ageti – Sensitive Check	997		1583		1290	
124	Anjali (ZC for all zones & RP)	1046		686		866	
126	Vandana (NC & RP)	1167		1222		1195	
131	Zonal Check (ZC)	1292		2083	10	1687	
132	Local Check (LC)	1300		2333	7	1817	8
Exp. Mean		1449		1862		1655	
CD		325.10		472.92		346.94	
CV%		13.60		15.39		12.70	
D/S		7/10/2019		7/2/2019			
Local Check Name		GR-9		Purna			

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 1.2 contd.: Grain yield (Kg/h) of entries of AVT 1 EDS Zone III Normal, Kharif 2019

Entry	IET No.	Zone III NORMAL										ZONE III (4)	
		OD (1)		BI (1)		WB				WB (2)		Mean	
		JYP		SBR		HTW		BNK		Mean		Mean	
101	27514	4647		3984	4 *	16%	3523		4767	2	4145	5	4230
102	27525	4506		3319			4285	7	3582		3934	10	3923
103	27531	6978	3	3319			4654	1	4091	8	4373	2	4761
104	27517	5975	10	4181	2 *	22%	3609		3658		3634		4356
106	27530	6659	4	3519	8		4351	6	3793	10	4072	7	4581
107	27518	8462	1 * 19%	4271	1 *	24%	3546		3950	9	3748		5057
108	27508	4100		4066	3 *	18%	3571		2808		3190		3636
109	Shabhagidhan (NC)	6343	8	3440	9		3549		3382		3466		4179
112	27532	3683		2907			4524	3	3653		4089	6	3692
113	27523	6292	9	3383			3563		4491	4	4027	9	4432
114	27513	4625		3894	5	13%			4167	7	4167	4	4229
115	27528	6432	7	3667	6	7%	3762	10	3544		3653		4351
116	27526	5710		3039									4375
117	27521	5437		3439	10		3742		4383	5	4063	8	4250
118	27512	6534	6	3585	7		3650		5492	1	4571	1* 5%	4815
119	26351	5226		2664			4513	4	3344		3929		3937
120	27534	4031		2931			3251		2868		3060		3270
121	GNV Ageti – Sensitive Check	5063		2173			4540	2	3036		3788		3703
122	28834	2694		2241			4085	8	2219		3152		2810
123	28835	6605	5	2135			3593		4172	6	3883		4126
124	Anjali (ZC for all zones & RP)	5509		2190			3399		2760		3080		3465
125	28836	3897		2051			3207		2489		2848		2911
126	Vandana (NC & RP)	4883		2286			3367		2386		2877		3231
131	Zonal Check (ZC)	3753		2814			4457	5	3382		3920		3602
132	Local Check (LC)	7124	2	2838			3940	9	4762	3	4351	3	4666
Exp. Mean		5407		3134			3856		3633		3751		4023
CD		986.52		534.31			711.43		1395.65		825.89		548.23
CV%		11.11		10.39			11.21		23.38		13.4		8.3
D/S		7/10/2019		7/17/2019		7/11/2019		7/11/2019					
Local Check Name		Mandakini		Sabour Deep		Sabbhagidhan		Puspa					

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 1.2 contd.: Grain yield (Kg/ha) of entries of AVT 1 EDS Zone V Normal, Kharif 2019

Entry No.	IET No.	Zone V Normal							
		CH				CH (2)		Zone V (2)	
		RPR		JDP		Mean		Mean	
101	27514	5942	4	4642	4	5292	4	5292	4
102	27525	5755	6	3905		4830	7	4830	7
103	27531	5766	5	4474	6	5120	5	5120	5
104	27517	6904	1	5043	2	5974	1 11%	5974	1 11%
108	27508	5099		4169	8	4634	10	4634	10
109	Shabhagidhan (NC)	6003	3	4784	3	5394	3	5394	3
112	27532	3295		3857		3576		3576	
113	27523	5340	9	4493	5	4917	6	4917	6
115	27528	6321	2	5422	1	5872	2 9%	5872	2 9%
116	27526			4166	9	4166		4166	
117	27521	5124	10	4386	7	4755	8	4755	8
118	27512	5492	7	2933		4213		4213	
120	27534	4895		3673		4284		4284	
121	GNV Ageti – Sensitive Check	3704		3950		3827		3827	
124	Anjali (ZC for all zones & RP)	2428		3202		2815		2815	
126	Vandana (NC & RP)	1264		3064		2164		2164	
131	Zonal Check (ZC)	4991		4065		4528		4528	
132	Local Check (LC)	5400	8	4071	10	4736	9	4736	9
Exp. Mean		4925		4128		4505		4505	
CD		998.94		1584.66		1034.55		1034.55	
CV		12.2		23.14		13.84		13.84	
D/S		7/7/2019		7/13/2019					
Local Check Name		Indira Aerobic 1		Danteshwari					

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 1.2: Grain yield (Kg/ha), Days to 50% flowering, Plant height (cm) and panicles/m² of entries AVT 1 EDS Zone VII Normal, Kharif 2019

Entry No.	IET No.	Zone VII Normal				
		Yield		Flowering	Plant Height	Panicles
		TA (1)		TA (1)	TA (1)	TA (1)
		CBT		CBT	CBT	CBT
101	27514	3465		91	104.81	378
102	27525	4821	8	89	100.46	377
103	27531	5139	4	95	100.11	402
104	27517	4892	7	103	107.03	375
108	27508	4352		89	107.10	388
109	Shabhagidhan (NC)	4474		91	106.53	338
112	27532	2896		88	84.10	358
113	27523	4042		90	99.35	390
115	27528	5191	2 5%	94	105.36	373
116	27526	5274	1 7%	93	87.57	485
117	27521	3292		92	105.87	372
118	27512	5188	3 5%	100	108.57	412
120	27534	4170		93	100.73	327
121	GNV Ageti – Sensitive Check	4231		86	89.27	335
124	Anjali (ZC for all zones & RP)	4497	10	78	101.03	358
126	Vandana (NC & RP)	2208		78	94.30	417
127	28795	3549		91	88.90	397
128	28837	3707		88	85.09	378
129	26753	3483		90	79.63	388
130	Varalu (RP)	4969	5	87	105.07	392
131	Zonal Check (ZC)	4715	9	101	115.83	397
132	Local Check (LC)	4932	6	92	86.69	472
Exp. Mean		4249		91	98.34	387
CD		1275				
CV		18.20				
D/S		7/15/2019				
Local Check Name		Anna (R) 4				

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 1.3: Days to 50% flowering of entries of AVT 1 EDS Zone III Drought, Kharif 2019

Entry No	IET NO	BI	JH		JH (2)	Zone III (3)
		PSA	RCI	HZB	Mean	Mean
101	27514	74	85	89	87	83
102	27525	70	76	82	79	76
103	27531	78	86	104	95	89
104	27517	89	97	104	101	97
106	27530	96	107	100	104	101
107	27518	90	99	100	100	96
108	27508	75	74	85	80	78
109	Shabhagidhan (NC)	82	78	87	83	82
112	27532	77	92	94	93	88
113	27523	75	78	82	80	78
114	27513	90	96	101	99	96
115	27528	80	79	89	84	83
116	27526					
117	27521	80	84	87	86	84
118	27512	89	95	100	98	95
119	26351	72	76	81	78	76
120	27534	76	75	81	78	77
121	GNV Ageti – Sensitive Check	65	75	88	82	76
122	28834	64	69	68	69	67
123	28835	64	66	66	66	66
124	Anjali (ZC for all zones & RP)	67	68	69	68	68
125	28836	65	65	66	65	65
126	Vandana (NC & RP)	65	64	67	66	65
131	Zonal Check (ZC)	74	80	90	85	81
132	Local Check (LC)	83	73	68	71	75
	Exp Mean	77	81	85	83	81

Table 1.3 contd.: Days to 50% flowering of entries of AVT 1 EDS Zone III Normal, Kharif 2019

Entry No.	IET No.	Zone III NORMAL					
		OD (1)	BI (1)	WB		WB (2)	ZONE III (4)
		JYP	SBR	HTW	BNK	Mean	Mean
101	27514	85	79	72	66	69	76
102	27525	83	74	66	64	65	72
103	27531	84	84	69	61	65	75
104	27517	94	57	74	85	79	78
106	27530	107	92	74	76	75	87
107	27518	98	87	68	92	80	86
108	27508	83	91	63	67	65	76
109	Shabhagidhan (NC)	87	76	69	64	66	74
112	27532	82	79	67	60	63	72
113	27523	84	80	66	64	65	74
114	27513	91	94		95	95	93
115	27528	86	79	67	70	68	75
116	27526	89	81				85
117	27521	82	80	69	69	69	75
118	27512	97	89	67	76	72	82
119	26351	81	68	65	63	64	69
120	27534	91	80	65	67	66	76
121	GNV Ageti – Sensitive Check	77	72	65	63	64	69
122	28834	76	63	61	57	59	64
123	28835	82	61	59	60	59	66
124	Anjali (ZC for all zones & RP)	80	63	62	61	61	66
125	28836	82	67	59	56	58	66
126	Vandana (NC & RP)	78	65	60	54	57	64
131	Zonal Check (ZC)	83	79	66	68	67	74
132	Local Check (LC)	83	81	68	74	71	77
	Exp. Mean	86	77	66	68	68	75

Table 1.3 contd.: Days to 50% flowering of entries of AVT 1 EDS Zone V Normal, Kharif 2019

Entry No.	IET No.	Zone V Normal			
		CH		CH (2)	Zone V (2)
		RPR	JDP	Mean	Mean
101	27514	75	74	75	75
102	27525	72	81	77	77
103	27531	77	88	83	83
104	27517	85	91	88	88
108	27508	72	77	75	75
109	Shabhagidhan (NC)	73	76	75	75
112	27532	72	79	76	76
113	27523	74	79	77	77
115	27528	76	79	77	77
116	27526		79	79	79
117	27521	76	77	77	77
118	27512	70	90	80	80
120	27534	76	79	78	78
121	GNV Ageti – Sensitive Check	71	77	74	74
124	Anjali (ZC for all zones & RP)	64	70	67	67
126	Vandana (NC & RP)	62	70	66	66
131	Zonal Check (ZC)	81	89	85	85
132	Local Check (LC)	79	75	77	77
Exp. Mean		74	79	77	77

Table 1.3 contd.: Days to 50% flowering, Plant height, Panicles/m² of entries of AVT 1 EDS Zone VI Drought, Kharif 2019

Entry No.	IET No.	Flowering			Plant Height			Panicles		
		GU		GU(2)	GU		GU(2)	GU		GU(2)
		DRL	VYR	Mean	DRL	VYR	Mean	DRL	VYR	Mean
101	27514	79	86	83	120	128	124	55	205	130
102	27525	76	81	79	103	118	110	53	102	78
103	27531	82	92	87	92	112	102	51	126	89
104	27517	94	100	97	88	110	99	68	146	107
105	26635	76	84	80	99	117	108	43	138	90
108	27508	78	80	79	110	125	118	52	178	115
109	Shabhagidhan (NC)	81	89	85	93	115	104	62	160	111
110	26636	84	86	85	90	114	102	52	157	105
111	26633	84	92	88	99	119	109	58	123	90
112	27532	79	81	80	70	86	78	51	161	106
113	27523	69	86	78	111	132	122	37	143	90
115	27528	80	90	85	105	122	114	50	130	90
116	27526									
117	27521	76	87	82	90	118	104	58	130	94
118	27512	97	102	100	99	108	103	50	85	67
119	26351	65	73	69	105	119	112	38	127	82
120	27534	83	92	87	115	127	121	48	129	88
121	GNV Ageti – Sensitive Check	77	79	78	101	107	104	57	167	112
124	Anjali (ZC for all zones & RP)	67	72	69	94	115	104	46	86	66
126	Vandana (NC & RP)	65	71	68	102	122	112	53	141	97
131	Zonal Check (ZC)	92	85	88	96	115	106	59	197	128
132	Local Check (LC)	62	74	68	106	127	116	53	153	103
Exp. Mean		78	85	82	99	117	108	52	142	97

Table 1.4: Plant Height of entries of AVT 1 EDS Zone III Drought, Kharif 2019

Entry	IET No.	Zone III DROUGHT				
		BI (1)	JH		JH (2)	ZONE (3)
		PSA	RCI	HZB	Mean	Mean
101	27514	119.00	104.00	108.00	106.00	110.33
102	27525	101.00	97.00	100.87	98.93	99.62
103	27531	87.00	74.00	77.31	75.66	79.44
104	27517	103.00	80.00	90.02	85.01	91.01
106	27530	81.00	59.00	82.67	70.83	74.22
107	27518	95.00	79.00	83.84	81.42	85.95
108	27508	116.00	98.00	101.88	99.94	105.29
109	Shabhagidhan (NC)	107.00	89.00	86.56	87.78	94.19
112	27532	77.00	67.00	65.71	66.35	69.90
113	27523	111.00	110.00	108.11	109.06	109.70
114	27513	100.00	77.00	90.00	83.50	89.00
115	27528	111.00	100.00	98.51	99.25	103.17
116	27526					
117	27521	107.00	94.00	90.98	92.49	97.33
118	27512	103.00	79.00	97.30	88.15	93.10
119	26351	121.00	104.00	93.38	98.69	106.13
120	27534	118.00	102.00	102.92	102.46	107.64
121	GNV Ageti – Sensitive Check	94.00	78.00	68.88	73.44	80.29
122	28834	115.00	104.00	92.70	98.35	103.90
123	28835	100.00	100.00	84.16	92.08	94.72
124	Anjali (ZC for all zones & RP)	97.00	94.00	86.40	90.20	92.47
125	28836	100.00	102.00	88.37	95.19	96.79
126	Vandana (NC & RP)	100.00	106.00	85.67	95.83	97.22
131	Zonal Check (ZC)	87.00	73.00	64.77	68.88	74.92
132	Local Check (LC)	116.00	110.00	91.62	100.81	105.87
Exp. Mean		102.75	90.83	89.19	90.01	94.26

Table 1.4 contd.: Plant height (cm) of entries of AVT 1 EDS Zone III Normal, Kharif 2019

Entry	IET No.	Zone III NORMAL					
		OD (1)	BI (1)	WB		WB (2)	ZONE III (4)
		JYP	SBR	HTW	BNK	Mean	Mean
101	27514	109	109	110	170	140	124
102	27525	100	110	122	125	123	114
103	27531	95	101	98	125	112	105
104	27517	103	113	99	155	127	118
106	27530	87	108	76	145	111	104
107	27518	100	109	102	165	133	119
108	27508	107	121	101	135	118	116
109	Shabhagidhan (NC)	101	97	94	135	115	107
112	27532	79	90	77	100	89	87
113	27523	107	119	120	185	152	133
114	27513	102	115		145	145	120
115	27528	111	117	102	135	119	116
116	27526	88	107				98
117	27521	99	116	107	120	114	111
118	27512	102	107	104	130	117	111
119	26351	101	107	117	140	129	116
120	27534	115	124	100	135	118	119
121	GNV Ageti – Sensitive Check	88	110	97	120	109	104
122	28834	101	120	115	95	105	108
123	28835	104	103	118	100	109	106
124	Anjali (ZC for all zones & RP)	109	113	127	125	126	118
125	28836	109	113	136	130	133	122
126	Vandana (NC & RP)	104	104	128	115	122	113
131	Zonal Check (ZC)	85	101	102	100	101	97
132	Local Check (LC)	110	104	113	105	109	108
Exp. Mean		101	109	107	131	120	112

Table 1.4 contd.: Plant Height (cm) of entries of AVT 1 EDS Zone V Normal, Kharif 2019

ENTRY	IET No.	Zone V Normal			
		CH		CH (2)	Zone V (2)
		RPR	JDP	Mean	Mean
101	27514	122.02	114.40	118.21	118.21
102	27525	122.63	113.33	117.98	117.98
103	27531	105.87	104.07	104.97	104.97
104	27517	119.85	116.07	117.96	117.96
108	27508	123.09	112.20	117.65	117.65
109	Shabhagidhan (NC)	113.56	102.80	108.18	108.18
112	27532	88.33	81.07	84.70	84.70
113	27523	122.75	118.30	120.52	120.52
115	27528	116.65	119.10	117.88	117.88
116	27526		115.70	115.70	115.70
117	27521	97.97	114.47	106.22	106.22
118	27512	121.71	105.67	113.69	113.69
120	27534	122.63	117.60	120.12	120.12
121	GNV Ageti – Sensitive Check	93.61	101.13	97.37	97.37
124	Anjali (ZC for all zones & RP)	107.41	118.00	112.71	112.71
126	Vandana (NC & RP)	120.47	113.40	116.94	116.94
131	Zonal Check (ZC)	115.47	101.40	108.44	108.44
132	Local Check (LC)	109.17	76.13	92.65	92.65
Exp. Mean		113.13	108.05	110.66	110.66

Table 1.5: Panicles/m2 of entries of AVT 1 EDS Zone III Drought, Kharif 2019

Entry	IET No.	Zone III DROUGHT				
		BI (1)	JH		JH (2)	ZONE (3)
		PSA	RCI	HZB	Mean	Mean
101	27514	149	153	192	173	165
102	27525	131	166	175	170	157
103	27531	150	175	183	179	169
104	27517	133	144	235	190	171
106	27530	148	25	151	88	108
107	27518	148	114	182	148	148
108	27508	100	179	174	177	151
109	Shabhagidhan (NC)	112	163	179	171	151
112	27532	91	153	153	153	132
113	27523	131	186	198	192	172
114	27513	135	61	201	131	132
115	27528	129	195	161	178	162
116	27526					
117	27521	123	149	148	149	140
118	27512	104	100	181	141	128
119	26351	120	132	162	147	138
120	27534	116	154	167	161	146
121	GNV Ageti – Sensitive Check	130	168	162	165	153
122	28834	126	223	212	217	187
123	28835	96	192	203	198	164
124	Anjali (ZC for all zones & RP)	124	141	151	146	139
125	28836	134	198	226	212	186
126	Vandana (NC & RP)	136	153	201	177	163
131	Zonal Check (ZC)	155	209	193	201	186
132	Local Check (LC)	125	179	192	185	165
Exp. Mean		127	155	183	169	155

Table 1.5 contd.: Panicle/m² of entries of AVT 1 EDS Zone III Normal, Kharif 2019

Entry No.	IET No.	Zone III NORMAL			
		OD (1)	BI (1)	WB (1)	ZONE (3)
		JYP	SBR	BNK	Mean
101	27514	227	260	184	224
102	27525	271	183	194	216
103	27531	238	178	168	195
104	27517	309	243	242	264
106	27530	386	277	180	281
107	27518	297	217	244	253
108	27508	297	215	186	233
109	Shabhagidhan (NC)	229	219	155	201
112	27532	233	242	186	220
113	27523	295	232	167	231
114	27513	299	233	168	233
115	27528	294	230	184	236
116	27526	302	217		260
117	27521	275	179	193	216
118	27512	315	256	205	259
119	26351	232	150	197	193
120	27534	328	178	200	235
121	GNV Ageti – Sensitive Check	286	278	193	253
122	28834	253	215	155	208
123	28835	258	199	155	204
124	Anjali (ZC for all zones & RP)	238	197	186	207
125	28836	231	208	155	198
126	Vandana (NC & RP)	302	207	184	231
131	Zonal Check (ZC)	309	273	191	258
132	Local Check (LC)	282	208	189	226
Exp. Mean		279	220	186	229

Table 1.5 contd.: Panicles/m² of entries of AVT 1 EDS Zone V Normal, Kharif 2019

ENTRY	IET No.	Zone V Normal			
		CH		CH (2)	Zone V (2)
		RPR	JDP	Mean	Mean
101	27514	205	252	228	228
102	27525	213	177	195	195
103	27531	184	186	185	185
104	27517	227	230	229	229
108	27508	208	138	173	173
109	Shabhagidhan (NC)	204	186	195	195
112	27532	180	285	233	233
113	27523	200	194	197	197
115	27528	212	223	217	217
116	27526		178	178	178
117	27521	216	165	191	191
118	27512	212	158	185	185
120	27534	155	194	175	175
121	GNV Ageti – Sensitive Check	218	249	234	234
124	Anjali (ZC for all zones & RP)	152	165	159	159
126	Vandana (NC & RP)	132	235	183	183
131	Zonal Check (ZC)	211	189	200	200
132	Local Check (LC)	225	207	216	216
Exp. Mean		197	201	198	198

Table 1.7: Composition of entries in Initial Variety Trial–Early Direct Seeded (IVT E-DS), Kharif 2019

Entry No.	IET No.	Designation	Cross Combination	Grain Type
1st year of testing:				
201	28240	HTW 28-IR 99342:39-B-20-1-11-1RGA-2RGA-1-B-B	Sanhuangzhan No 2 / IR 07F287 // IR 77298-14-1-2-10 / IRR1 146 /// IR 45427-2B-2-2B-1-1 / IR 4630-22-2-5-1-3 // Fedearroz 50 / IRR1 123	MS
202	28241	CRR 797-71-2-1-2	Vandana / IR 9385-123-B	LS
203	28242	RCPR 65-IR 99784-255-29-1-1-1-2	IR 98003:257 / MR 219	LB
204	28243	IIRRH-127 (Hybrid)	--	LS
205	28244	CR 4117-1-2-2-1-1	CR 3946-1-1-2-1-1 / MTU 1010	LS
206	28245	JDP - 0318	Pokkali / IR 50138	SB
207	Sahbhagidhan (NC)			
208	28246	R 1882-306-2-241-1	R 1207-2282-2-1 / RP 4092	MS
209	28247	HTW 26-IR 98932-17-1-2-3	IRRI 177 / IR 72	MS
210	28248	CRR 716-4-8	IR 78933-B-24 / Anjali	LB
211	28249	CR 4114-3-2-1-1-2	CR 3848-1-1-2-1-1 / Vandana	LS
212	28250	RCPR 64-IR 97069-1-1-1-1	IR09L317 / IR10L137	LS
213	Vandana (NC)			
214	28251	HTW 27-IR 98676-20-1-2-2	IR11L152 / Sabitri	MB
215	28252	CR 2908-262-4-5-2	IR 20 / Apo	MS
216	28253	CRR 688-25-B-1-B-4	IR 80501-25-B-1 / Vandana	LB
217	28254	CR 4043-2-1-1-2-1	IR 79643-39-2-2 / CR Dhan 305	LS
218	Govind (Northern), Narendra 97 (Eastern & North Eastern), Samaleshwari (Central), Varalu (Western) and Tulasi (Southern)- (ZC)			
219	28255	TM 12012	ADT 37 / Tadukan	MS
220	28256	R 2220-382-1-243-1	R 1546-1328-1-40-1 / Mahamaya	MS
221	US 314 (HC)			
222	28257	CR 4151-17-1-1	Khandagiri / Adaysel	MS
223	28258	CRR 696-42-B-1-B	Vandana / CT 9993-5-10-1M	LB
224	28259	CR 4043-3-1-1-1-1	IR 79643-39-2-2 / CR Dhan 305	LS
225	28260	HTW 31 - IR 98879-9-1-3-2	IR11L147 / IR04N114	MB
226	Gangavathi Ageti (Sensitive Check)			
227	28261	CR 4114-2-4-1-1-2-1	CR 3848-1-1-2-1-1 / Vandana	MS
228	Anjali (ZC for all zones)			
229	28262	CR 2875-11-14-3	Naveen / Kalakeri	MS
230	Local Check			

Table 1.8: Grain yield (Kg/h) of entries of IVT EDS Drought, Kharif 2019

ENTRY	IET No.	Zone III						Zone (1)		
		JH			JH(1)					
		@RCI		HZB		Mean			Mean	
201	28240	350		1164		1164		1164		
202	28241	1550	3	2464	1 * #	2464	1 * 21% # 35%	2464	1 * 21% # 35%	
203	28242	1300	6	964		964		964		
204	28243	1600	2	1143		1143		1143		
205	28244	350		1929	7	1929	7	1929	7	
206	28245	1100	9	1536		1536		1536		
207	Sahbhagidhan (NC)	1350	4	2036	6	2036	6 12%	2036	6 12%	
208	28246	600		929		929		929		
209	28247	550		1643		1643		1643		
210	28248	1000		2429	2 #	2429	2 19% # 33%	2429	2 19% # 33%	
211	28249			714		714		714		
212	28250			1786		1786		1786		
213	Vandana (NC)	950		1821		1821		1821		
214	28251	1350	4	2071	5	2071	5 14%	2071	5 14%	
215	28252	450		1143		1143		1143		
216	28253	1000		1929	7	1929	7	1929	7	
217	28254	500		464		464		464		
218	Zonal Check (ZC)	1100	9	1286		1286		1286		
219	28255	600		1286		1286		1286		
220	28256	500		2393	3 #	2393	3 18% # 31%	2393	3 18% # 31%	
221	US 314 (HC)	2050	1	1821	9	1821	9	1821	9	
222	28257	350		1100		1100		1100		
223	28258	1250	7	2214	4 #	2214	4 9% 22%	2214	4 9% 22%	
224	28259			643		643		643		
225	28260	700		1214		1214		1214		
226	Gangavathi Ageti (Sensitive Check)	650		1371		1371		1371		
227	28261	750		1821	9	1821	9	1821	9	
228	Anjali (ZC for all zones)	1250	7	1393		1393		1393		
229	28262			1429		1429		1429		
230	Local Check (LC)	950		1393		1393		1393		
Exp. Mean		929		1518		1518		1518		
CD		329.38		427.96		427.96		427.96		
CV%		17.22		13.79		13.79		13.79		
D/S		11-07-2019		12-07-2019						
D/P										
Local Check Name		BVD-109		CR Dhan 40						
*Superior to best check %superior over best check										
#Superior over hybrid check %Superior over hybrid check										

Table 1.8 contd.: Grain yield (Kg/h) of entries of IVT EDS Drought, Kharif 2019

ENTRY	IET No.	Zone V		Zone VI		Overall (2)	
		MP		GU (1)			
		@REW		DRL		Mean	
201	28240	257		1545		1354	
202	28241	1244	2	2077		2271	5
203	28242	331		2967	3 * 25%	1966	10
204	28243	1320	1	2063		1603	
205	28244			1705		1817	
206	28245	860	6	1681		1609	
207	Sahbhagidhan (NC)	257		2367	8	2202	7
208	28246	144		1323		1126	
209	28247	208		1554		1599	
210	28248	300		1809		2119	9
211	28249	1006	5	2242		1478	
212	28250	494	8	3106	2 * 31%	2446	2 11%
213	Vandana (NC)	473	9	1314		1568	
214	28251	1231	3	2375	7	2223	6
215	28252			248		696	
216	28253	293		2888	4 * 22%	2409	3 9%
217	28254			2168		1316	
218	Zonal Check (ZC)	345		2359	9	1823	
219	28255			1300		1293	
220	28256	170		2247	10	2320	4 5%
221	US 314 (HC)	397		3431	1 * 45%	2626	1 19%
222	28257			518		809	
223	28258	1159	4	1520		1867	
224	28259			2595	5 10%	1619	
225	28260	502	7	1715		1465	
226	Gangavathi Ageti (Sensitive Check)	67		1502		1437	
227	28261	137		2536	6	2179	8
228	Anjali (ZC for all zones)	442	10	2071		1732	
229	28262					1429	
230	Local Check (LC)			1831		1612	
Exp. Mean		529		1967		1733	
CD		202.39		467.33		1006.88	
CV%		18.41		11.6		28.4	
D/S		16-07-2019		09-07-2019			
D/P							
Local Check Name				GR 9			
*Superior to best check		%superior over best check					
#Superior over hybrid check		%Superior over hybrid check					

Table 1.8 contd.: Grain yield (Kg/h) of entries of IVT EDS NORMAL, Kharif 2019

ENTRY	IET No.								
		OD(1)		BI			BI (2)		
		JYP		PSA		SBR	Mean		
201	28240	4383		4667		2301		3484	
202	28241	5603	9	2500		2003		2252	
203	28242	6022	3 14%	5000		4000	5	4500	
204	28243	4145		7000	#	3255		5128	
205	28244	4553		6833		2004		4419	
206	28245	5273		4000		4457	2 *	4229	
207	Sahbhagidhan (NC)	6200	2 17%	8333	6	2356		5345	
208	28246	4171		8500	3	4735	1 *	6618	1 * 24% # 35%
209	28247	5971	4 12%	8333	6	3740	9	6037	3 13% # 23%
210	28248	3076		5167		2270		3719	
211	28249	3468		8333	6 #	3201		5767	6 8% # 17%
212	28250	4411		8000	10 #	2420		5210	
213	Vandana (NC)	2629		3833		2335		3084	
214	28251	5841	7 10%	8500	3 #	2206		5353	
215	28252	4613		7500	#	3217		5359	
216	28253	5777	8	7333	#	3847	7	5590	7
217	28254	4234		9167	1* #	3825	8	6496	2 * 22% # 32%
218	Zonal Check (ZC)	3368		4167		2911		3539	
219	28255	5292		9167	1 #	2670		5919	4 11% # 21%
220	28256	6358	1 19%	6667		4208	4	5438	9 11%
221	US 314 (HC)	5301		5500		4320	3	4910	
222	28257	3928		7667	#	3067		5367	10
223	28258	3682		5333		2110		3722	
224	28259	3528		8333	6 #	2733		5533	8 13%
225	28260	5420	10	6833		2918		4876	
226	Gangavathi Ageti (Sensitive Check)	4457		3833		2175		3004	
227	28261	4694		5667		3953	6	4810	
228	Anjali (ZC for all zones)	3092		2833		2192		2513	
229	28262	5922	5 12%	8500	3 #	3127		5814	5 9% # 18%
230	Local Check (LC)	5856	6 10%	6167		3616	10	4892	
Exp. Mean		4709		6456		3072		4764	
CD		1075.15		1481.41		793.52		746.63	
CV%		11.16		11.22		12.63		7.66	
D/S		05-07-2019		04-07-2019		05-07-2019			
D/P									
Local Check Name		Mandakini		R.Bhagwati		Sabour Deep			

*Superior to best check %superior over best check

#Superior over hybrid check %Superior over hybrid check

Table 1.8 contd.: Grain yield (Kg/h) of entries of IVT EDS NORMAL, Kharif 2019

ENTRY	IET No.							Zone III (5)	
		JH			JH(2)				
		HTW		BNK				Mean	
201	28240	3905		5993		4949		4250	
202	28241	4268	7	5025		4647		3880	
203	28242	4316	6	5650		4983		4998	
204	28243	4156	10	7316	4	5736	3 6%	5174	
205	28244	4189	9	6801	6	5495	5	4876	
206	28245	4109		5870		4990		4742	
207	Sahbhagidhan (NC)	4260	8	6581	9	5421	6	5546	3
208	28246	3559		6544	10	5052		5502	5
209	28247	3547		5846		4697		5487	6
210	28248	4574	2	5429		5002		4103	
211	28249	3314		6483		4899		4960	
212	28250	3743		6152		4948		4945	
213	Vandana (NC)	4012		5441		4727		3650	
214	28251	4637	1	8211	1 * #	6424	1 * # 19%	5879	1 6% # 14%
215	28252	3213		5319		4266		4772	
216	28253	3929		6752	7	5341	8	5528	4
217	28254	3200		5355		4278		5156	
218	Zonal Check (ZC)	4118		5159		4639		3945	
219	28255	3539		5956		4748		5325	7
220	28256	3465		5637		4551		5267	9
221	US 314 (HC)	4477	4	6275		5376	7	5175	10
222	28257	3214		6900	5	5057		4955	
223	28258	4487	3	5931		5209	10	4309	
224	28259	3840		5711		4776		4829	
225	28260	3935		7475	2	5705	4 5%	5316	8
226	Gangavathi Ageti (Sensitive Check)	3743		5037		4390		3849	
227	28261	3879		6618	8	5249	9	4962	
228	Anjali (ZC for all zones)	3308		5196		4252		3324	
229	28262	4463	5	7377	3	5920	2 9% 10%	5878	2 6% # 14%
230	Local Check (LC)	3736		6409		5073		5157	
Exp. Mean		3905		6148		5026		4858	
CD		1595.74		1578.75		831.88		445.9	
CV%		19.98		12.55		8.09		4.49	
D/S		05-07-2019		04-07-2019					
D/P									
Local Check Name		Puspa		Puspa					

Table 1.8 contd.: Grain yield (Kg/h) of entries of IVT EDS NORMAL, Kharif 2019

ENTRY	IET No.					Zone IV (2)	
		TR(1)		MN (1)			
		LMB		IMP		Mean	
201	28240	2846		1721		2284	
202	28241	3531		3274		3403	
203	28242	3467		3454		3461	
204	28243	5179	5	1866		3523	
205	28244	2964		3510		3237	
206	28245	4569	7	4386	2 6%	4478	6
207	Sahbhagidhan (NC)	5371	3	3599	9	4485	5
208	28246	4141		1853		2997	
209	28247	3435		3608	8	3522	
210	28248	3028		2771		2900	
211	28249	4109		1769		2939	
212	28250	3873		3323		3598	
213	Vandana (NC)	2204		4140	4	3172	
214	28251	4355	9	3400		3878	10
215	28252	3157				3157	
216	28253	3702		4631	1 12%	4167	7
217	28254	2803		1218		2011	
218	Zonal Check (ZC)	4152				4152	8
219	28255	5596	1 12%			5596	1 21% 21%
220	28256	3799		2042		2921	
221	US 314 (HC)	5008	6	4272	3	4640	3
222	28257	4323	10	3575	10	3949	9
223	28258	3563				3563	
224	28259	4355	8	1108		2732	
225	28260	3948		2998		3473	
226	Gangavathi Ageti (Sensitive Check)	3338		2168		2753	
227	28261	3595		3690	7	3643	
228	Anjali (ZC for all zones)	3338		3770	6	3554	
229	28262	5243	4			5243	2 14% 13%
230	Local Check (LC)	5404	2	3820	5	4612	4
Exp. Mean		3947		3039		3601	
CD		2301.05		525.16		1430.67	
CV%		28.51		8.37		19.42	
D/S		24-07-2019		22-07-2019			
D/P		18-08-2019					
Local Check Name				CAU R3			

Table 1.8 contd.: Grain yield (Kg/h) of entries of IVT EDS NORMAL, Kharif 2019

ENTRY	IET No.	Zone V						Zone V (2)	
		CH (2)				CH (2)			
		RPR		JDP		Mean		Mean	
201	28240	4246		4121		4184		4184	
202	28241	3132		3477		3305		3305	
203	28242	5577	3	3971		4774		4774	
204	28243	4926		4440		4683		4683	
205	28244	4916		4922	10	4919	9	4919	9
206	28245	4547		4440		4494		4494	
207	Sahbhagidhan (NC)	4087		5775	6	4931	8	4931	8
208	28246	3072		4427		3750		3750	
209	28247	3647		5228	8	4438		4438	
210	28248	2750		3691		3221		3221	
211	28249	5507	4	4264		4886	10	4886	10
212	28250	5094	10	4115		4605		4605	
213	Vandana (NC)	1083		3105		2094		2094	
214	28251	4883		5423	7	5153	6	5153	6
215	28252	3278		4245		3762		3762	
216	28253	5156	8	4056		4606		4606	
217	28254	4190		3555		3873		3873	
218	Zonal Check (ZC)	5002		4681		4842		4842	
219	28255	5380	6	5840	5	5610	4 11%	5610	4 11%
220	28256	5153	9	5885	3	5519	5 9%	5519	5 9%
221	US 314 (HC)	5855	1	5885	3	5870	2 16%	5870	2 16%
222	28257	4900		3757		4329		4329	
223	28258	2074		3398		2736		2736	
224	28259	5487	5	6016	2	5752	3 14%	5752	3 14%
225	28260	4414		4297		4356		4356	
226	Gangavathi Ageti (Sensitive Check)	3170		3991		3581		3581	
227	28261	5727	2	6217	1 *	5972	1 18%	5972	1 18%
228	Anjali (ZC for all zones)	2710		3164		2937		2937	
229	28262	3234		5072	9	4153		4153	
230	Local Check (LC)	5200	7	4889		5045	7	5045	7
Exp. Mean		4280		4545		4412		4412	
CD		1342.53		2219.78		1379.61		1379.61	
CV%		15.34		23.88		15.29		15.29	
D/S		07-04-2019		05-07-2019					
D/P									
Local Check Name		Indira Aerobic 1		Danteshwari					

Table 1.8 contd.: Grain yield (Kg/h) of entries of IVT EDS NORMAL, Kharif 2019

ENTRY	IET No.	Zone VI (1)						Zone VII (2)		Overall (12)	
		GU(1)		TA(1)		KA(1)					
		VYR		CBT		MGD		Mean		Mean	
201	28240	3839		4711		3487		4099		3852	
202	28241	3384		3031		4206		3619		3620	
203	28242	4041		4000		5563	10	4782		4588	
204	28243	4848	3	4995	8	5961	7	5478	7	4841	8
205	28244	3687		4453		5248		4851		4507	
206	28245	3333		3063		3578		3321		4302	
207	Sahbhagidhan (NC)	4848	3	2365		3558		2962		4778	9
208	28246	4343	8	3750		4849		4300		4495	
209	28247	3990		5859	1 23%	5327		5593	6	4878	6
210	28248	2980		3430		3829		3630		3583	
211	28249	4394	7	5365	2 13%	6344	5	5855	4	4713	10
212	28250	4697	5	4589		5654	9	5122	9	4673	
213	Vandana (NC)	1212		2161		2480		2321		2886	
214	28251	3889		5130	3 8%	6912	3	6021	3	5282	2 * 11%
215	28252	1767		4073		4013		4043		4036	
216	28253	4242	10	4271		5126		4699		4902	5
217	28254	4293	9	3979		6508	4	5244	8	4361	
218	Zonal Check (ZC)	3333		4698		8230	1	6464	2	4529	
219	28255	3939		4115		5718	8	4917		5201	3 9%
220	28256	5101	2 5%	5052	5 6%	4942		4997	10	4859	7
221	US 314 (HC)	4646	6	5130	3 8%	8140	2	6635	1	5401	1 * 13%
222	28257	1818		5016	7 5%	6232	6	5624	5	4533	
223	28258	1717		3536		4185		3861		3638	
224	28259	5152	1 6% 11%	4495		4288		4392		4587	
225	28260	4041		4313		2879		3596		4456	
226	Gangavathi Ageti (Sensitive Check)	2475		2885		2666		2776		3328	
227	28261	3686		4721	10	1882		3302		4527	
228	Anjali (ZC for all zones)	1868		2818		1961		2390		3021	
229	28262			5031	6 6%	3438		4235		5141	4 8%
230	Local Check (LC)	2778		4766	9	3825		4296		4706	
Exp. Mean		3598		4193		4701		4447		4407	
CD		1005.03		1394.53		2395.8		1310.3		439.46	
CV%		13.64		16.26		24.92		14.41		4.88	
D/S		07-02-2019		15-07-2019		16-07-2019					
D/P											
Local Check Name		Purna		Anna (R) 4		MGD 101					

Table 1.9: Days to 50% flowering of entries of IVT - E DS Drought, Kharif 2019

ENTRY	IET No.	Zone III			Zone (1) Mean	Zone V	Zone VI	Overall (2) Mean
		JH		JH (1)		MP	GU (1)	
		@RCI	HZB	Mean		@REW	DRL	
201	28240	87	85	85	85	88	84	84
202	28241	73	75	75	75	87	76	75
203	28242	76	89	89	89	96	84	86
204	28243	78	89	89	89	96	86	87
205	28244	98	98	98	98	97	93	95
206	28245	76	85	85	85	85	80	82
207	Sahbhagidhan (NC)	75	84	84	84	93	81	83
208	28246	87	96	96	96	93	86	91
209	28247	87	95	95	95	88	95	95
210	28248	67	69	69	69	70	78	73
211	28249		95	95	95	78	100	97
212	28250		92	92	92	82	85	88
213	Vandana (NC)	63	67	67	67	67	74	70
214	28251	84	90	90	90	90	85	87
215	28252	107	95	95	95	92	101	98
216	28253	75	83	83	83	81	78	80
217	28254	97	97	97	97	92	98	97
218	Zonal Check (ZC)	78	88	88	88	97	86	87
219	28255	107	96	96	96	87	101	98
220	28256	94	96	96	96	100	85	91
221	US 314 (HC)	86	86	86	86	86	86	86
222	28257	107	100	100	100		100	100
223	28258	69	79	79	79	82	75	77
224	28259		98	98	98		98	98
225	28260	79	96	96	96	86	86	91
226	Gangavathi Ageti (Sensitive Check)	72	82	82	82	78	85	83
227	28261	93	92	92	92	87	87	89
228	Anjali (ZC for all zones)	64	69	69	69	66	72	71
229	28262		86	86	86			86
230	Local Check (LC)	64	68	68	68		65	67
Exp. Mean		83	88	88	88	86	86	87

Table 1.9 contd.: Days to 50% flowering of entries of IVT EDS NORMAL, Kharif 2019

ENTRY	IET No.	Zone III							Zone III (5) Mean	Zone IV	Zone IV (1) Mean
		OD(1)		BI		BI (2)		JH		MN	
		JYP	PSA	SBR	Mean	HTW	BNK	Mean		IMP	
201	28240	84	87	86	86	79	78	78	83	81	81
202	28241	76	65	71	68	70	68	69	70	82	82
203	28242	88	76	75	75	81	79	80	80	81	81
204	28243	79	74	88	81	77	75	76	79	70	70
205	28244	94	90	85	87	79	77	78	85	81	81
206	28245	83	69	72	71	73	75	74	74	79	79
207	Sahbhagidhan (NC)	85	74	71	72	73	73	73	75	80	80
208	28246	89	81	89	85	77	76	77	82	87	87
209	28247	89	81	100	90	82	75	78	85	82	82
210	28248	76	66	72	69	67	60	63	68	85	85
211	28249	101	91	96	94	95	89	92	94	73	73
212	28250	82	75	75	75	81	74	78	77	80	80
213	Vandana (NC)	74	63	71	67	65	59	62	66	86	86
214	28251	83	105	108	107	76	78	77	90	70	70
215	28252	103	105	86	96	75	81	78	90		
216	28253	81	66	87	77	72	74	73	76	82	82
217	28254	97	91	72	81	91	96	94	89	79	79
218	Zonal Check (ZC)	83	68	76	72	74	76	75	75		
219	28255	102	95	77	86	94	92	93	92		
220	28256	90	76	87	81	82	76	79	82	82	82
221	US 314 (HC)	84	75	61	68	79	77	78	75	78	78
222	28257	95	104	88	96	74	96	85	91	83	83
223	28258	78	65	72	69	70	70	70	71		
224	28259	97	91	75	83	91	90	90	89	81	81
225	28260	84	75	92	83	78	77	78	81	82	82
226	Gangavathi Ageti (Sensitive Check)	78	94	75	84	73	63	68	76	80	80
227	28261	95	79	88	84	92	78	85	86	80	80
228	Anjali (ZC for all zones)	75	62	76	69	66	55	60	67	82	82
229	28262	104	109	78	94	81	95	88	93		
230	Local Check (LC)	87	80	84	82	79	74	76	81	77	77
Exp. Mean		87	81	81	81	78	77	77	81	80	80

Table 1.9 contd.: Days to 50% flowering of entries of IVT EDS NORMAL, Kharif 2019

ENTRY	IET No.	Zone V			Zone V (2)	Zone VI GU (1)	Zone VI (1)	Zone VII		Zone VII (2)	Overall (11)
		CH		CH (2)				TA	KA		
		RPR	JDP	Mean	Mean	VYR	Mean	CBT	MGD	Mean	Mean
201	28240	80	83	81	81	80	80	95	90	92	77
202	28241	69	74	71	71	65	65	83	78	80	66
203	28242	80	81	81	81	69	69	94	93	93	75
204	28243	78	81	80	80	72	72	88	90	89	73
205	28244	85	87	86	86	87	87	101	96	98	80
206	28245	76	81	78	78	67	67	85	89	87	71
207	Sahbhagidhan (NC)	81	81	81	81	72	72	92	88	90	72
208	28246	84	91	87	87	78	78	94	93	93	78
209	28247	81	84	82	82	89	89	98	90	94	79
210	28248	68	70	69	69	63	63	92	78	85	66
211	28249	88	99	94	94	90	90	107	93	100	85
212	28250	79	84	81	81	80	80	95	87	91	74
213	Vandana (NC)	63	70	66	66	59	59	77	71	74	63
214	28251	76	82	79	79	74	74	94	88	91	78
215	28252	102	99	100	100	97	97	103	99	101	86
216	28253	74	81	77	77	71	71	92	87	89	72
217	28254	90	99	94	94	90	90	104	98	101	84
218	Zonal Check (ZC)	81	87	84	84	80	80	102	97	99	75
219	28255	92	95	93	93	92	92	108	107	107	87
220	28256	80	85	82	82	72	72	93	90	92	76
221	US 314 (HC)	76	84	80	80	80	80	90	90	90	73
222	28257	98	99	98	98	70	70	108	102	105	85
223	28258	69	74	72	72	64	64	87	85	86	67
224	28259	88	99	93	93	90	90	106	96	101	84
225	28260	79	87	83	83	79	79	96	102	99	77
226	Gangavathi Ageti (Sensitive C	73	80	77	77	63	63	87	103	95	72
227	28261	84	91	87	87	86	86	102	99	100	81
228	Anjali (ZC for all zones)	64	66	65	65	57	57	80	83	81	64
229	28262	108	95	101	101			106	108	107	88
230	Local Check (LC)	78	80	79	79	68	68	94	100	97	75
Exp. Mean		80	85	83	83	76	76	95	92	93	76

Table 1.10: Plant height (cm) of entries of IVT E DS Drought, Kharif 2019

ENTRY	IET No.	Zone III			Zone (1)	Zone V	Zone VI GU (1)	Overall (2)
		JH		JH (1)				
		@RCI	HZB	Mean	Mean	@REW	DRL	Mean
201	28240	87.00	90.31	90.31	90.31	87.00	100.00	95.16
202	28241	72.00	88.96	88.96	88.96	90.00	105.00	96.98
203	28242	76.00	76.09	76.09	76.09	94.00	83.00	79.54
204	28243	78.00	76.60	76.60	76.60	93.00	87.00	81.80
205	28244	97.00	75.50	75.50	75.50		87.00	81.25
206	28245	75.00	76.21	76.21	76.21	82.50	80.00	78.11
207	Sahbhagidhan (NC)	74.00	86.63	86.63	86.63	97.00	95.00	90.81
208	28246	87.00	89.00	89.00	89.00	96.00	93.00	91.00
209	28247	86.00	76.00	76.00	76.00	84.50	79.00	77.50
210	28248	66.00	88.70	88.70	88.70	106.50	111.00	99.85
211	28249		66.30	66.30	66.30	78.00	90.00	78.15
212	28250		85.30	85.30	85.30	82.00	87.00	86.15
213	Vandana (NC)	63.00	92.75	92.75	92.75	81.50	109.00	100.88
214	28251	83.00	82.23	82.23	82.23	84.00	101.00	91.61
215	28252	106.00	78.05	78.05	78.05	84.00	97.00	87.53
216	28253	75.00	98.68	98.68	98.68	100.00	111.00	104.84
217	28254	97.00	68.45	68.45	68.45	99.00	98.00	83.23
218	Zonal Check (ZC)	77.00	64.11	64.11	64.11		103.00	83.56
219	28255	106.00	75.30	75.30	75.30	82.00	97.00	86.15
220	28256	94.00	85.52	85.52	85.52	89.00	92.00	88.76
221	US 314 (HC)	86.00	79.33	79.33	79.33	91.50	92.00	85.67
222	28257	106.00	72.63	72.63	72.63		97.00	84.81
223	28258	68.00	110.81	110.81	110.81	100.00	113.00	111.91
224	28259		85.63	85.63	85.63		78.00	81.82
225	28260	78.00	84.00	84.00	84.00	83.00	91.00	87.50
226	Gangavathi Ageti (Sensitive Check)	72.00	73.74	73.74	73.74	99.00	87.00	80.37
227	28261	92.00	88.47	88.47	88.47	85.00	99.00	93.74
228	Anjali (ZC for all zones)	63.00	78.90	78.90	78.90	72.00	92.00	85.45
229	28262	.	86.08	86.08	86.08			86.08
230	Local Check (LC)	64.00	96.99	96.99	96.99		107.00	101.99
Exp. Mean		81.85	82.58	82.58	82.58	89.19	95.21	88.74

Table 1.10 contd.: Plant height (cm) of entries of IVT EDS NORMAL, Kharif 2019

ENTRY	IET No.	Zone III							Zone III (5)	Zone IV		Zone IV (2)
		OD (1)	BI		BI (2)	JH		JH(2)		TR	MN	
		JYP	PSA	SBR	Mean	HTW	BNK	Mean		Mean	LMB	
201	28240	98.70	86.00	108.50	97.25	91.20	100.00	95.60	96.88	105.50	62.40	83.95
202	28241	99.70	97.00	108.00	102.50	119.20	110.00	114.60	106.78	105.17	66.50	85.83
203	28242	92.40	90.00	92.50	91.25	86.20	95.00	90.60	91.22	91.50	65.80	78.65
204	28243	103.30	102.00	103.50	102.75	80.00	100.00	90.00	97.76	114.08	62.80	88.44
205	28244	91.35	101.00	116.50	108.75	108.00	100.00	104.00	103.37	102.83	64.00	83.42
206	28245	87.20	75.00	95.00	85.00	68.00	105.00	86.50	86.04	94.33	67.60	80.97
207	Sahbhagidhan (NC)	97.10	108.00	104.50	106.25	111.40	105.00	108.20	105.20	121.67	68.90	95.28
208	28246	94.85	106.00	109.00	107.50	80.60	110.00	95.30	100.09	109.57	67.50	88.53
209	28247	104.45	103.00	107.50	105.25	84.80	90.00	87.40	97.95	99.67	63.70	81.68
210	28248	102.90	105.00	104.00	104.50	109.80	90.00	99.90	102.34	107.50	79.50	93.50
211	28249	86.80	114.00	110.50	112.25	73.60	105.00	89.30	97.98	116.70	61.40	89.05
212	28250	93.95	103.00	105.00	104.00	92.80	95.00	93.90	97.95	99.00	68.30	83.65
213	Vandana (NC)	105.90	95.00	104.50	99.75	90.40	105.00	97.70	100.16	119.33	69.50	94.42
214	28251	103.55	98.00	90.00	94.00	94.00	84.00	89.00	93.91	114.83	68.90	91.87
215	28252	107.90	144.00	126.50	135.25	86.40	115.00	100.70	115.96	119.33	.	119.33
216	28253	100.30	136.00	120.00	128.00	96.40	130.00	113.20	116.54	109.50	63.20	86.35
217	28254	94.90	122.00	122.00	122.00	116.60	95.00	105.80	110.10	125.50	61.10	93.30
218	Zonal Check (ZC)	113.20	92.00	91.50	91.75	72.60	75.00	73.80	88.86	83.83	.	83.83
219	28255	103.35	116.00	111.50	113.75	99.20	82.00	90.60	102.41	127.50	.	127.50
220	28256	115.85	112.00	118.00	115.00	73.80	140.00	106.90	111.93	122.17	65.50	93.83
221	US 314 (HC)	117.25	115.00	94.00	104.50	87.20	82.00	84.60	99.09	105.92	68.60	87.26
222	28257	111.40	121.00	135.50	128.25	82.60	100.00	91.30	110.10	126.33	75.50	100.92
223	28258	102.30	108.00	133.50	120.75	118.60	135.00	126.80	119.48	117.83	.	117.83
224	28259	111.40	125.00	106.00	115.50	110.80	120.00	115.40	114.64	113.33	66.60	89.97
225	28260	98.10	119.00	114.50	116.75	112.00	125.00	118.50	113.72	106.42	62.60	84.51
226	Gangavathi Ageti (Sensitive Check)	88.00	90.00	83.00	86.50	93.60	85.00	89.30	87.92	110.67	63.80	87.23
227	28261	103.30	136.00	123.00	129.50	87.40	130.00	108.70	115.94	107.67	54.30	80.98
228	Anjali (ZC for all zones)	101.50	88.00	112.50	100.25	95.40	85.00	90.20	96.48	109.33	57.60	83.47
229	28262	107.20	127.00	124.50	125.75	68.60	110.00	89.30	107.46	118.00	.	118.00
230	Local Check (LC)	98.30	105.00	116.00	110.50	104.00	105.00	104.50	105.66	109.17	63.80	86.48
Exp. Mean		101.21	107.97	109.70	108.83	93.17	103.60	98.39	103.13	110.47	65.58	92.00

Table 1.10 contd.: Plant height (cm) of entries of IVT EDS NORMAL, Kharif 2019

ENTRY	IET No.	Zone V			Zone V (2)	Zone VI	Zone VI (1)	Zone VII		Zone VII (2)	Overall (12)
		CH(2)		CH(2)		GU (1)		TA	KA		
		RPR	JDP	Mean	Mean	VYR	Mean	CBT	MGD	Mean	Mean
201	28240	107.28	109.70	108.49	108.49	115.10	115.10	88.65	84.50	86.58	96.46
202	28241	103.38	91.00	97.19	97.19	116.50	116.50	97.55	79.40	88.48	99.45
203	28242	101.24	87.30	94.27	94.27	109.60	109.60	89.40	79.10	84.25	90.00
204	28243	94.81	101.50	98.16	98.16	122.10	122.10	88.60	74.50	81.55	95.60
205	28244	101.11	88.40	94.76	94.76	114.70	114.70	94.40	76.70	85.55	96.58
206	28245	88.17	87.80	87.99	87.99	93.80	93.80	76.05	76.10	76.08	84.50
207	Sahbhagidhan (NC)	174.28	112.80	143.54	143.54	114.50	114.50	80.10	75.10	77.60	106.11
208	28246	89.36	95.40	92.38	92.38	98.40	98.40	87.55	91.00	89.28	94.94
209	28247	93.62	114.30	103.96	103.96	106.80	106.80	87.15	73.60	80.38	94.05
210	28248	113.40	101.30	107.35	107.35	118.80	118.80	91.43	86.90	89.17	100.88
211	28249	108.23	99.80	104.02	104.02	128.60	128.60	97.00	91.20	94.10	99.40
212	28250	96.97	93.40	95.19	95.19	115.20	115.20	91.30	81.80	86.55	94.64
213	Vandana (NC)	86.74	91.50	89.12	89.12	112.00	112.00	96.80	77.50	87.15	96.18
214	28251	177.17	90.80	133.99	133.99	121.30	121.30	92.35	74.40	83.38	100.78
215	28252	127.74	115.00	121.37	121.37	137.40	137.40	103.80	106.50	105.15	117.23
216	28253	123.61	111.90	117.76	117.76	126.40	126.40	100.72	107.10	103.91	110.43
217	28254	116.92	109.30	113.11	113.11	129.70	129.70	105.60	99.00	102.30	108.14
218	Zonal Check (ZC)	96.80	92.30	94.55	94.55	108.30	108.30	129.35	100.70	115.03	95.96
219	28255	114.93	121.10	118.02	118.02	129.70	129.70	98.90	96.60	97.75	109.16
220	28256	217.33	96.70	157.02	157.02	112.20	112.20	90.51	84.30	87.41	112.36
221	US 314 (HC)	192.90	94.40	143.65	143.65	128.50	128.50	90.43	84.70	87.57	105.07
222	28257	119.95	118.00	118.98	118.98	132.10	132.10	130.20	105.10	117.65	113.14
223	28258	131.05	104.00	117.53	117.53	119.60	119.60	118.60	105.90	112.25	117.67
224	28259	129.19	110.70	119.95	119.95	112.90	112.90	105.10	93.80	99.45	108.74
225	28260	95.57	107.30	101.44	101.44	110.30	110.30	100.09	86.10	93.10	103.08
226	Gangavathi Ageti (Sensitive Check)	90.59	89.20	89.90	89.90	91.50	91.50	89.10	77.90	83.50	87.70
227	28261	103.16	108.80	105.98	105.98	112.30	112.30	98.20	85.60	91.90	104.14
228	Anjali (ZC for all zones)	97.91	115.10	106.51	106.51	106.90	106.90	106.70	94.30	100.50	97.52
229	28262	110.99	111.00	111.00	111.00	130.20	130.20	105.40	99.50	102.45	110.22
230	Local Check (LC)	93.74	88.30	91.02	91.02	137.00	137.00	86.35	91.70	89.03	99.86
Exp. Mean		116.60	101.94	109.27	109.27	117.08	117.08	97.25	88.02	92.63	101.67

Table 1.11: Panicles/m² of entries of IVT - E DS Drought, Kharif 2019

ENTRY	IET No.	Zone III			Zone (1)	Zone V	Zone VI	Overall (2)
		JH		JH(1)		MP	GU (1)	
		@RCI	HZB	Mean	Mean	@REW	DRL	Mean
201	28240	96	164	164	164	112	43	103
202	28241	179	221	221	221	178	45	133
203	28242	154	210	210	210	115	61	135
204	28243	180	213	213	213	213	64	138
205	28244	112	202	202	202		70	136
206	28245	201	210	210	210	201	36	123
207	Sahbhagidhan (NC)	153	221	221	221	222	58	139
208	28246	124	170	170	170	115	51	111
209	28247	168	245	245	245	243	51	148
210	28248	142	218	218	218	105	32	125
211	28249		161	161	161	142	43	102
212	28250		170	170	170	263	44	107
213	Vandana (NC)	147	205	205	205	113	51	128
214	28251	162	218	218	218	266	53	135
215	28252	51	190	190	190		36	113
216	28253	130	145	145	145	113	47	96
217	28254	171	196	196	196		54	125
218	Zonal Check (ZC)	236	175	175	175	128	62	119
219	28255	75	210	210	210		43	127
220	28256	53	221	221	221	104	60	140
221	US 314 (HC)	160	208	208	208	168	47	127
222	28257	73	203	203	203		29	116
223	28258	183	155	155	155	180	39	97
224	28259		184	184	184		48	116
225	28260	111	210	210	210	243	49	129
226	Gangavathi Ageti (Sensitive Check)	149	186	186	186	108	52	119
227	28261	93	240	240	240	174	51	146
228	Anjali (ZC for all zones)	180	199	199	199	219	66	132
229	28262		195	195	195			195
230	Local Check (LC)	213	263	263	263		51	157
Exp. Mean		142	200	200	200	169	49	127

Table 1.11 contd.: Panicles/m2 of entries of IVT EDS NORMAL

ENTRY	IET No.	Zone III					Zone III (4)	Zone IV		Zone IV (2)
		OD (1)	BI		BI (2)	JH(1)		TR	MN	
		JYP	PSA	SBR	Mean	BNK		LMB	IMP	Mean
201	28240	347	153	218	185	143	215	300	185	242
202	28241	386	162	168	165	154	217	225	227	226
203	28242	340	184	156	170	168	212	271	198	234
204	28243	461	187	273	230	161	270	346	245	295
205	28244	376	202	219	210	170	242	338	215	276
206	28245	340	145	252	198	204	235	267	213	240
207	Sahbhagidhan (NC)	250	178	191	184	142	190	283	183	233
208	28246	332	173	309	241	173	247	263	167	215
209	28247	333	190	234	212	153	227	258	204	231
210	28248	333	106	188	147	159	196	196	191	193
211	28249	356	183	253	218	161	238	258	161	210
212	28250	409	153	275	214	168	251	292	194	243
213	Vandana (NC)	354	163	123	143	142	195	246	233	239
214	28251	343	222	283	252	119	241	321	204	262
215	28252	296	241	226	234	172	234	267		267
216	28253	276	128	263	195	153	205	238	240	239
217	28254	506	238	253	245	167	291	271	203	237
218	Zonal Check (ZC)	410	233	225	229	146	253	317		317
219	28255	290	179	160	170	144	193	288		288
220	28256	354	157	240	198	173	231	317	226	271
221	US 314 (HC)	351	181	218	199	163	228	233	189	211
222	28257	424	171	267	219	176	259	217	224	220
223	28258	330	207	118	162	168	206	292		292
224	28259	326	201	197	199	207	233	258	184	221
225	28260	390	206	244	225	139	244	254	205	229
226	Gangavathi Ageti (Sensitive Check)	384	188	186	187	152	227	288	170	229
227	28261	343	209	289	249	149	247	250	199	224
228	Anjali (ZC for all zones)	293	216	315	265	155	245	288	225	256
229	28262	340	224	220	222	236	255	233		233
230	Local Check (LC)	276	176	227	201	181	215	396	237	316
Exp. Mean		352	185	226	206	163	231	276	205	246

Table 1.11 contd.: Panicles/m2 of entries of IVT EDS NORMAL

ENTRY	IET No.	Zone V			Zone V (2)	Zone VI GU (1)	Zone VI (1)	Zone VII		Zone VII (2)	Overall (11)
		CH (2)		CH (2)				TA	KA		
		RPR	JDP	Mean				CBT	MGD	Mean	Mean
201	28240	224	198	211	211	334	334	408	224	316	248
202	28241	207	173	190	190	263	263	385	204	294	232
203	28242	249	216	233	233	370	370	390	246	318	253
204	28243	228	256	242	242	293	293	415	219	317	280
205	28244	246	212	229	229	258	258	428	245	336	264
206	28245	222	276	249	249	341	341	325	231	278	256
207	Sahbhagidhan (NC)	202	210	206	206	284	284	390	250	320	233
208	28246	206	218	212	212	192	192	343	241	292	238
209	28247	220	240	230	230	201	201	450	283	366	251
210	28248	223	158	190	190	263	263	355	247	301	220
211	28249	256	188	222	222	250	250	340	252	296	242
212	28250	266	156	211	211	269	269	425	296	361	264
213	Vandana (NC)	173	170	171	171	371	371	455	295	375	248
214	28251	260	239	250	250	367	367	443	296	369	281
215	28252	207	203	205	205	258	258	360	218	289	245
216	28253	253	225	239	239	253	253	378	245	311	241
217	28254	260	145	202	202	241	241	480	249	364	274
218	Zonal Check (ZC)	259	195	227	227	261	261	448	337	392	283
219	28255	274	211	242	242	238	238	443	317	380	254
220	28256	235	237	236	236	279	279	430	301	365	268
221	US 314 (HC)	274	246	260	260	292	292	340	289	315	252
222	28257	252	143	197	197	174	174	446	285	365	252
223	28258	228	170	199	199	368	368	458	283	370	262
224	28259	289	190	240	240	231	231	438	271	354	254
225	28260	210	168	189	189	271	271	403	240	321	248
226	Gangavathi Ageti (Sensitive Check)	238	260	249	249	360	360	375	220	298	256
227	28261	267	266	267	267	258	258	380	174	277	253
228	Anjali (ZC for all zones)	218	181	199	199	187	187	358	186	272	238
229	28262	229	261	245	245			415	282	349	271
230	Local Check (LC)	250	256	253	253	132	132	430	270	350	257
Exp. Mean		237	209	223	223	271	271	404	256	330	254

RAINFED LOWLAND

Rainfed lowland ecosystem is characterized by frequent flash floods, drought spells and submergence of the crop with variable water depths due to heavy inundation during crop growth period. Frequent flooding leads to crop submergence which affects the crop growth and development. Hence, rice varieties suitable for rainfed lowland should possess early seedling vigour, seedling survival, kneeing and elongation ability, semi tall to tall stature with sturdy culm, low grain shattering, submergence and drought tolerance, good phenotypic acceptability and multiple resistances to pests and diseases.

About 40% of the total rice area in the country is occupied by rainfed lowlands (15.3 m.ha.) and the yield levels are very low compared to irrigated ecosystem. Nearly 92 per cent of rainfed lowland rice cultivation is distributed in eastern India (Assam, Bihar, West Bengal, Eastern Uttar Pradesh and Chhattisgarh) and North Eastern states. Based on depth of water level, the rainfed lowland ecosystem is classified into rainfed shallow lowland (up to 40 cm), semi deep water (41-75 cm) and deep water (76-120 cm).

During Kharif 2019 rainfed lowland trials were evaluated under three ecologies namely rainfed shallow lowland (RSL), semi deep water (SDW) and deep water (DW) ecology. A total of 74 test entries were evaluated along with suitable checks in five trials namely AVT1 -RSL (7 test entries), IVT -RSL (28 test entries), AVT 1-SDW (7 test entries), IVT-SDW (27 test entries) and IVT-DW (5 test entries).

ADVANCE VARIETY TRIAL 1 -RAINFED SHALLOW LOWLAND (AVT1 -RSL)

Locations: 15

Test Entries: 11

Checks: Swarna-Sub1 (National), Zonal checks: Pooja (Eastern), Bahadur (North Eastern), Savitri (Southern); PA 6444 (Hybrid) and Local Check

Table: 2.1

Advanced Variety Trial-Rainfed Shallow Lowland (AVT-1-RSL) was constituted with seven test entries (5 inbreds, one hybrid and one NIL entry) and four checks viz., National check (Swarna-Sub1), Zonal check (Pooja for Eastern zone, Bahadur for North eastern zone and Savitri for Southern zone), hybrid check (PA 6444) and a local check. Of the seven test entries, two were in the third year of testing *ie.* IET 26692 (Hybrid) and 26744 (NIL entry) while the remaining five entries were in second year of testing. The trial was sent to 16 locations, while data was received from 15 locations except Masodha. Experimental mean yield ranged from 2517 Kg/ha (Ghaghrahat) to 6318 Kg/ha (Mugad). CV % ranged from 9.08 (Bankura) to 19.6 (Sirsi). The data pertaining to yield, days to 50% flowering, plant height, no. of panicles/m² and quality are presented in tables 2.2, 2.3, 2.4, 2.5 and 2.6 respectively. Zonewise performance of entries was discussed below.

Eastern zone (Zone III)

In Zone III, the trial was conducted, at 9 locations namely Bhubaneswar, Cuttack and Jeypore (Odisha); Bikramganj and Pusa (Bihar) and Ranchi (Jharkhand); Chinsura and Bankura (WB) and Ghaghragat (UP). Data from Pusa (CV:3.65%), Jeypore (CV: 4.66%) and Chinsurah (4.51%) was not considered in analysis due to low CV (< 5%) Mean yield of the entries ranged from 3674 kg/ha (IET 26744) to 4515 kg/ha (LC), days to 50% flowering ranged from 101 days (PA 6444) to 113 days (IET 27538); plant height ranged from 89.3 cm (Swarna Sub1) to 120.5 cm (IET 27547) and mean panicles/m² varied from 242 (PA 6444) to 323 (Pooja- Zonal Check). Local check was topper in the trial and ranked 1st in grain yield (4515 kg/ha) with 109 days to 50% flowering. ***None of the test entries outyielded the best check (Local check) and therefore not promoted for further testing.***

North eastern zone (Zone IV)

In Zone IV, the trial consisted of two test entries and four checks and was conducted at 2 locations namely Gerua ICAR and Titabar in Assam. However, data from Gerua ICAR was not considered due to high CV (> 30%) and low experimental mean yield (1778.6 kg/ha). Grain yield of the entries ranged from 3500 kg/ha (Swarna Sub 1) to 5400 kg/ha (IET 27547); days to 50% flowering ranged from 104 days (Zonal check) to 115 days (Swarna Sub 1); plant height ranged from 88.5 cm (Swarna Sub 1) to 108.9 cm (Local check) and mean panicles/m² varied from 210 (Local check) to 270 (Bahadur- Zonal Check). Among varietal checks, zonal check recorded highest grain yield of 5200 kg/ha followed by local check (4700 Kg/ha) and national check, Swarna Sub 1 (3500 Kg/ha).

None of the test entries recorded required yield superiority of > 5% over the best check (Zonal check -Bahadur) in Zone IV. Hence none promoted for further testing.

Southern zone (Zone VII)

In Zone VII, trial comprising of three test entries and four checks was conducted at four locations (Maruteru, Mugad, Sirsi and Ponnampet). Data from Maruteru was not considered for analysis due to low CV (2.3%). Mean yield of the entries ranged from 3892 kg/ha (Local check) to 5904 kg/ha (IET 27537); days to 50% flowering ranged from 106 days (PA 6444) to 117 days (IET 27547); plant height ranged from 78.6 cm (Swarna Sub1) to 93 cm (Local check) and mean panicles/m² varied from 296 (PA 6444) to 375 (Savitri, the zonal check). Among varietal checks, Swarna Sub1 (NC) recorded highest grain yield of 4521 kg/ha followed by Savitri (4383 Kg/ha) and local check (3892 Kg/ha). ***Three test entries (IET 27537, 27547 and 27538) recorded >5% yield gain over the best check (NC) in Zone VII.***

IET 27537 (TRC 2018-10) derived from cross TRC F-41/TRC 2008-1 ranked first (5904 kg/ha). It possessed long slender grains with 116 days flowering duration. It recorded 31 % yield superiority over the best check (Swarna sub 1-NC). The entry exhibited high HRR (60 %), intermediate AC (23.5%), ASV (5) and GC (45 mm) as desired grain quality traits. It is promoted to 3rd year of testing (AVT-2-RSL)

IET 27547 (OR 2757) derived from cross Uphar/CN 1231-11-7 stood second (5430 kg/ha). It showed 117 days to 50% flowering and long slender grains Zone VII. It outperformed the best check (Swarna sub 1-NC) by 20 % yield superiority. The entry recorded high HRR (58.7.%), AC (26.7%), ASV (7) and GC (43 mm). It is promoted to 3rd year of testing (AVT-2-RSL).

Performance of superior entries of AVT1- RSL in Zone VII during Kharif 2019

S. No.	IET No./ Designation/ Cross combination	GY (Kg/ha)/ FD/ GT/PH	% yield gain over NC/ZC/LC
1	IET 27537 TRC 2018-10 TRC F-41/TRC 2008-1	5904 116 LS 85	31 35 52
2	IET 27547 OR 2757 Uphar/CN 1231-11-7	5430 117 LS 87	20 24 40
3	IET 27538 BRR 2110 AD 12173-Sel	5145 116 MS 79	14 17 32
	Swarna Sub 1 (NC)- Best check	4521 116 78	
	Savitri (ZC)	4383 113 80 cm	
	Local Check	3892 110 93	

Bold & Italics: Best check & over the best check; NC-National Check; ZC-Zonal Check; LC-Local Check; GY: Grain Yield; FD: Days to 50% flowering; GT: Grain Type; PH: Plant Height

IET 27538 (BRR 2110), (a selection from AD 12173 possessing medium slender grain type and recorded grain yield of 5145 kg/ha. It displayed 116 days to 50% flowering. The entry ranked fourth (5145 kg/ha) with 14 % yield superiority over the best check (Swarna sub 1-NC). But qualitywise the entry recorded high HRR (67.4.%), ASV (5), high AC (26.7%) and hard GC (22 mm). Therefore, it is not promoted to 3rd year of testing (AVT-2-RSL).

Three years performance of promising entries (IET 26692) in Rainfed Shallow Lowland trials during 2017-19

Trials during 2017-18

IET No. Designation/ Cross combination	/ Year	Zone			State			Remarks
		Zone/ Rank	Kg/ha DF	%BVC/ %HC	State/ Rank	Kg/ha DFF	%BVC/ %HC	
IET 26692 MEPH-144 (Hybrid)	2017	Z-III-3	5506 110	17 44	OD-6	5499 116	31 109	Discontinued.
		Z-IV-1	7685 121	11 34	AS-1	7685 121	11 34	
	2018	Z-III-2	6022 121	12 23	BI-1	6269 128	22 18	
					WB-1	5825 109	11 14	
					OD-5	5840 118	- 33	
	2019	Z-III	-	-	OD-1	5586 113	7 (LC) 32	

Two entries namely IET26692 (Hybrid) and IET 26744 (NIL entry with *sub1* QTL) have completed three and two years of testing respectively by 2019. **IET 26692 (MEPH-144)**, a hybrid completed 3 years of testing in RSL trials during 2017 to 2019. It has outyielded the best varietal and hybrid check in the first year (2017: 17% and 44% respectively) in Zone III. State wise it excelled in Odisha by 31% and 109% over best varietal and hybrid checks respectively. In the second year (2018), it recorded yield improvement over both checks (12% over BVC and 23% over HC) in the same Zone III. State wise although it outperformed the best hybrid check by 33%, it failed to excell the BVC. In the 3rd year (2019) it could not outyield both checks in the same zone - Zone III). In Odisha state it could not outperform the best varietal check although it showed 32% gain yield over the hybrid check. **Hence due to inconsistent performance, it is discontinued.**

Performance of NIL entry, IET 26744 during Kharif, 2019

IET 26744 derived from the cross Pooja*3 / Swarna-Sub1 possessing *Sub-1* QTL introgressed from Swarna *Sub-1* in the background of Pooja was tested along with recurrent parent (Pooja) in AVT-1-IME trial under normal conditions during 2019. The recurrent parent (Pooja) was notified for the states of Odisha, Madhya Pradesh and West Bengal. The present trial was conducted at 9 locations namely Bhubaneswar, Cuttack and Jeypore (Odisha), Bikramganj and Pusa (Bihar) and Ranchi (Jharkhand), Chinsura and Bankura (WB) and Ghaghragat (UP). Data from Pusa (CV:3.65%), Jeypore (CV: 4.66%) and Chinsurah (CV 4.51%) was not considered in analysis due to low CV (< 5%). The NIL entry could not show yield superiority over the recurrent parent in the states of Odisha, Jharkhand, West Bengal, UP and in overall mean as mentioned in the table below.

Performance of NIL entries possessing *sub 1* QTL in AVT-1-IME, Kharif, 2019- Normal conditions

IET No/ Designation/ Cross Combination	Yield (kg/ha) /DFF/ PH		Yield (kg/ha) /DFF/ PH		Mean Yield (kg/ha)/ DFF/ PH		Mean Yield (kg/ha)/DFF/ PH		Mean Yield (kg/ha)/DFF/ PH		Zonal Mean Yield (kg/ha) /DFF/ PH	
	Odisha*	% RP	Bihar*	% RP	Jharkhand*	% RP	West Bengal*	% RP	Uttar Pradesh*	% RP	Zone III	% RP
26744	3902	-15	5230	36	2619	-13	4388	-2.2	2000	-18	3674	-4.1
CR 3932-7	110		98		108		125		99		108	
Pooja*3 / Swarna-Sub1	124		112		94		91		103		108	
Pooja	4601		3838		3016		4491		2444		3832	
(Recurrent parent)	112		102		110		115		105		109	
	117		117		84		85		81		100	

* Data from AVT-1-RSL, 2019; DFF: Days to 50% flowering; PH: Plant height; RP: Recurrent parent

The NILs were compared with recurrent parent with respect to morphological traits for similarities and the information is tabulated as below.

Confirmation of NILs with respect to similarity with Recurrent parent in AVT-1-IME, Kharif 2019

IET NO	State	% RP	Similarity with RP	Remarks
26744 CR 3932-7 Pooja*3/ Swarna-Sub1	Odisha	Odisha: - 15 Bihar: 36 Jharkhand: - 13 West Bengal: - 2.2 Uttar Pradesh: - 18 Mean - 4.1	Inferior to RP in overall mean yield, Similar to RP in flowering duration, taller than RP by 8 cm	Not considered as NIL due to yield inferiority compared to RP

For verifying the trait (Submergence tolerance) IET 26744 was tested in submergence hot spots namely Odisha (Cuttack), Bihar (Pusa) and UP (Ghaghraghat) in Zone III; Andhra Pradesh (Matruteru) and Puducherry (Karaikal) in Zone VII under submergence stress along with recurrent parent (Pooja) and stress tolerant check (Swarna *sub 1*). The data from Maruteru (AP) and Karaikal (Puducherry) was not considered for analysis due to low CV (4.75%) and low mean (1858 Kg /ha).

Performance of NIL entries in AVT-1-NIL (SUB), Kharif, 2019

IET No	Yield (Kg/ha)	% RP	Remarks
26744 CR 3932-7 Pooja*3 / Swarna-Sub1	3593	13	Dropped as it failed in NIL confirmation test
Recurrent parent (Pooja)	3161		

Two years' performance of IET 26744 during 2018-19 under normal and submergence stress conditions

IET No.	Year	Normal condition (in AVT-1- RSL)			Submergence condition (in AVT-1- NIL (SUB))			Remarks
		Yield of RP (kg/ha)	Yield of NIL entry (Kg/ha)	% RP	Yield of RP	Yield of NIL entry (Kg/ha)	% RP	
26744 CR 3932-7 Pooja*3/ Swarna-Sub1	2018	OD:5528 MP:2390 WB:5604 Mean:4687	OD:6184 MP:3944 WB:5498 Mean:5209	11.9 34.6 -1.9 11.1	3380	3508	3.8	Discontinued
	2019	OD: 4601 BI: 3838 JH: 3016 WB: 4491 UP: 2444 Mean:3932	OD: 3902 BI: 5230 JH: 2619 WB: 4388 UP: 2000 Mean:3674	-1.5 36 -13 -2.2 -18 -4.1	3161	3593	13	

IET 26744 (CR 3932-7) derived from the cross Pooja*3 / Swarna- *Sub1* completed two years of testing (2018 & 2019). It possesses *Sub 1* QTL introgressed from Swarna-*Sub1*. In the

1st year (2018), it exhibited yield gain (11.9%) over recurrent parent (Pooja) under normal condition in Odisha state. It also recorded yield gain over recurrent parent (3.8%) under submergence condition. But in the 2nd year (2019) it could not outyield the recurrent parent under normal condition in Odisha. Thus, it could not meet the criteria of NIL confirmation and hence dropped in the 2nd year even though under stress it exhibited yield superiority over recurrent parent by 13%. Qualitywise it displayed high HRR (54%), high AC (27.5%) with hard GC (38 mm) and ASV (7).

Entries promoted to AVT-2-RSL

Zone VII: IET 27537, 27547

INITIAL VARIETY TRIAL-RAINFED SHALLOW LOWLAND (IVT -RSL)

Locations: 16

Test Entries: 31

Checks: Swarna Sub-1 (National), Pooja (Eastern), Bahadur (North Eastern), Savitri (Southern) and Local Check **Table:2.7**

The trial was constituted with 31 test entries and three checks viz., National check (Swarna-Sub1), Zonal check (Pooja for the Eastern zone, Bahadur for North eastern zone, Savitri for the Southern zone) and a local check.

The trial was sent to 16 locations, while data was received from most of the locations (14) except Bhubaneswar and Gerua-ICAR. However, data from Ghaghraghat (1681), Sirsi (1488), Jeypore (3.75 CV) and Chinsurah (2.46 CV) was not considered for evaluating entries due to low experimental yield and low CV. Further it is observed from the information submitted by Ghaghraghat center that direct seeded method is followed instead of usual transplanting method.

Data from remaining 8 locations was analyzed for evaluating the performance of test entries. The data pertaining to yield, days to 50% flowering, plant height and no. of panicles/m² are presented in tables 2.8, 2.9, 2.10 and 2.11. The findings of the experiment are discussed below on the overall and Zonal basis.

On overall basis, grain mean yield of the entries varied from 3348 kg/ha (IET 28280) to 5623 kg/ha (IET 28283), days to 50% flowering ranged from 106 days (IET 28266) to 129 days (IET 28264), plant height ranged from 89.83 cm (IET 28277) to 131.21 cm (IET 28271) and mean panicles/m² varied from 245 (IETs 28285 and 28269) to 300 (IET 28270). Among checks, local check recorded highest grain yield of 5253 kg/ha with 118 days to 50% flowering. **Among test entries, IETs 28283 (7%) and 118 days to 50% flowering and test IET 28281 (5%) and 123 days to 50% flowering, recorded more than 5% yield advantage over best check, hence promoted for further evaluation in AVT-1.**

Performance of entries (over all basis) in IVT-RSL during Kharif 2019

S. No.	IET No./ Designation/ Cross combination	GT	Overall		Zone III		Zone IV		Zone VII		Remarks
			GY (Kg/ha)/ FD/PH	% BC	GY (Kg/ha)/ FD/PH	% BC	GY (Kg/ha)/ FD/PH	% BC	GY (Kg/ha)/ FD/PH	% BC	
1	IET 28283 (TTB-944-31-10-1-2-1) CN1234-12-1 / OR 1898-18	MS	5623 118 123	7	5770 119 125	10	4000 115 115	-	5918 118 122	8	Promoted for Z-III & Z-VII
2	IET 28281 (CR 3987-3-1-1-1-1) Pooja/CR3820-1-5-2-1-1	MS	5532 123 107	5	5442 127 112	-	3250 106 97	-	6441 121 103	12	Promoted for Z-VII
3	IET 28276 (CR 3967-8-3-2-2-1-1) IR73895-33-1-3-2/ Pratikshya	MS			5554 125 114	5					Promoted for Z-III
4	IET 28287 (CR 3993-4-19-31) CR1009/O.brachyantha// CR 1009	MS					5400 107 92	10			Shifted to Late trial
5	IET 28265 (CR 3958-9-1-1-1-1) Pooja / CR 3697-4-2-4	MS					5750 102 101	17			Shifted to Late trial
6	IET 28272 (KAU PTB 0627-2-11) Cul 06-1	SB					5750 102 106	17			Shifted to Late trial
7	IET 28288 (CR 3564-4-2-2-1-1-2) Vijetha/N 22	LB					6000 101 100	22			Shifted to Late trial
8	IET 28275 (CR 3564-1-1-3-1-1-1) Vijetha/N 22	MS					6250 109 98	28			Shifted to Late trial
9	IET 28276 (CR 3967-8-3-2-2-1-1) IR 73895-33-1-3-2/ Pratikshya	MS							6407 122 106	12	Promoted for Z-VII
10	IET 28264 (MTU 1323 (MTU 2164- 60-1-1-1)) MTU 1010 /SARC 34997	MS							6727 128 106	17	Promoted for Z-VII
Swarna Sub-1 (NC)			4984 116 98		4882 117 98		3250 113 83		5733 114 102		
Zonal Check (ZC)			4802 118 103		4963 120 107		3250 114 104		5051 117 97		
Local Check (LC)			5253 118 110		5268 119 112		4900 118 102		5345 117 96		

In Zone III, grain mean yield of the entries varied from 3080 kg/ha (IET 28280) to 5770 kg/ha (IET 28283), days to 50% flowering ranged from 106 days (IET 28265) to 131 days (IET 28264), plant height ranged from 92.8 cm (IET 28277) to 135.80 cm (IET 28271) and mean panicles/m² varied from 206 (IET 28273) to 271 (IET 28281). Among checks, local check

recorded highest grain yield of 5268 kg/ha with 119 days to 50% flowering. **Among test entries, IET 28276 (5%) and 125 days to 50% flowering recorded more than 5% yield advantage over best check, hence promoted for further evaluation in AVT-1.**

In Zone IV, grain mean yield of the entries varied from 1750 kg/ha (IETs 28264 and 28289) to 5750 kg/ha (IET 28265), days to 50% flowering ranged from 96 days (IET 28280) to 127 days (IETs 28264, 28276 and 28289), plant height ranged from 73 cm (IET 28289) to 127.30 cm (IET 28263) and mean panicles/m² varied from 180 (IET 28271) to 330 (IET 28274). Among checks, local check recorded highest grain yield of 4900 kg/ha with 129 days to 50% flowering. **The experiment conducted at single location (TITABAR) and among test entries. Among test entries, IETs 28283 (7%) and 118 days to 50% flowering and test IET 28281 (5%) and 123 days to 50% flowering, recorded only 5% yield advantage (<15%) over best check, hence dropped for promotion. While, five entries namely, IETs 28287 (10%), 28265 (17%), 28272 (17%), 28288 (22%) and 28275 (28%) which recorded more than 10% yield advantage over best check, however 50% flowering in all these entries is less than 120 days Hence recommended for shift to late duration trial in rainfed shallow lowland ecology in Zone IV.**

In Zone VII, grain mean yield of the entries varied from 3244 kg/ha (IET 28263) to 6727 kg/ha (IET 28264), days to 50% flowering ranged from 103 days (IET 28275) to 128 days (IET 28264), plant height ranged from 89.80 cm (IET 28277) to 122.48 cm (IET 28283) and mean panicles/m² varied from 283 (IET 28279) to 353 (IET 28289). Among checks, National check recorded highest grain yield of 5733 kg/ha with 114 days to 50% flowering. Among test entries, six entries namely, IETs 28265 (5%), 28286 (8%), 28281 (12%), 28276 (12%), 28271 (13) and 28264 (17) recorded more than 5% yield advantage over best check. Among the superior entries, the test entry IETs 28286, 28271, 28265 recorded <120 days to 50% flowering duration in Zone VII and found not suitable for rainfed shallow lowland ecology. **Remaining four superior test entries namely IETs 28283, 28281, 28276 and 28264 recorded more than 5% yield advantage over best check in rainfed shallow lowland ecology in Zone VII, hence they were promoted for second year of testing in AVT-I.**

Hence the following entries are found eligible for 2nd year of testing (AVT1- RSL) in Zone III, Zone IV and Zone IIV.

Zone III: IET 28283 and IET 28276

Zone IV: IET 28287, IET 28265, IET 28272, IET 28288 and 28275 – Shift to Late Duration Trial

Zone VII: IET 28283, IET 28281, IET 28276, and IET 28264

IET 28281 (CR3987-3-1-1-1-1) derived from Pooja / CR 3820-1-5-2-1-1 possess medium slender grain type and recorded grain yield of 5532 kg/ha (overall), 5442 kg/ha (Zone III), 3250 kg/ha (Zone IV) and 6441 kg/ha (Zone VII) with 123, 127, 106 and 121 days to 50% flowering respectively. The entry recorded 5%, 5%, 0% and 12% yield superiority over the best check in overall, Zone III, Zone IV and VII respectively. Hence, the test entry IET 27538 found suitable for rainfed shallow lowland ecology.

The following entries are found eligible for 2nd year of testing (AVT1- RSL)

Zone III: IET Nos. 28276

Zone VII: IET Nos. 28281, 28276 and 28264

IET 28283 (TTB-944-31-10-1-2-1) derived from cross CN1234-12-1 / OR 1898-18 possesses Medium slender grain type and recorded grain yield of 5623 kg/ha (overall), 5770 kg/ha (Zone III), 4000 kg/ha (Zone IV) and 5918 kg/ha (Zone VII) with 118, 119, 115 and 118 days to 50% flowering respectively. The entry recorded 7%, 10%, 0% and 8% yield superiority over the best check in overall, Zone III, Zone IV and VII respectively. Hence, the test entry **IET 28283** (TTB-944-31-10-1-2-1) found suitable for rainfed shallow lowland ecology.

Table 2.1: Composition of entries in Advance Variety Trial 1–Rainfed Shallow Lowland (AVT 1-RSL), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
2nd year of testing				
301	27538	BRR 2110	AD 12173-Sel	MS
302	27541	CR 3956-1-3-1-2-1	Pooja / CR 3813-4-4-4-2-2-5	MS
303	27537	TRC 2018-10	TRC F-41 / TRC 2008-1	SB
304	27555	CR 3959-2-1-1-1-1	Pooja / CR 3988-2-2-1-1-1	SB
305	27547	OR 2757	Upahar / CN 1231-11-7	LS
3rd Year of testing:				
306	26692	MEPH-144 (Hybrid)	-	SB
307	Swarna Sub 1 (NC)			
308	PA 6444 (HC)			
309	26744	CR 3932-7	Pooja*3 / Swarna-Sub1	SB
310	Pooja (RP) (Eastern), Bahadur (North Eastern), Savitri (Southern)-- ZC			
311	Local Check			

Table 2.2: Grain Yield (kg/ha) of entries in AVT 1- RSL, Kharif 2019 Zone-III

Entry No	IET No	Zone III													
		OD						OD(2)		BI				BI(1)	
		BBN	CTK	@JYP		mean		BKG		@PSA		mean			
301	27538	4674	5	5883	1 #	6913	6	5279	2 #	24%	6914	2	5278	4	6914
302	27541	4621	7	3565	10	7467	5	4093	9		4377	9	5056	6	4377
304	27555	4834	4	5460	3 #	6541	8	5147	4 #	22%	6150	4	5278	3	6150
305	27547	5021	2	4171	7	9608	2	4596	7		5769	6	5944	2	5769
306	26692	5502	1 #	5670	2 #	5762	10	5586	1 #	7% 32%	5006	8	7444	1	5006
307	Swarna Sub 1 (NC)	4487	9	4872	5	6112	9	4680	5		5791	5	4667	8	5791
308	PA 6444 (HC)	4621	6	3835	8	8871	3	4228	8		6958	1	4056	10	6958
309	26744	3980	10	3824	9	8584	4	3902	10		5230	7	4889	7	5230
310	Zonal Check (ZC)	4541	8	4661	6	6712	7	4601	6		3838	10	5111	5	3838
311	Local Check	4968	3	5456	4	9920	1	5212	3		6263	3	4556	9	6263
Exp. Mean		4724.89		4739.71		7649.13		4732.3			5629.63		5227.78		5629.63
CD		761.08		1265.2		611.4		621.41			1549.7		326.9		1549.7
CV%		9.39		15.56		4.66		7.65			16.05		3.65		16.05

Table 2.2 contd.: Grain Yield (kg/ha) of entries in AVT 1- RSL, Kharif 2019 Zone -III

Entry No	IET No								
		JH		WB				WB(1)	
		RCI		@CHN		BNK		mean	
301	27538	2011	8	5444	3	4454	9	4454	9
302	27541	3069	2	4185	10	5383	2	5383	2
304	27555	2143	6	5370	4	5131	5	5131	5
305	27547	1958	9	5148	6	5667	1	5667	1 7%
306	26692	899	10	5926	1	4672	7	4672	7
307	Swarna Sub 1 (NC)	2354	5	5130	7	4785	6	4785	6
308	PA 6444 (HC)	3201	1	5815	2	5240	4	5240	4
309	26744	2619	4	4704	9	4388	10	4388	10
310	Zonal Check (ZC)	3016	3	4926	8	4491	8	4491	8
311	Local Check	2063	7	5296	5	5284	3	5284	3
Exp. Mean		2333.33		5194.44		4949.38		4949.38	
CD		780.89		401.44		770.82		770.82	
CV%		19.51		4.51		9.08		9.08	

Table 2.2 contd.: Grain Yield (kg/ha) of entries in AVT 1- RSL, Kharif 2019 Zone III

Entry No	IET No			ZONE III(6)	
		UP (1)			
		GGT		mean	
301	27538	3078	1 23%	4502	2
302	27541	2244	7	3877	8
304	27555	2756	4 10%	4412	3
305	27547	2122	8	4118	6
306	26692	2111	9	3977	7
307	Swarna Sub 1 (NC)	2867	3	4193	5
308	PA 6444 (HC)	2500	5	4393	4
309	26744	2000	10	3674	10
310	Zonal Check (ZC)	2444	6	3832	9
311	Local Check	3056	2	4515	1
Exp. Mean		2517.78		4149.12	
CD		708.79		407.06	
CV%		16.41		5.72	

Table 2.2 contd.: Grain Yield (kg/ha) of entries in AVT 1- RSL, Kharif 2019 Zone IV

Entry No	IET No	ZONE IV						ZONE IV (1)	
		AS			AS(1)				
		TTB		@GER	mean			mean	
301	27538	4600	5	1968	3	4600	5	4600	5
305	27547	5400	1	1549	5	5400	1	5400	1
307	Swarna Sub 1 (NC)	3500	6	863	6	3500	6	3500	6
308	PA 6444 (HC)	5300	2	2204	2	5300	2	5300	2
310	Zonal Check (ZC)	5200	3	1692	4	5200	3	5200	3
311	Local Check	4700	4	2396	1	4700	4	4700	4
Exp. Mean		4783.33		1778.67		4783.33		4783.33	
CD		880.89		823.02		880.89		880.89	
CV%		13.96		35.07		13.96		13.96	

Table 2.2 contd.: Grain Yield (kg/ha) of entries in AVT 1- RSL, Kharif 2019 Zone VII

Entry No	IET No	ZONE VII										ZONE VII(3)			
		AP		KA						KA(3)					
		@MTU		MGD		SRS		PNP		mean		mean			
301	27538	4431	4	6651	4	3766	3	5017	4	5145	4	14%	5145	4	14%
303	27537	4034	7	6840	2	4670	1 * #	6203	1 *	5904	1 *	31%	5904	1 *	31%
305	27547	4241	6	6700	3	4586	2 * #	5003	5	5430	2 *	20%	5430	2 *	20%
307	Swarna Sub 1 (NC)	5011	2	5956	6	3186	4	4420	6	4521	5		4521	5	
308	PA 6444 (HC)	4997	3	7070	1	3028	5	6084	2	5394	3		5394	3	
310	Zonal Check (ZC)	5366	1	6638	5	2744	6	3768	7	4383	6		4383	6	
311	Local Check	4363	5	4374	7	2166	7	5136	3	3892	7		3892	7	
Exp. Mean		4634.57		6318.21		3449.33		5090		4728.82			4728.82		
CD		158.2		1106.94		1009.16		709.56		678.2			678.2		
CV%		2.3		11.79		19.69		9.38		9.65			9.65		

Table 2.3: Days to 50% Flowering of entries in AVT 1- RSL, Kharif 2019 Zone-III

Entry No	IET No	Zone III												ZONE III(6)
		OD			OD(2)	BI		BI(1)	JH	WB		WB(1)	UP	
		BBN	CTK	@JYP	mean	BKG	@PSA	mean	RCI	@CHN	BNK	mean	GGT	mean
301	27538	118	114	118	116	100	102	100	113	116	131	131	102	113
302	27541	113	111	108	112	98	105	98	111	119	116	116	105	109
304	27555	112	110	106	111	99	98	99	106	112	122	122	98	108
305	27547	119	117	119	118	101	97	101	110	114	123	123	101	112
306	26692	115	110	114	113	94	95	94	111	112	121	121	99	108
307	Swarna Sub 1 (NC)	114	113	116	113	94	96	94	110	111	122	122	99	109
308	PA 6444 (HC)	103	102	106	103	94	90	94	105	94	113	113	87	101
309	26744	113	106	112	110	98	96	98	108	112	125	125	99	108
310	Zonal Check (ZC)	114	111	107	112	102	106	102	110	115	115	115	105	109
311	Local Check	112	118	108	115	101	124	101	103	111	122	122	99	109
Exp. Mean		113	111	112	112	98	101	98	109	112	121	121	99	109

Table 2.3 contd.: Days to 50% Flowering of entries in AVT 1- RSL, Kharif 2019 Zone- IV

Entry No	IET No	AS		AS(1)	mean
		TTB	@GER	mean	
301	27538	113	96	113	113
305	27547	113	95	113	113
307	Swarna Sub 1 (NC)	115	93	115	115
308	PA 6444 (HC)	107	86	107	107
310	Zonal Check (ZC)	104	91	104	104
311	Local Check	109	87	109	109
Exp. Mean		110	91	110	110

Table 2.3 contd.: Days to 50% Flowering of entries in AVT 1- RSL, Kharif 2019 ZONE-VII

Entry No	IET No	ZONE VII					ZONE VII(3)
		AP	KA			KA(3)	
		@MTU	MGD	SRS	PNP	mean	mean
301	27538	117	110	120	117	116	116
303	27537	114	110	122	115	116	116
305	27547	118	111	122	117	117	117
307	Swarna Sub 1 (NC)	113	108	119	120	116	116
308	PA 6444 (HC)	101	101	108	108	106	106
310	Zonal Check (ZC)	113	106	120	113	113	113
311	Local Check	124	95	115	119	110	110
Exp. Mean		114	106	118	116	113	113

Table 2.4: Plant Height of entries in AVT 1- RSL, Kharif 2019 Zone III

Entry No	IET No	Zone III												ZONE III(6)
		OD			OD(2)	BI		BI(1)	JH	WB		WB(1)	UP	
		BBN	CTK	@JYP	mean	BKG	@PSA	mean	RCI	@CHN	BNK	mean	GGT	mean
301	27538	103.00	119.00	85.60	111.00	115.00	95.00	115.00	83.00	115.00	95.00	95.00	95.00	101.67
302	27541	101.00	124.00	93.40	112.50	114.00	95.00	114.00	85.00	123.00	92.00	92.00	83.20	99.87
304	27555	116.00	126.00	97.60	121.00	124.00	99.00	124.00	87.00	127.00	105.00	105.00	94.00	108.67
305	27547	125.00	140.00	101.00	132.50	142.00	111.00	142.00	90.00	118.00	110.00	110.00	116.00	120.50
306	26692	111.00	131.00	89.20	121.00	123.00	105.00	123.00	83.00	118.00	90.00	90.00	99.00	106.17
307	Swarna Sub 1 (NC)	95.00	113.00	80.60	104.00	104.00	88.00	104.00	74.00	97.00	70.00	70.00	80.00	89.33
308	PA 6444 (HC)	97.00	123.00	93.00	110.00	123.00	103.00	123.00	89.00	117.00	85.00	85.00	100.00	102.83
309	26744	114.00	134.00	95.40	124.00	112.00	100.00	112.00	94.00	120.00	91.00	91.00	103.00	108.00
310	Zonal Check (ZC)	113.00	122.00	93.20	117.50	117.00	92.00	117.00	84.00	122.00	85.00	85.00	81.00	100.33
311	Local Check	124.00	136.00	96.60	130.00	112.00	108.00	112.00	62.00	122.00	115.00	115.00	82.00	105.17
Exp. Mean		109.90	126.80	92.56	118.35	118.60	99.60	118.60	83.10	117.90	93.80	93.80	93.32	104.25

Table 2.4 contd.: Plant Height of entries in AVT 1- RSL, Kharif 2019 Zone-IV

Entry No	IET No	AS		AS(1)	mean
		TTB	@GER	mean	
301	27538	99.80	97.32	99.80	99.80
305	27547	104.32	110.40	104.32	104.32
307	Swarna Sub 1 (NC)	88.56	81.00	88.56	88.56
308	PA 6444 (HC)	95.24	101.52	95.24	95.24
310	Zonal Check (ZC)	94.44	91.84	94.44	94.44
311	Local Check	108.96	106.20	108.96	108.96
Exp. Mean		98.55	98.05	98.55	98.55

Table 2.4 contd.: Plant Height of entries in AVT 1- RSL, Kharif 2019 ZONE-VII

Entry No	IET No	ZONE VII					ZONE VII(3) mean
		AP	KA			KA(3)	
		@MTU	MGD	SRS	PNP	mean	
301	27538	139.07	84.90	79.20	75.17	79.76	79.76
303	27537	136.27	98.30	85.00	74.42	85.91	85.91
305	27547	150.80	88.20	89.70	84.42	87.44	87.44
307	Swarna Sub 1 (NC)	130.80	88.90	81.60	65.42	78.64	78.64
308	PA 6444 (HC)	135.93	97.60	74.60	78.92	83.71	83.71
310	Zonal Check (ZC)	140.87	97.70	74.50	69.25	80.48	80.48
311	Local Check	133.47	99.30	90.60	89.67	93.19	93.19
Exp. Mean		138.17	93.56	82.17	76.75	84.16	84.16

Table 2.5: Panicle/m2 of entries in AVT 1- RSL Kharif 2019 Zone-III

Entry No	IET No	Zone III												ZONE III(6) mean
		OD			OD(2)	BI		BI(1)	JH	WB		WB(1)	UP	
		BBN	CTK	@JYP	mean	BKG	@PSA	mean	RCI	@CHN	BNK	mean	GGT	
301	27538	241	286	413	264	385	254	385	228	363	203	203	207	259
302	27541	264	333	393	298	492	249	492	257	363	235	235	205	297
304	27555	275	286	387	280	390	244	390	236	363	208	208	204	267
305	27547	277	302	362	289	354	245	354	230	341	270	270	267	283
306	26692	259	273	358	266	384	279	384	228	352	212	212	216	262
307	Swarna Sub 1 (NC)	245	268	288	257	355	150	355	238	396	276	276	164	258
308	PA 6444 (HC)	253	273	344	263	351	273	351	227	264	179	179	169	242
309	26744	247	271	361	259	492	211	492	240	572	242	242	146	273
310	Zonal Check (ZC)	275	347	381	311	668	279	668	239	473	225	225	182	323
311	Local Check	249	262	330	255	350	243	350	230	506	230	230	220	257
Exp. Mean		258	290	362	274	422	243	422	235	399	228	228	198	272

Table 2.5 contd.: Panicle/m2 of entries in AVT 1- RSL Kharif 2019 Zone-IV

Entry No	IET No	AS		AS(1)	mean
		TTB	@GER	mean	
301	27538	245	252	245	245
305	27547	248	278	248	248
307	Swarna Sub 1 (NC)	262	337	262	262
308	PA 6444 (HC)	218	276	218	218
310	Zonal Check (ZC)	270	379	270	270
311	Local Check	210	259	210	210
Exp. Mean		242	297	242	242

Table 2.5 contd.: Panicle/m² of entries in AVT 1- RSL Kharif 2019 ZONE-VII

Entry No	IET No	ZONE VII					ZONE VII(3) mean
		AP	KA			KA(3)	
		@MTU	MGD	SRS	PNP	mean	
301	27538	282	410	309	323	347	326
303	27537	314	335	297	319	317	311
305	27547	289	322	288	337	316	314
307	Swarna Sub 1 (NC)	324	266	312	407	328	349
308	PA 6444 (HC)	276	326	273	312	304	296
310	Zonal Check (ZC)	254	342	318	440	367	375
311	Local Check	272	294	339	319	317	325
Exp. Mean		287	328	305	351	328	328

Table 2.6: Grain quality characteristics of entries in AVT 1-RSL, Kharif 2019

Entry No.	IET No.	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
301	27538	78.7	70.2	67.4	5.55	2.19	2.53	MS	A	5.0	26.72	22
302	27541	77.2	68.0	61.8	5.44	2.15	2.53	MS	A	7.0	26.48	50
303	27537	75.5	66.0	60.7	5.49	2.27	2.41	SB	A	5.0	23.55	45
304	27555	79.0	68.4	56.8	5.46	2.39	2.28	SB	VOC	4.0	25.84	25
305	27547	75.8	66.4	58.7	6.58	2.16	3.04	LS	A	7.0	26.75	43
306	26692	79.8	69.9	60.5	5.49	2.35	2.33	SB	VOC	5.0	24.20	58
307	Swarna Sub-1	77.7	67.7	62.6	5.17	2.16	2.39	SB	A	5.0	24.93	57
308	PA 6444	80.0	69.0	55.3	6.00	2.17	2.76	LB	VOC	4.0	23.76	57
309	26744	75.1	65.1	54.2	5.14	2.08	2.47	SB	A	7.0	27.54	38
310	Savitri	79.7	71.4	64.2	5.19	2.60	1.99	SB	VOC	4.0	26.16	35

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB::Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

Table 2.7: Composition of entries in Initial Variety Trial–Rainfed Shallow Lowland (IVT -RSL), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
1st year of testing				
401	28263	BRR 2142	CR 3525-20-1-1-1-1-Sel.	MS
402	28264	MTU 1323 (MTU 2164-60-1-1-1)	MTU 1010 / SRAC 34997	MS
403	28265	CR 3958-9-1-1-1-1	Pooja / CR 3697-4-2-4	MS
404	28266	KAU PTB 0627-2-11	Cul 06-1	SB
405	28267	TTB 938-4-8-1-2	Sudhir / Swarna	MS
406	28268	CR 4156-506-2-25-22	CR1009 / O. brachyantha // CR1009	MS
407	Swarna Sub 1 (NC)			
408	28269	CR 3516-11-2-4-2-1-1	Birupa / Pusa 44	LS
409	28270	ORR 1801	CR 1009 / Ranidhan	SB
410	28271	CR 4114-4-5-1-1-1	Reeta / CR 2324-4-1	LB
411	28272	KAU PTB 0627-2-24	Cul 06-4	SB
412	28273	CR 3939-2-1-1-2-1-2-1	IR 73907-753-2-3 / Pratikshya	LS
413	28274	BNKR 116	Selection from MTU 7029	MS
414	28275	CR 3564-1-1-3-1-1-1	Vijetha / N22	MS
415	28276	CR 3967-8-3-2-2-1-1	IR 73895-33-1-3-2 / Pratikshya	MS
416	28277	MTU 1322 (MTU 2547- A-96-7-1-7)	MTU 1061*3 / BPT 2270	MS
417	Pooja (Eastern), Bahadur (North Eastern), Savitri (Southern)-- ZC			
418	28278	CR 3988-8-1-2-1-1	AC.38562 / Niraj // Ratna / Pooja	MS

Entry No.	IET No.	Designation	Cross combination	Grain Type
419	28279	CR 4117-1-9-1-1-1	Satyabhama / CO-50	LB
420	28280	MGD 19BD02	BPT 5204 / Doddiga	LB
421	28281	CR 3987-3-1-1-1-1	Pooja / CR 3820-1-5-2-1-1	MS
422	28282	CR 3938-11-1-8-1-1-2-1	IR 73907-753-2-3 / Pratikshya	LS
423	28283	TTB 944-31-10-1-2-1	CN 1234-12-1 / OR 1898-18	MS
424	28284	CR 3987-1-1-1-1-2	Pooja / CR 3820-1-5-2-1-1	MS
425	28285	CR 3938-22-1-1-1-2	IR 73907-753-2-3 / Pratikshya	LS
426	28286	TTB 1031-44-900-1-2	Choilahi / Ranjit	MS
427	28287	CR 3993-4-19-31	CR1009 / O. brachyantha // CR1009	MS
428	28288	CR 3564-4-2-2-1-1-2	Vijetha / N22	MB
429	28289	CR 3987-3-2-6-1-1	Pooja / CR 3820-1-5-2-1-1	MS
430	28290	CR 4207-18-2-1-1	Swarna Sub-1 / Kedargouri // Swarna MAS	SB
431	Local Check			

Table 2.8: Grain Yield (kg/ha) of entries in IVT RSL, Kharif 2019

Entry No	IET No	ZONE III													
		OP		OD(1)		BI		BI(1)		JH(1)					
		CTK	@JYP	mean		BKG	@PSA	mean		RCI					
401	28263	5419	2683	5419		3889	5438	2	3889	931					
402	28264	5436	5433	5436		3056	313		3056	598					
403	28265	5202	6893	4	5202	3611	3938		3611	3457	2				
404	28266	4458	3016		4458	4802	3813		4802	2394					
405	28267	5297	5642		5297	5516	9	4000	8	5516	9	399			
406	28268	6168	9	6119	9	6168	9	15%	1349			1349	2660		
407	Swarna Sub 1 (NC)	5359		4696		5359			4643	4313	6	4643	2194		
408	28269	4067		5456		4067			5159	5313	3	5159	2460		
409	28270	6830	3 *	6688	5	6830	3 *	27%	6071	3	3750		6071	3	1928
410	28271	3619		5769		3619			4206	3625		4206	2460		
411	28272	4740		5979		4740			4960	3938	10	4960	2593		
412	28273	7591	2 *	5435		7591	2 *	42%	5000	2625		5000	2926	7	
413	28274	6205	7	5906		6205	7	16%	5833	7	4063	7	5833	7	2660
414	28275	4060		5505		4060			4167	3313		4167	3457	2	
415	28276	6706	4	6043	10	6706	4	25%	5714	8	3000		5714	8	1330
416	28277	5640		5463		5640		5%	4087	3563		4087	798		
417	Zonal Check (ZC)	4519		6660	7	4519			5079	2563		5079	3856	1	
418	28278	6363	6	6170	8	6363	6	19%	5357	10	3125		5357	10	3324
419	28279	3926		5423		3926			4841	3188		4841	3457	2	
420	28280	2390		7024	3	2390			3492	4000	8	3492	2194		
421	28281	10182	1 *	5462		10182	1 *	90%	3056			3056	1662		
422	28282	5859		7079	2	5859		9%	4960	2813		4960	3059	6	
423	28283	5023		4061		5023			6746	2	3625		6746	2	2726
424	28284	5037		3962		5037			3690		4688	4	3690		1396
425	28285	6115	10	5569		6115	10	14%	5992	4	3688		5992	4	2460
426	28286	6660	5	5598		6660	5	24%	5992	4	4438	5	5992	4	2128
427	28287	4550		4921		4550			3095				3095		1330
428	28288	2785		5639		2785			5873	6	7375	1	5873	6	2726
429	28289	6181	8	6680	6	6181	8	15%	4762		2375		4762		665
430	28290	5542		8126	1	5542			3373		2625		3373		1729
431	Local Check (LC)	5173		5334		5173			6905	1	3500		6905	1	2527
Exp. Mean		5390		5627		5390			4686		3679		4686		2209
CD		1349.78		431.45		1349.78			2162.36		373.82		2162.36		745.72
CV%		12.26		3.75		12.26			22.59		4.95		22.59		16.53
D/S		05-07-2019		02-07-2019					03-07-2019		04-07-2019				29-06-2019
D/P		06-08-2019		02-08-2019					03-08-2019		24-07-2019				17-08-2019
Local Check Name		Sumit		Hasanta					Rajendra Mahsuri-1		R.Mahsuri				BPT 5204

Table 2.8 contd.: Grain Yield of entries in IVT RSL Kharif 2019

Entry No	IET No											ZONE III (5)	
		WB			WB(1)		UP			UP(1)			
		@CHN	BNK		mean	MSD	@GGT		mean		mean		
401	28263	4795	2730	2730		4588		1000		4588		3511	
402	28264	5912	6 8616	3 8616	3 13%							4427	
403	28265	5912	6 6584	6584		3657		1333		3657		4502	
404	28266	5094	2458	2458		3391		1500		3391		3501	
405	28267	4035	6921	6921		5053		1933	10	5053		4637	
406	28268	4211	4767	4767								3736	
407	Swarna Sub 1 (NC)	4041	7292	7292		4920		2417	2	4920		4882	
408	28269	4509	4125	4125		4721		2250	5	4721		4106	
409	28270	5795	8 4734	4734		5685	3 *	2200	6	5685	3 * 14%	5050	10
410	28271	5327	4978	4978		5452	5	2083	8	5452	5 * 9%	4143	
411	28272	5678	2619	2619		5120	10	1583		5120	10	4006	
412	28273	5094	5426	5426		4388		1583		4388		5066	9
413	28274	4678	7276	7276		5253	9	2167	7	5253	9 * 5%	5445	4
414	28275	4860	6667	6667		4621		2083	8	4621		4594	
415	28276	5094	8034	4 8034	4 6%	5984	2 *	1850		5984	2 * 20%	5554	2 5%
416	28277	6731	2 7315	10 7315	10	3790				3790		4326	
417	Zonal Check (ZC)	6965	1 6373	6373		4987		750		4987		4963	
418	28278	4211	7071	7071		5452	5	2417	2	5452	5 * 9%	5513	3 4.65%
419	28279	5678	10 6207	6207		4654		2833	1	4654		4617	
420	28280	4509	3931	3931		3391		417		3391		3080	
421	28281	6146	4 8854	2 8854	2 16%	3457				3457		5442	5
422	28282	5094	5748	5748		5386	7	1917		5386	7 * 8%	5002	
423	28283	4860	7973	5 7973	5 4.71%	6383	1 *	1583		6383	1 * 28%	5770	1 10%
424	28284	5561	7625	7 7625	7	3391		850		3391		4228	
425	28285	5444	7021	7021		4721		1333		4721		5262	8
426	28286	5795	8 6611	6611		5519	4	2417	2	5519	4 * 11%	5382	6
427	28287	6029	5 9612	1 9612	1 26%	1230				1230		3963	
428	28288	6497	3 4452	4452		5386	7	1583		5386	7 * 8%	4244	
429	28289	4626	7364	9 7364	9	2926		1550		2926		4380	
430	28290	5094	7841	6 7841	6	4255		567		4255		4548	
431	Local Check (LC)	4860	7614	8 7614	8	4122		1500		4122		5268	7
Exp. Mean		5262	6285	6285		4548		1681		4548		4618	
CD		264.65	2963.28	2963.28		554.99		492.36		554.99		840.43	
CV%		2.46	23.09	23.09		5.96		14.22		5.96		8.91	
D/S		09-07-2019	02-07-2019			11-07-2019		04-07-2019					
D/P		17-08-2019	05-08-2019			10-08-2019							
Local Check Name		SUJALA(IET 20235)	Sampriti			JAL LAHRI		Sambha Sub-1					

Table 2.8 contd.: Grain Yield of entries in IVT RSL, Kharif 2019

Entry No	IET No	ZONE IV		AS(1)		AP(1)		KA		
		TTB		MTU		MGD		@SRS	PNP	
401	28263	4000		4975		4594		2000	2	163
402	28264	1750		8825	2 22%	8401	6	641		2956
403	28265	5750	3 17%	6850	10	7847	9	1512		3370
404	28266	5000	7	4650		6396		1281		3248
405	28267	3750		5835		7885	8	1324		2889
406	28268	3500		6875	9	6894		1547		3533
407	Swarna Sub 1 (NC)	3250		7250	7	6297		1521		3652
408	28269	3250		3025		7653		1583		3067
409	28270	4000		3575		8596	5	1859	5	4463
410	28271	4750	9	8030	4 11%	7418		1781	8	4059
411	28272	5750	3 17%	3150		6685		1193		3167
412	28273	5250	6 7%	8375	3 16%	6413		1510		2674
413	28274	3500		7000	8	6063		1674	9	3981
414	28275	6250	1 * 28%	5200		4670		1011		3759
415	28276	2250		7720	5 6%	7446		1989	3	4056
416	28277	2600		8880	1 22%	5194		1911	4	2974
417	Zonal Check (ZC)	3250		5075		6625		1644	10	3452
418	28278	3250		3500		7371		1834	6	3130
419	28279	4250		4745		8385	7	1471		3722
420	28280	4500		3025		5681		1235		1526
421	28281	3250		6825		8736	4	1130		3763
422	28282	4500		3350		6535		1540		3274
423	28283	4000		4970		9865	1 *	1380		2919
424	28284	4750	9	3215		6824		1222		4044
425	28285	2750		4955		7431		1321		2585
426	28286	2750		7390	6	7741	10	1801	7	3459
427	28287	5400	5 10%	4240		8870	3	1446		4067
428	28288	6000	2 22%	4325		7589		932		3874
429	28289	1750		4490		9549	2 *	1471		3748
430	28290	2750		6825		6063		1280		3885
431	Local Check (LC)	4900	8	5750		5522		2102	1	4763
Exp. Mean		3956		5577		7137		1488		3362
CD		1133.22		2188.84		2628.8		594.65		951.8
CV%		14.02		19.22		18.04		19.56		13.86
D/S		28-06-2019		08-07-2019		02-07-2019		29-06-2019		14-07-2019
D/P		03-08-2019		11-08-2019				29-07-2019		19-08-2019
Local Check Name		Ranjit		MTU1064		PSB 68		ASHA		TUNGA

Table 2.8 contd.: Grain Yield of entries in IVT RSL, Kharif 2019

Entry No	IET No								
		KA(2)		ZONE VII (3)		overall (9)			
		mean		mean		mean			
401	28263	2379		3244		3477			
402	28264	5679	10 10%	6727	1 17%	4955			
403	28265	5609	9%	6022	6 5%	5148	8		
404	28266	4822		4765		4089			
405	28267	5387	4.75%	5536		4838			
406	28268	5214		5767	10	4468			
407	Swarna Sub 1 (NC)	4975		5733		4984			
408	28269	5360		4582		4170			
409	28270	6530	2 * 27%	5545		5098	9		
410	28271	5739	8 12%	6502	2 13%	4997	10		
411	28272	4926		4334		4309			
412	28273	4544		5821	9	5338	5		
413	28274	5022		5681		5308	6		
414	28275	4215		4543		4761			
415	28276	5751	7 12%	6407	4 12%	5471	3		
416	28277	4084		5683		4586			
417	Zonal Check (ZC)	5039		5051		4802			
418	28278	5251		4667		4980			
419	28279	6054	6 18%	5617		4910			
420	28280	3604		3411		3348			
421	28281	6250	5 22%	6441	3 12%	5532	2 5%		
422	28282	4905		4386		4741			
423	28283	6392	4 24%	5918	8	5623	1 7%		
424	28284	5434	6%	4694		4441			
425	28285	5008		4990		4892			
426	28286	5600	9%	6197	5 8%	5361	4		
427	28287	6469	3 * 26%	5726		4710			
428	28288	5732	9 11%	5263		4779			
429	28289	6649	1 * 29%	5929	7	4604			
430	28290	4974		5591		4696			
431	Local Check (LC)	5143		5345		5253	7		
Exp. Mean		5249		5359		4796			
CD		1278.81		1083.58		509.59			
CV%		11.93		9.9		5.2			
D/S									
D/P									
Local Check Name									

Table 2.9: Days to 50% Flowering of entries in IVT RSL, Kharif 2019

Entry No	IET No	ZONE III													ZONE III (5)
		OD		OD(1)	BI		BI(1)	JH(1)	WB		WB(1)	UP		UP(1)	
		CTK	@JYP	Mean	BKG	@PSA	Mean	RCI	@CHN	BNK	Mean	MSD	@GGT	Mean	Mean
401	28263	120	120	120	110	110	110	121	112	138	138	134	106	134	124
402	28264	132	137	132	115	124	115	141	123	137	137				131
403	28265	119	117	119	108	117	108	123	123	134	134	112	116	112	119
404	28266	102	130	102	96	102	96	115	105	123	123	93	101	93	106
405	28267	129	119	129	116	114	116	101	121	128	128	109	108	109	116
406	28268	124	119	124	115		115	123	126	138	138				125
407	Swarna Sub 1 (NC)	118	126	118	107	107	107	122	121	131	131	108	108	108	117
408	28269	111	111	111	104	98	104	114	105	127	127	99	94	99	111
409	28270	119	125	119	105	114	105	123	116	134	134	110	107	110	118
410	28271	114	114	114	105	105	105	120	110	123	123	97	99	97	112
411	28272	114	118	114	100	98	100	116	104	129	129	91	99	91	110
412	28273	114	117	114	111	107	111	125	106	127	127	107	105	107	117
413	28274	116	118	116	114	110	114	125	118	129	129	109	110	109	118
414	28275	113	109	113	100	99	100	122	108	131	131	93	94	93	112
415	28276	129	135	129	113	115	113	135	116	135	135	111	112	111	125
416	28277	128	127	128	112	120	112	136	134	126	126	119		119	124
417	Zonal Check (ZC)	116	116	116	114	117	114	122	106	134	134	117	124	117	120
418	28278	129	116	129	113	121	113	124	116	125	125	108	106	108	120
419	28279	119	111	119	113	108	113	123	107	132	132	103	100	103	118
420	28280	116	114	116	103	117	103	123	110	137	137	113	116	113	118
421	28281	124	127	124	117		117	135	131	139	139	122		122	127
422	28282	117	119	117	112	108	112	125	110	133	133	103	107	103	118
423	28283	128	121	128	116	116	116	114	123	131	131	110	113	110	119
424	28284	121	125	121	118	114	118	127	121	135	135	118	109	118	124
425	28285	121	117	121	104	109	104	124	112	130	130	108	109	108	117
426	28286	121	125	121	109	110	109	122	116	136	136	110	109	110	120
427	28287	124	121	124	114		114	122	116	133	133	122		122	123
428	28288	113	104	113	99	100	99	125	104	124	124	94	99	94	111
429	28289	125	122	125	116	118	116	128	112	131	131	114	120	114	123
430	28290	130	125	130	115	118	115	124	121	127	127	119	121	119	123
431	Local Check (LC)	129	118	129	111	125	111	119	105	122	122	115	101	115	119
Exp. Mean		120	120	120	110	111	110	123	115	131	131	109	107	109	119

Table 2.9 contd.: Days to 50% Flowering of entries in IVT RSL, Kharif 2019

Entry No	IET No	ZONE IV	ZONE VII					ZONE VII (3) Mean	Overall (9) Mean
		AS(1)	AP(1)	KA			KA(2)		
		TTB	MTU	MGD	@SRS	PNP	Mean		
401	28263	110	114	111	117	103	107	109	118
402	28264	127	124	130	141	132	131	128	129
403	28265	102	108	114	117	110	112	110	114
404	28266	103	108	109	116	109	109	109	106
405	28267	120	120	125	124	122	124	122	119
406	28268	116	122	125	129	119	122	122	122
407	Swarna Sub 1 (NC)	113	109	113	119	120	117	114	116
408	28269	102	109	109	112	109	109	109	109
409	28270	113	113	121	117	123	122	119	118
410	28271	109	107	114	119	117	115	113	112
411	28272	102	102	109	116	110	109	107	108
412	28273	112	107	115	117	114	114	112	114
413	28274	113	111	121	121	117	119	116	117
414	28275	109	105	102	104	103	103	103	108
415	28276	127	115	126	130	126	126	122	124
416	28277	112	125	125	126	120	122	123	122
417	Zonal Check (ZC)	114	113	121	122	117	119	117	118
418	28278	119	112	113	124	118	116	114	118
419	28279	112	108	112	117	114	113	111	115
420	28280	96	109	108	111	107	107	108	112
421	28281	106	115	124	125	124	124	121	123
422	28282	111	108	111	117	114	112	111	115
423	28283	115	111	121	130	123	122	118	118
424	28284	108	109	121	123	119	120	116	119
425	28285	118	107	114	117	111	112	110	115
426	28286	125	115	118	130	122	120	118	120
427	28287	107	117	121	122	118	119	118	120
428	28288	101	103	105	109	108	106	105	108
429	28289	127	113	114	124	118	116	115	120
430	28290	117	121	125	142	124	124	123	122
431	Local Check (LC)	118	121	111	123	121	116	117	118
Exp. Mean		112	112	116	121	116	116	115	117

Table 2.10: Plant Height of entries in IVT RSL, Kharif 2019

Entry No	IET No	ZONE III													ZONE III (5) Mean
		OD		OD(1)	BI		BI(1)	JH(1)	WB		WB(1)	UP		UP(1)	
		CTK	@JYP	Mean	BKG	@PSA	Mean	RCI	@CHN	BNK	Mean	MSD	@GGT	Mean	
401	28263	154.00	125.90	154.00	140.00	144.00	140.00	106.00	147.00	150.00	150.00	128.00	129.00	128.00	135.60
402	28264	114.00	95.40	114.00	113.00	88.00	113.00	74.00	114.00	118.00	118.00		91.00		104.75
403	28265	130.00	109.40	130.00	116.00	107.00	116.00	77.00	113.00	120.00	120.00	115.00	114.00	115.00	111.60
404	28266	136.00	93.10	136.00	125.00	130.00	125.00	77.00	107.00	125.00	125.00	110.00	114.00	110.00	114.60
405	28267	128.00	112.50	128.00	121.00	116.00	121.00	85.00	107.00	133.00	133.00	113.00	121.00	113.00	116.00
406	28268	128.00	117.10	128.00	117.00		117.00	93.00	114.00	135.00	135.00		98.00		118.25
407	Swarna Sub 1 (NC)	109.00	95.80	109.00	102.00	99.00	102.00	78.00	103.00	110.00	110.00	94.00	95.00	94.00	98.60
408	28269	144.00	118.00	144.00	108.00	125.00	108.00	101.00	116.00	150.00	150.00	118.00	136.00	118.00	124.20
409	28270	125.00	96.60	125.00	100.00	107.00	100.00	75.00	94.00	123.00	123.00	105.00	103.00	105.00	105.60
410	28271	151.00	134.90	151.00	143.00	156.00	143.00	106.00	129.00	142.00	142.00	137.00	151.00	137.00	135.80
411	28272	136.00	97.60	136.00	123.00	117.00	123.00	71.00	107.00	130.00	130.00	130.00	111.00	130.00	118.00
412	28273	137.00	97.60	137.00	128.00	103.00	128.00	81.00	111.00	128.00	128.00	105.00	109.00	105.00	115.80
413	28274	132.00	100.30	132.00	114.00	100.00	114.00	72.00	100.00	110.00	110.00	106.00	95.00	106.00	106.80
414	28275	126.00	97.50	126.00	107.00	117.00	107.00	83.00	98.00	135.00	135.00	121.00	111.00	121.00	114.40
415	28276	121.00	97.70	121.00	121.00	98.00	121.00	77.00	108.00	130.00	130.00	123.00	115.00	123.00	114.40
416	28277	102.00	91.60	102.00	97.00	90.00	97.00	63.00	104.00	110.00	110.00	92.00	81.00	92.00	92.80
417	Zonal Check (ZC)	128.00	97.10	128.00	108.00	100.00	108.00	74.00	107.00	120.00	120.00	105.00	95.00	105.00	107.00
418	28278	118.00	103.40	118.00	113.00	96.00	113.00	84.00	114.00	120.00	120.00	113.00	109.00	113.00	109.60
419	28279	99.00	92.00	99.00	94.00	100.00	94.00	79.00	110.00	110.00	110.00	105.00	105.00	105.00	97.40
420	28280	145.00	126.20	145.00	131.00	142.00	131.00	85.00	130.00	140.00	140.00	142.00	131.00	142.00	128.60
421	28281	119.00	101.00	119.00	123.00		123.00	72.00	104.00	125.00	125.00	122.00	100.00	122.00	112.20
422	28282	129.00	97.80	129.00	113.00	111.00	113.00	77.00	97.00	125.00	125.00	105.00	103.00	105.00	109.80
423	28283	134.00	108.30	134.00	131.00	120.00	131.00	90.00	108.00	142.00	142.00	132.00	123.00	132.00	125.80
424	28284	114.00	108.80	114.00	105.00	120.00	105.00	80.00	109.00	125.00	125.00	111.00	116.00	111.00	107.00
425	28285	146.00	101.20	146.00	139.00	129.00	139.00	87.00	120.00	145.00	145.00	116.00	124.00	116.00	126.60
426	28286	135.00	113.30	135.00	127.00	140.00	127.00	99.00	118.00	150.00	150.00	141.00	148.00	141.00	130.40
427	28287	118.00	94.40	118.00	111.00		111.00	78.00	92.00	115.00	115.00	112.00	96.00	112.00	106.80
428	28288	132.00	102.00	132.00	109.00	117.00	109.00	81.00	117.00	125.00	125.00	121.00	123.00	121.00	113.60
429	28289	111.00	92.30	111.00	107.00	89.00	107.00	64.00	96.00	118.00	118.00	104.00	91.00	104.00	100.80
430	28290	98.00	96.30	98.00	103.00	95.00	103.00	71.00	96.00	120.00	120.00	90.00	94.00	90.00	96.40
431	Local Check (LC)	123.00	111.10	123.00	123.00	108.00	123.00	62.00	115.00	135.00	135.00	120.00	92.00	120.00	112.60
Exp. Mean		127	104	127	117	113	117	81	110	128	128	115	110	115	113

Table 2.10 contd.: Plant Height of entries in IVT RSL, Kharif 2019

Entry No	IET No	ZONE IV	ZONE VII					ZONE VII (3)	Overall (9)
		AS(1)	AP(1)	KA			KA(2)		
		TTB	MTU	MGD	@SRS	PNP	Mean	Mean	Mean
401	28263	127.30	149.70	111.20	107.80	70.00	90.60	110.30	126.24
402	28264	85.30	145.80	98.70	93.20	76.13	87.41	106.88	103.12
403	28265	101.70	142.40	98.50	89.10	75.38	86.94	105.43	108.44
404	28266	106.30	134.50	109.70	96.70	74.38	92.04	106.19	110.88
405	28267	97.90	149.60	112.40	92.80	73.63	93.01	111.88	112.61
406	28268	107.40	155.70	118.70	100.60	83.38	101.04	119.26	117.27
407	Swarna Sub 1 (NC)	83.50	131.50	102.30	80.10	73.00	87.65	102.27	98.14
408	28269	118.80	136.90	111.70	101.50	83.88	97.79	110.83	119.14
409	28270	89.60	138.20	100.80	85.90	69.50	85.15	102.83	102.90
410	28271	117.80	150.90	130.70	117.30	102.50	116.60	128.03	131.21
411	28272	106.20	148.80	96.00	90.60	72.63	84.31	105.81	112.63
412	28273	94.30	142.20	96.40	91.10	72.13	84.26	103.58	109.34
413	28274	81.80	145.20	88.10	85.50	73.88	80.99	102.39	102.55
414	28275	98.80	136.80	84.60	78.80	66.75	75.68	96.05	106.55
415	28276	89.60	144.30	98.60	97.10	76.75	87.68	106.55	109.03
416	28277	75.10	131.20	75.20	78.30	63.00	69.10	89.80	89.83
417	Zonal Check (ZC)	104.50	134.90	89.30	83.80	68.50	78.90	97.57	103.58
418	28278	92.30	136.30	98.90	84.20	69.50	84.20	101.57	105.00
419	28279	88.60	119.20	94.80	83.60	75.25	85.03	96.42	96.09
420	28280	117.60	164.90	110.10	102.70	88.50	99.30	121.17	124.90
421	28281	97.20	147.00	103.30	85.10	60.25	81.78	103.52	107.64
422	28282	98.00	133.40	92.20	88.30	71.25	81.73	98.95	104.87
423	28283	115.80	159.80	118.90	104.20	88.75	103.83	122.48	123.58
424	28284	93.60	142.50	101.60	92.10	77.63	89.61	107.24	105.59
425	28285	95.60	156.80	114.60	99.40	83.13	98.86	118.18	120.35
426	28286	106.40	148.90	122.80	109.40	90.00	106.40	120.57	124.46
427	28287	92.20	140.20	90.50	91.70	71.25	80.88	100.65	103.13
428	28288	100.50	135.90	94.90	91.10	75.13	85.01	101.98	108.27
429	28289	73.10	125.60	94.90	80.90	66.88	80.89	95.79	96.05
430	28290	85.20	130.70	89.20	83.30	70.13	79.66	96.68	95.25
431	Local Check (LC)	102.00	136.20	101.30	110.20	88.00	94.65	108.50	110.06
Exp. Mean		98	142	102	93	76	89	106	109

Table 2.11: Panicle/m2 of entries in IVT RSL, Kharif 2019

Entry No	IET No	ZONE III													ZONE III (5) Mean
		OD		OD(1)	BI		BI(1)	JH(1)	WB		WB(1)	UP		UP(1)	
		CTK	@JYP	Mean	BKG	@PSA	Mean	RCI	@CHN	BNK	Mean	MSD	@GGT	Mean	
401	28263	219	460	219	290	248	290	206	248	196	196	303	233	303	243
402	28264	360	410	360	275	342	275	181	314	200	200				254
403	28265	347	480	347	256	335	256	158	380	205	205	254	229	254	244
404	28266	248	403	248	290	260	290	182	248	213	213	277	226	277	242
405	28267	310	336	310	190	342	190	181	314	224	224	295	234	295	240
406	28268	353	500	353	240		240	251	363	224	224				267
407	Swarna Sub 1 (NC)	277	306	277	248	316	248	243	413	210	210	263	286	263	248
408	28269	192	470	192	215	351	215	243	363	213	213	252	266	252	223
409	28270	310	409	310	255	378	255	248	429	216	216	309	257	309	268
410	28271	198	310	198	245	229	245	187	314	220	220	315	263	315	233
411	28272	185	360	185	233	263	233	218	314	201	201	270	252	270	221
412	28273	188	393	188	188	324	188	182	429	184	184	288	199	288	206
413	28274	193	459	193	273	353	273	233	429	196	196	306	243	306	240
414	28275	221	346	221	288	367	288	179	248	198	198	309	190	309	239
415	28276	340	416	340	205	329	205	226	297	255	255	312	209	312	267
416	28277	317	353	317	288	332	288	209	363	213	213	273		273	260
417	Zonal Check (ZC)	271	500	271	223	366	223	229	429	210	210	285	234	285	243
418	28278	234	326	234	205	334	205	163	347	241	241	291	238	291	227
419	28279	261	353	261	255	246	255	168	330	179	179	275	254	275	227
420	28280	264	310	264	245	281	245	213	314	205	205	254	186	254	236
421	28281	340	303	340	275		275	233	314	244	244	262		262	271
422	28282	274	435	274	290	352	290	210	363	174	174	258	261	258	241
423	28283	320	350	320	278	346	278	214	314	220	220	310	274	310	268
424	28284	332	450	332	240	318	240	257	363	208	208	267	231	267	261
425	28285	218	363	218	255	316	255	158	347	221	221	273	211	273	225
426	28286	251	303	251	168	306	168	181	314	228	228	316	227	316	228
427	28287	330	543	330	250		250	178	314	218	218	265		265	248
428	28288	271	456	271	290	211	290	146	330	208	208	280	278	280	239
429	28289	330	416	330	240	318	240	205	363	244	244	230	196	230	250
430	28290	278	407	278	205	267	205	178	281	232	232	260	199	260	230
431	Local Check (LC)	279	290	279	215	246	215	246	314	242	242	235	234	235	243
Exp. Mean		274	394	274	245	310	245	203	339	214	214	279	235	279	243

Table 2.11: Panicle/m2 of entries in IVT RSL, Kharif 2019

Entry No	IET No	ZONE IV	ZONE VII					ZONE VII (3) Mean	Overall (9) Mean
		AS(1)	AP(1)	KA			KA(2)		
		TTB	MTU	MGD	@SRS	PNP	Mean		
401	28263	230	290	290	288	297	293	292	258
402	28264	225	290	313	276	352	332	318	274
403	28265	253	314	283	291	440	361	345	279
404	28266	223	284	228	276	341	284	284	254
405	28267	238	267	277	291	308	293	284	254
406	28268	328	257	327	282	374	350	319	294
407	Swarna Sub 1 (NC)	270	314	288	270	341	314	314	272
408	28269	198	261	321	282	308	315	297	245
409	28270	323	310	334	279	396	365	347	300
410	28271	180	284	288	237	314	301	295	248
411	28272	198	320	276	303	341	308	312	249
412	28273	268	314	298	276	380	339	330	254
413	28274	330	320	251	324	380	315	317	276
414	28275	200	284	252	285	380	316	305	257
415	28276	283	294	256	315	314	285	288	276
416	28277	275	310	226	327	440	333	325	283
417	Zonal Check (ZC)	228	310	180	285	380	280	290	257
418	28278	220	287	317	276	330	323	311	254
419	28279	250	307	252	261	292	272	283	249
420	28280	260	254	320	282	363	341	312	264
421	28281	328	347	336	333	319	328	334	298
422	28282	280	297	225	339	336	280	286	260
423	28283	263	297	261	318	363	312	307	280
424	28284	315	281	298	303	369	333	316	285
425	28285	215	271	287	258	308	297	288	245
426	28286	248	281	256	300	319	288	285	249
427	28287	295	323	364	315	336	350	341	284
428	28288	258	290	238	321	363	300	297	260
429	28289	200	314	373	315	374	373	353	279
430	28290	255	294	310	285	330	320	311	260
431	Local Check (LC)	225	343	274	285	297	286	305	262
Exp. Mean		253	297	284	293	348	316	309	266

ADVANCE VARIETY TRIAL 1–SEMI DEEP WATER (AVT 1-SDW)**Locations: 07****Test Entries: 07****Checks: CR Dhan 506 - National, Purnendu (Eastern) - Zonal and Local Check Table: 2.12**

The trial was constituted with seven entries including four test entries and three checks viz., CR Dhan 506 (National), Purnendu (Eastern Zone) and local check. Out of the seven test entries, one test entry IET 25912 was in third year and remaining six were in second year of testing. The trial was sent to 10 locations and data was received from all locations except Varanasi, Titabar and Gerua (ICAR). Out of seven locations, five locations, the required water level (10-75 cm) was not maintained at Pusa (as per monitoring tour report), while information about water level was not provided by Bankura, hence these two locations were not considered for analysis. Data from remaining five locations of Zone III namely, Bhubaneswar, Cuttack, Masodha, Ghagharaghat, and Chinsurah was considered for evaluating the entries. The data on parameters like seedling survival, grain shattering was received only from Ghagharaghat. The data pertaining to yield, days to 50% flowering, plant height, no. of panicles/m² and quality are presented in tables 2.13, 2.14, 2.15, 2.16 and 2.17. Results of the experiment are discussed below.

Details of water regimes at different centres in AVT 1-SDW, Kharif 2019

Location	Week	June	July	August	September	October	November	December
Chinsurah	1 st	-	15	15	50	60	30	15
	2 nd	-	15	20	50	70	30	15
	3 rd	-	15	25	60	70	30	10
	4 th	-	15	30	60	50	30	-
NRRI, Cuttack	1 st	-	-	5	25	45	20	10
	2 nd	-	-	10	40	40	20	5
	3 rd	-	5	20	35	35	15	-
	4 th	-	5	20	40	30	10	-
Bhubaneswar	1 st	-	-	-	20-37	20-30	15-20	-
	2 nd	-	-	-	38-41	20-25	15-20	-
	3 rd	-	-	5-10	41-50	15-20	-	-
	4 th	-	-	5-10	50	15-20	-	-
Masodha	1 st	-	-	-	45	40	10	-
	2 nd	-	-	30	45	30	7	-
	3 rd	-	-	30	48	20	-	-
	4 th	-	-	40	50	15	-	-
Ghagharaghat	1 st	-	-	-	10	67	32	-
	2 nd	-	-	-	21	78	24	-
	3 rd	-	-	-	39	67	16	-
	4 th	-	-	04	52	47	07	-
Pusa	1 st	05	22	102	110	65	-	-
	2 nd	18	28	115	112	58	-	-
	3 rd	22	55	125	98	24	-	-
	4 th	25	70	115	92	16	-	-
Bankura	No information							

Performance of superior test entries AVT1-SDW during Kharif 2019

Zone III (5)				
S. No.	IET No. Designation/ Cross Combination	GY (Kg/ha) DFF/ GT/ PH	% over best check	Remarks
1	IET 25912	4765 114 SB 133	16	-
	CR Dhan 506 (NC)	4071 122		
	Purnendu (ZC-E)	2533 109		
	Local Check	4112 112		

In Zone III, data from five locations was considered for evaluating the performance of test entries. Grain mean yield of the entries varied from 2533 kg/ha (Purnendu) to 4765 kg/ha (IET 25912), days to 50% flowering ranged from 108 days (IET 27576) to 128 days (25212) and plant height from 102.2cm (IET 27576) to 156.86cm (Purnendu). Among checks, Local check recorded highest grain yield of 4112 kg/ha with 112 days to 50% days to 50% flowering and 129.37cm plant height. **Among test entries, IET 25912 recorded 16% yield advantage over the best check.**

Adaptability parameters of entries in AVT 1- SDW, Kharif 2019.

Entry No.	IET No.	Seedling Survival (%)	Submergence Tolerance	Elongation	PACP	Grain shattering
		GGT	GGT	GGT	GGT	GGT
501	25912	90	5	3	9	
502	27574	75	5	3	5	-
503	CR Dhan 506 (NC)	85	5	5	9	-
504	27583	95	5	3	3	-
505	27578	85	5	3	9	3
506	26684	80	5	3	7	-
507	Purnendu (ZC)	80	5	1	9	-
508	25212 (R)	80	5	5	7	3
509	27576	85	5	5	3	-
510	Local Check (LC)	85	5	3	3	3

Three years performance of IET 25912 in SDW trial

IET 25912 (CR 2667-5-1-2-1-1) derived from cross Gayatri / AC.38599 showed consistence yield superiority over the best check in Zone III for all three years. Further, the entry is also showed consistence yield superiority over the best check in Odisha state.

IET 25912 has completed the three years of performance in semi deep water trials and its performance is given below

Three years performance of IET 25212 in Semi Deep Water

IET Designation/ Cross combination	No./	Year	Zone		State		Remarks
			Zone	%BC	State	%BC	
IET 25912 CR 2667-5-1-2-1-1 Gayatri / AC.38599		2017	III	17	OD	47	Promising for state of Odisha in Zone III
		2018	III	14	OD	26	
		2019	III	16	OD	5	

INITIAL VARIETY TRIAL– SEMI DEEP WATER (IVT-SDW)**Locations: 08****Test Entries: 27**

Checks: CR Dhan 506 - National, Purnendu (Eastern and North Eastern), MTU 1172 (Southern) - Zonal and Local Check

Table: 2.18

The IVT-SDW trial was constituted with 33 test entries and three checks namely, CR Dhan 506 (National), Purnendu (Eastern and North Eastern), MTU 1172 (Southern) and Local Check. The trial was sent to 12 locations and data from three locations namely Varanasi, Titabar and Gerua was not received. Required water level (41-75cm) was not maintained at two locations, namely, PUSA and Bankura, hence, the data of these two locations was not considered for evaluating the entries. Due to high CV at Bhubaneswar (34.65) and low CV at Chinsurah, the data of these two locations was also not considered for analysis. Therefore, the data from remaining four locations namely, Cuttack, Masodha, Ghagharaghat and Maruteru was considered for evaluating the performance of test entries. The data on seedling survival, submergence tolerance, kneeing ability, grain shattering, and phenotypic acceptability were obtained from Maruteru. While, Ghagharaghat has provided information on seedling survival ability and grain shattering. The data pertaining to yield, days to 50% flowering, plant height and no. of panicles/m² are presented in tables 2.19, 2.20, 2.21 and 2.22. Results of the experiment are discussed below.

In overall, the experimental mean grain yield ranged from 2035 kg/ha (IET 28298) to 6551 kg/ha (IET 28302), while days to 50% flowering ranged from 109 days (IET 28293) to 132 days (IET 28301 and 28302) and plant height from 113.30cm (IET 28301) to 177.63 cm (IET 28296). Among the checks, Local check recorded highest grain yield of 4273 kg/ha with 115 days to 50% flowering and 128cm plant height. Among the test entries, nine entries, namely, IETs 28293, 28294, 28296, 28299, 28302, 28305, 28311, 28313, and 28317 recorded desirable plant height of more than 120cm with more than 5% yield superiority over the best check.

In Zone III, data from Cuttack and Masodha was considered for analysis. Mean grain yield ranged from 1894 kg/ha (IET 28316) to 6070 kg/ha (IET 28302), while days to 50% flowering ranged from 108 days (IET 28303) to 138 days (IET 28301 and 28302) and plant height from 100.50cm (IET 28301) to 189.00cm (IET 28296). Among the checks, Local check recorded highest grain yield of 4268 kg/ha with 114 days to 50% flowering and 126.67cm plant height. Among the test entries, six entries IETs 28293, 28302, 28305, 28311, 28313, and 28317 recorded desirable plant height of more than 120cm with more than 5% yield superiority over the best check.

Details of water regimes at different centres in IVT-SDW, Kharif 2019

Location	Week	June	July	August	September	October	November	December
Chinsurah	1 st	-	15	15	50	60	30	15
	2 nd	-	15	20	50	70	30	15
	3 rd	-	15	25	60	70	30	10
	4 th	-	15	30	60	50	30	-
NRRI, Cuttack	1 st	-	-	5	25	45	20	10
	2 nd	-	-	10	40	40	20	5
	3 rd	-	5	20	35	35	15	-
	4 th	-	5	20	40	30	10	-
Bhubaneswar	1 st	-	-	-	20-37	20-30	15-20	-
	2 nd	-	-	-	38-41	20-25	15-20	-
	3 rd	-	-	5-10	41-50	15-20	-	-
	4 th	-	-	5-10	50	15-20	-	-
Masodha	1 st	-	-	-	45	40	10	-
	2 nd	-	-	30	45	30	7	-
	3 rd	-	-	30	48	20	-	-
	4 th	-	-	40	50	15	-	-
Ghaghrahat	1 st	-	-	-	10	67	32	-
	2 nd	-	-	-	21	78	24	-
	3 rd	-	-	-	39	67	16	-
	4 th	-	-	04	52	47	07	-
Maruteru	1 st	-	-	-	45	45	38	-
	2 nd	-	-	10	40	30	28	-
	3 rd	-	-	11	52	35	25	-
	4 th	-	-	40	38	45	22	-
Pusa	1 st	08	22	102	110	65	-	-
	2 nd	14	28	115	112	58	-	-
	3 rd	14	55	125	98	24	-	-
	4 th	12	70	115	92	16	-	-
Bankura	No information							

In Zone VII, data from Maruteru was considered for analysis. Mean grain yield ranged from 2018 kg/ha (IET 28298) to 7031 kg/ha (IET 28302), while days to 50% flowering ranged from 105 days (IET 28296) to 128 days (IET 28307) and plant height from 135.60cm (Zonal check) to 207.40cm (IET 28304). Among the checks, Zonal check recorded highest grain yield of 4368 kg/ha with 118 days to 50% flowering and 135.67cm plant height. Among the test entries, 12 test entries namely, IETs 28291, 28292, 28293, 28294, 28296, 28299, 28302, 28304, 28306, 28313, 28315 and 28317 recorded desirable plant height of more than 120cm with more than 15% yield superiority over the best check.

Adaptability parameters of entries in IVT-- SDW, Kharif 2019.

Entry No.	IET No.	Seedling Survival (%)		Submergence Tolerance		Elongation ability	
		GGT	MTU	GGT	MTU	GGT	MTU
601	28291	80	91.8	5	5	3	5
602	28292	85	96.2	5	3	5	5
603	28293	90	64.0	5	7	3	7
604	28294	85	92.2	5	5	3	5
605	28295	85	89.0	5	5	5	5
606	28296	90	88.7	5	5	3	5
607	28297	80	94.1	5	5	3	5
608	CR Dhan 506 (NC)	85	91.6	5	5	5	5
609	28298	85	92.0	5	5	1	5
610	28299	90	80.6	5	5	5	7
611	28300	90	89.5	5	5	1	7
612	28301	85	96.9	7	3	7	5
613	28302	80	83.3	7	5	5	7
614	28303	95	85.1	3	5	3	7
615	28304	95	68.8	3	7	3	9
616	28305	90	97.2	5	3	3	5
617	28306	90	87.4	3	5	5	5
618	28307	90	95.4	3	3	1	5
619	28308	75	96.7	7	3	5	5
620	28309	85	95.9	5	3	3	5
621	Zonal Check (ZC)	80	95.1	5	3	3	5
622	28310	85	89.2	5	5	5	7
623	28311	95	92.9	3	5	3	5
624	28312	90	94.8	5	3	3	5
625	28313	85	88.7	5	5	5	7
626	28314	90	88.3	5	5	1	7
627	28315	85	64.2	5	7	1	9
628	28316	75	89.8	5	5	1	5
629	28317	80	67.4	5	7	3	9
630	Local Check (LC)	95	95.1	3	3	3	5

Contd... Adaptability parameters of entries in IVT-- SDW, Kharif 2019.

Entry No.	IET No.	Phenotypic acceptability		Grain shattering		Kneeing ability
		GGT	MTU	GGT	MTU	MTU
601	28291	9	3	-	3	3
602	28292	5	3	3	3	3
603	28293	9	7	-	3	5
604	28294	3	3	1	5	3
605	28295	9	5	-	3	5
606	28296	3	5	1	1	5
607	28297	9	3	-	5	3
608	CR Dhan 506 (NC)	9	3	-	3	3
609	28298	7	3	3	5	3
610	28299	5	5	-	5	5
611	28300	7	5	5	5	5
612	28301	9	3	-	3	3
613	28302	9	5	-	5	5

Entry No.	IET No.	Phenotypic acceptability		Grain shattering		Kneeing ability	
		GGT	MTU	GGT	MTU	MTU	
614	28303	5	5	3	5	5	
615	28304	9	7	-	5	5	
616	28305	7	3	-	3	3	
617	28306	7	5	-	3	5	
618	28307	9	3	-	3	3	
619	28308	9	3	-	3	3	
620	28309	7	3	5	5	3	
621	Zonal Check (ZC)	7	3	1	3	3	
622	28310	9	5	-	3	5	
623	28311	9	3	-	5	3	
624	28312	9	3	-	5	3	
625	28313	3	5	5	3	5	
626	28314	9	5	-	3	5	
627	28315	9	7	-	3	5	
628	28316	7	5	-	5	5	
629	28317	9	7	-	3	5	
630	Local Check (LC)	3	3	1	3	3	

Performance of superior entries in IVT-SDW during Kharif 2019

S. No.	IET No. / Designation / Cross combination	GT	Zone III (3)		Zone VII (1)		Overall (4)	
			GY(Kg/ha)/ FD/PH (cm)	% BC	GY(Kg/ha)/ FD/PH (cm)	% BC	GY(Kg/ha)/ FD/PH (cm)	% BC
1	IET 28291	MS	-	-	5658 123 193	30	-	-
2	IET 28292	MS	-	-	5311 119 148	22	-	-
3	IET 28293	SB	5768 135 145	35	5757 125 183	32	5763 130 157	35
4	IET 28294	LS	-		5493 115 169	26	4529 119 131	6
5	IET 28296	LB	-	-	5195 105 143	19	4539 109 177	6
6	IET 28299	SB	-	-	5046 124 179	16	4720 130 139	10
7	IET 28302	MS	6070 138 136	42	7031 126 187	61	6551 132 153	53
8	IET 28304	SB	-	-	5919 121 207	36	-	-
9	IET 28305	MB	5391 131 139	26	-	-	5028 126 160	18
10	IET 28306	MB	-	-	5046 115 142	16	-	-

S. No.	IET No. / Designation / Cross combination	GT	Zone III (3)		Zone VII (1)		Overall (4)	
			GY(Kg/ha)/ FD/PH (cm)	% BC	GY(Kg/ha)/ FD/PH (cm)	% BC	GY(Kg/ha)/ FD/PH (cm)	% BC
11	IET 28311	MB	5721 132 129	34	-		4656 128 144	9
12	IET 28313	MS	4501 116 106	5	5063 114 141	16	4641 116 114	9
13	IET 28315	SB	-	-	5493 123 181	26	-	-
14	IET 28317	MB	5127 128 123	20	6237 125 176	43	5497 127 136	29
	CR Dhan506 (NC)		3757 130 122		4153 117 180		3955 123 141	
	Zonal Check		1959 122 153		4368 118 135		2561 121 149	
	Local check		4268 114 126		4285 119 133		4273 115 128	

In IVT-SDW, 14 test entries namely IETs 28291, 28292, 28293, 28294, 28296, 28299, 28302, 28304, 28305, 28306, 28311, 28313, 28315, and 28317 have achieved required yield advantage over the best, hence they have been promoted to second year of testing.

Table 2.12: Composition of entries in Advance Variety Trial 1-Semi Deep Water (AVT 1-SDW), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
3rd Year of testing:				
501	25912	CR 2667-5-1-2-1-1	Gayatri / AC.38599	SB
2nd Year of testing:				
502	27574	CR 4159-1 (IR 91610-Sub-Sub-36-2-1-CR 1)	IR07F308 / IR05N341	LB
503	CR Dhan 506 (NC)			
504	27583	RAU 1528-11	Rajendra Mahsuri // Swarna Sub-1	MS
505	27578	CR 3909-192-5-1-3-1	CN 1233-33-9 / IR 85260-148 // IR 72176-307-4-2-2-3	LB
506	26684	OR 2435-28	Indravati / MTU 10074	SB
507	Purnendu (Eastern)--ZC			
508	25212 (R)	OR 2413-9	Indravati / CN1231-11-1	SB
509	27576	RAU 1528-23	Rajendra Mahsuri // Swarna Sub-1	MS
510	Local Check			

Table 2.13: Grain Yield of entries in AVT 1-SDW WLM, Kharif 2019

Entry No	IET No	ZONE III									
		OD				OD(2)			WB (1)		
		BBN		CTK		mean			CHN		
501	25912	3792	8	4858	1 *	4325	2	5%	5646	4	7%
502	27574	4439	6	4838	2	4639	1	13%	4466	7	
503	CR Dhan 506 (NC)	3616	9	4202	3	3909	7		4394	8	
504	27583	4115	7	2622	10	3369	9		4503	6	
505	27578	5614	2	2976	6	4295	3		6100	3 *	16%
506	26684	4791	4	3686	5	4239	4		6300	2 *	20%
507	Purnendu (Eastern)--ZC	2587	10	3760	4	3174	10		3667	9	
508	25212	5673	1	2786	8	4230	5		6354	1 *	21%
509	27576	4468	5	2661	9	3565	8		3540	10	
510	Local Check	5409	3	2821	7	4115	6		5265	5	
Exp. Mean		4450.32		3521		3985.7			5023.6		
CD		1830.6		638.63		939.57			445.15		
CV%		23.98		10.57		13.74			5.17		
D/S		08-07-2019		12-07-2019					15-07-2019		
D/P		18-08-2019		07-08-2019					21-08-2019		
Local Check Name		Upahar		Reeta					Rajdeep		
*Superior to best check %superior over best check											
#Superior over hybrid check %Superior over hybrid check											

Table 2.13 contd.: Grain Yield of entries in AVT 1-SDW WLM, Kharif 2019

Entry No	IET No	ZONE III						ZONE III (5)			
		UP			UP(2)						
		MSD		GGT		mean		mean			
501	25912							4765	1 *	16%	
502	27574	2946	2 *	2467	4	2707	4	3831	7		
503	CR Dhan 506 (NC)							4071	6		
504	27583	2878	3	4956	1	3917	1	11%	3815	8	
505	27578	2128	5			2128	6		4205	3	
506	26684			1722	6	1722	7		4125	4	
507	Purnendu (Eastern)--ZC	1664	6	989	7	1327	8		2533	10	
508	25212			2422	5	2422	5		4309	2	4.79%
509	27576	3601	1 *	4133	3	3867	2	9%	3681	9	
510	Local Check	2619	4	4444	2	3532	3		4112	5	
Exp. Mean		2639.12		3019.05		2702.5		3944.6			
CD		325.32		584.37		404.82		566.71			
CV%		6.78		10.88		8.55		8.38			
D/S		11-07-2019		18-07-2019							
D/P		10-08-2019									
Local Check Name		NDR 8002		NDGR-201							
*Superior to best check %superior over best check											
#Superior over hybrid check %Superior over hybrid check											

Table 2.13 contd.: Grain Yield of entries in AVT 1-SDW Normal Kharif 2019

Entry No	IET No	ZONE III				ZONE III (2)	
		BI		WB			
		PSA		BNK		mean	
501	25912	5556	5	6167	6	5862	3
502	27574	5741	3	5886	8	5814	5
503	CR Dhan 506 (NC)	5556	4	6163	7	5860	4
504	27583	6343	1 * 14%	7053	2 10%	6698	1 14%
505	27578	4815	7	6200	5	5508	7
506	26684	3565	10	6337	4	4951	9
507	Purnendu (Eastern)--ZC	5046	6	4730	10	4888	10
508	25212	3611	9	8345	1 30%	5978	2
509	27576	6296	2 * 13%	5270	9	5783	6
510	Local Check	3935	8	6405	3	5170	8
Exp. Mean		5046.3		6255.64		5650.97	
CD		432.8		2179.3		1159.06	
CV%		5.00		20.31		11.96	
D/S		15-07-2019		16-07-2019			
D/P		01-08-2019		14-08-2019			
Local Check Name		Vaidehi		Sampriti			

Table 2.14: Days to 50% Flowering of entries in AVT 1-SDW WLM, Kharif 2019

Entry No	IET No	ZONE III							ZONE III (5)
		OD		OD(2)	WB	UP		UP(2)	
		BBN	CTK	Mean	CHN	MSD	GGT	Mean	Mean
501	25912	120	118	119	103				114
502	27574	119	130	125	121	113	99	106	117
503	CR Dhan 506 (NC)	124	127	126	114				122
504	27583	113	130	122	126	113	95	104	115
505	27578	113	121	117	107	126		126	117
506	26684	125	131	128	125		118	118	125
507	Purnendu (Eastern)--ZC	115	110	113	104	113	105	109	109
508	25212	134	130	132	131		117	117	128
509	27576	112	128	120	103	106	93	100	108
510	Local Check	123	119	121	118	112	90	101	112
Exp. Mean		120	124	122	115	114	102	110	117

Table 2.14 contd.: Days to 50% Flowering of entries in AVT 1-SDW Normal, Kharif 2019

Entry No	IET No	ZONE III		ZONE III (2)
		BI	WB	
		PSA	BNK	mean
501	25912	120	121	121
502	27574	93	109	101
503	CR Dhan 506 (NC)	110	117	114
504	27583	103	109	106
505	27578	93	122	107
506	26684	113	122	117
507	Purnendu (Eastern)--ZC	109	115	112
508	25212	118	120	119
509	27576	100	114	107
510	Local Check	99	122	111
Exp. Mean		106	117	111

Table 2.15: Plant Height of entries in AVT 1-SDW WLM, Kharif 2019

Entry No	IET No	ZONE III							ZONE III (5) Mean
		OD		OD(2)	WB	UP		UP(2)	
		BBN	CTK	Mean	CHN	MSD	GGT	Mean	
501	25912	145.00	127.00	136.00	127.67				133.22
502	27574	130.00	120.00	125.00	136.00	114.00	127.00	120.50	125.40
503	CR Dhan 506 (NC)	144.00	129.00	136.50	120.00				131.00
504	27583	122.00	82.00	102.00	124.00	106.00	108.40	107.20	108.48
505	27578	135.00	103.00	119.00	100.00	114.00		114.00	113.00
506	26684	134.00	116.00	125.00	126.33		118.10	118.10	123.61
507	Purnendu (Eastern)--ZC	175.00	155.00	165.00	154.00	141.00	159.30	150.15	156.86
508	25212	138.00	108.00	123.00	118.33		110.90	110.90	118.81
509	27576	118.00	81.00	99.50	103.67	105.00	106.10	105.55	102.75
510	Local Check	134.00	145.00	139.50	119.05	116.00	132.80	124.40	129.37
Exp. Mean		137.50	116.60	127.05	122.91	116.00	123.23	118.85	124.25

Table 2.15 contd.: Plant Height of entries in AVT 1-SDW Normal, Kharif 2019

Entry No	IET No	ZONE III		ZONE III (2) mean
		BI	WB	
		PSA	BNK	
501	25912	119.00	135.00	127.00
502	27574	116.00	120.00	118.00
503	CR Dhan 506 (NC)	108.00	124.00	116.00
504	27583	99.00	106.00	102.50
505	27578	111.00	110.00	110.50
506	26684	111.00	120.00	115.50
507	Purnendu (Eastern)--ZC	139.00	147.00	143.00
508	25212	105.00	111.00	108.00
509	27576	92.00	105.00	98.50
510	Local Check	145.00	116.00	130.50
Exp. Mean		114.50	119.40	116.95

Table 2.16: Panicle/m2 of entries in AVT 1-SDW WLM, Kharif 2019

Entry No	IET No	ZONE III							ZONE III (5) mean
		OD		OD(2)	WB	UP		UP(2)	
		BBN	CTK	mean	CHN	MSD	GGT	mean	
501	25912	220	297	259	286				268
502	27574	233	336	284	352	302	156	229	276
503	CR Dhan 506 (NC)	227	301	264	319				282
504	27583	247	286	267	330	297	288	292	290
505	27578	242	273	258	286	244		244	262
506	26684	232	283	257	330		249	249	273
507	Purnendu (Eastern)--ZC	226	297	261	308	236	218	227	257
508	25212	231	285	258	286		223	223	256
509	27576	261	253	257	319	302	203	252	267
510	Local Check	243	300	272	297	299	264	282	281
Exp. Mean		236	291	264	311	280	229	250	271

Table 2.16 contd.: Panicle/m2 of entries in AVT 1-SDW Normal, Kharif 2019

Entry No	IET No	ZONE III		ZONE III (2) mean
		BI	WB	
		PSA	BNK	
501	25912	179	209	194
502	27574	181	213	197
503	CR Dhan 506 (NC)	179	220	199
504	27583	177	225	201
505	27578	148	238	193
506	26684	169	243	206
507	Purnendu (Eastern)--ZC	180	220	200
508	25212	167	223	195
509	27576	156	235	195
510	Local Check	162	229	195
Exp. Mean		170	225	198

Table 2.17: Grain quality characteristics of entries in AVT 1-SDW, Kharif 2019

Entry No.	IET No.	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
501	25912	76.0	65.0	45.3	5.34	2.35	2.27	SB	VOC	5.0	24.34	22
502	27574	77.7	69.7	64.1	6.35	2.37	2.67	LB	VOC	5.0	24.58	68
503	CR Dhan 506	77.4	68.0	62.7	5.2	2.03	2.56	MS	VOC	7.0	24.58	36
504	27583	78.9	71.1	65.5	5.71	2.18	2.61	MS	A	7.0	25.19	55
505	27578	77.7	68.3	55.0	6.02	2.50	2.4	LB	VOC	4.0	26.95	45
506	26684	74.8	61.9	51.9	5.27	2.25	2.34	SB	VOC	6.0	24.43	37
507	Purnendu	77.0	66.4	59.8	5.2	2.33	2.23	SB	VOC	4.0	24.55	53
508	25212	78.4	68.6	55.1	5.55	2.50	2.22	SB	OC	6.0	24.37	55
509	27576	78.4	68.6	55.1	5.72	2.11	2.71	MS	OC	6.0	25.13	50

HULL: Hulling (%); MILLING (%): HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB::Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

Table 2.18: Composition of entries in Initial Variety Trial–Semi Deep Water (IVT-SDW), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
1st year of testing				
601	28291	CR 4021-5-34-1-3	IR 42 / IC 258990	MS
602	28292	MTU 1324 (MTU 2320-15-1-2-1)	PLA 99-1-3-13 / MTU 1075	MS
603	28293	CR 2682-7-1-2-1-2	CRLC 899 / AC.38606	SB
604	28294	OR 2518-7	Bhubana / IR 64	LS
605	28295	CR 2582-3-35-2-1-1-1	Varshadhan /IR 82809-237 (Swarna Sub1)	MB
606	28296	CN 1758-2-TTB 7	CN 1216 / CN 1131-4-1-4	LB
607	28297	CR 2859-1-5B-2-1-2B-5-2	Varshadhan / FL496	MS
608	CR Dhan 506 (NC)			
609	28298	NDGR 1542	PS 46 / CR780-1937-07-GHT-06	MB
610	28299	CR 4039-2-1-2-1-1	Varshadhan / Warda1	SB
611	28300	CR 3933-13-1-2-3-1	Pratikshya / Swarna Sub1	MB
612	28301	OR 2435-38	Indravati / MTU 1074	SB
613	28302	CR 4039-2-1-1-2-1	Varshadhan / Ac.38687	MS
614	28303	LPR 102-12-4-4-1	Ranjit / Sial Sali	MS
615	28304	CR 4039-1-2-3-1-2-1	Varshadhan / Warda1	SB
616	28305	CR 2582-3-35-2-1-1-2	Varshadhan / IR 82809-237 (Swarna-Sub1)	MB
617	28306	OR 2412-5	Indravati / IR 65629-22-1	MB
618	28307	CR 3155-13-1-7-2-2-1	Sarala / FL 496 / Samba Mahsuri Sub1	MS
619	28308	CR 3838-2-2-1-1-2	Savitri / Ac.38562 // Varshadhan	MS
620	28309	LPR 110-12-1-2-1	Ranjit / Salpona	MS
621	Purnendu (Eastern & North Eastern) and MTU 1172 (Southern) (ZC)			
622	28310	CR 3143-1-1-1-1-4-1	CR 1009 Sub1 / Samba Mahsuri Sub1	MS
623	28311	CR 3145-4-1-3-2-1-2	IR 49830-7 / Gayatri / FL 496	MB
624	28312	CR 3828-13-2-1-1-1	CR Dhan 500 / Varshadhan	SB
625	28313	MTU 1325 (MTU 2243-9-1-1-1-1)	MTU 1061 / MTU 1121	MS
626	28314	CR 3155-13-1-7-2-2-2	Sarala / FL 496 / Samba Mahsuri Sub1	MS
627	28315	CR 3933-39-2-1-2-1	Pratikshya / Swarna Sub1	SB
628	28316	NDGR-1541	PS 46 / NDR 8002-07-GHT-2	MB
629	28317	CR 3145-4-1-2-3-3-2	IR 49830-7 / Gayatri / FL 496	MB
630	Local Check			

Table 2.19: Grain Yield (Kg/ha) of entries in IVT SDW (WLM), Kharif 2019

Entry No.	IET No.	Zone															
		OD			OD (1)		WB		UP			UP (2)					
		@BBN	CTK		Mean		@CHN		MSD		GGT	Mean					
601	28291	2778		3356		3356		2662		1363				1363			
602	28292	4990	4	3111		3111		4745		3391	8	2000		2696	9		
603	28293	3755		5768	2	5768	2	6%	5961	6							
604	28294	4167	9	3493		3493			6019	5	5253	3 *	3875	3	4564	3 *	24%
605	28295	3086		4130		4130			6481	1							
606	28296	3395		4432		4432			4572		4455	5	4075	2 *	4265	4 *	16%
607	28297	2984		5101	8	5101	8		2720		1662				1662		
608	CR Dhan 506 (NC)	2726		3757		3757			3646								
609	28298	926		1304		1304			3356		2194	10	2625	7	2410	10	
610	28299	4733	7	4393		4393			5440	8							
611	28300	3601		5118	7	5118	7		4745		5718	1 *	2350	9	4034	5 *	9%
612	28301	5504	1	3414		3414			3356								
613	28302	4990	4	6070	1	6070	1	12%	5324	9							
614	28303	1595		3362		3362			3414		3590	7	2100		2845	8	
615	28304	3807		4814	9	4814	9		3472		864				864		
616	28305	1687		5391	5	5391	5		4051								
617	28306	3930		5249	6	5249	6		5787	7	1463				1463		
618	28307	2160		3740		3740			3241		2261	9			2261		
619	28308	4372	8	3492		3492			6481	1							
620	28309	4167	9	3325		3325			6250	3			3625	4	3625	7	
621	Zonal Check (ZC)	1698		2239		2239			3935		1363		2275	10	1819		
622	28310	3704		3261		3261			3067		1130		2550	8	1840		
623	28311	4012		5721	3	5721	3	5%	4803								
624	28312	4012		4628		4628			3762		1463				1463		
625	28313	5401	2	4007		4007			6076	4	5120	4 *	4375	1 *	4748	2 *	29%
626	28314	1646		4229		4229			3241								
627	28315	3395		3279		3279			3356								
628	28316	514		986		986			2199		1995		2700	6	2348		
629	28317	5041	3	4735	10	4735	10		4919		5519	2 *			5519	1 *	50%
630	Local Check (LC)	4990	4	5432	4	5432	4		5093	10	4023	6	3350	5	3687	6	
	Exp. Mean	3458.85		4044.59		4044.59			4405.86		2934.77		2991.67		2814.35		
	CD	2451.22		1381.99		1381.99			432.78		538.82		632.04		344.8		
	CV%	34.65		16.71		16.71			4.8		8.7		9.6		5.83		
	D/S	01-07-2019	05-07-2019						09-07-2019		06-07-2019		15-07-2019				
	D/P	18-08-2019	17-08-2019						21-08-2019		07-08-2019						
	Local Check Name	Upahar	CR DHAN						Rajdeep		NDR 8002		NDGR-201				

*Superior to best check %superior over best check

#Superior over hybrid check %Superior over hybrid check

Table 2.19 contd.: Grain Yield (Kg/ha) of entries in IVT SDW (WLM), Kharif 2019

Entry No.	IET No.	Zone III (3)		AP (1)			Overall (4)	
		Mean		MTU			Mean	
601	28291	2360		5658	5 * 30%	3459		
602	28292	2834		5311	8 22%	3453		
603	28293	5768	2 * 35%	5757	4 * 32%	5763	2 * 35%	
604	28294	4207		5493	6 * 26%	4529	9 6%	
605	28295	4130		4004		4067		
606	28296	4321	9	5195	9 19%	4539	8 6%	
607	28297	3382		4682	, 7%	3815		
608	CR Dhan 506	3757		4153		3955		
609	28298	2041		2018		2035		
610	28299	4393	8	5046	, 16%	4720	5 10%	
611	28300	4395	7	4523		4427	10	
612	28301	3414		2412		2913		
613	28302	6070	1 * 42%	7031	1 * 61%	6551	1 * 53%	
614	28303	3017		2101		2788		
615	28304	2839		5919	3 * 36%	3866		
616	28305	5391	4 * 26%	4665	, 7%	5028	4 * 18%	
617	28306	3356		5046	, 16%	3919		
618	28307	3001		2862		2954		
619	28308	3492		2657		3075		
620	28309	3475		3590		3513		
621	Zonal Check	1959		4368		2561		
622	28310	2314		4070		2753		
623	28311	5721	3 * 34%	3590		4656	6 9%	
624	28312	3046		3540		3210		
625	28313	4501	6 5%	5063	10 16%	4641	7 9%	
626	28314	4229		3607		3918		
627	28315	3279		5493	6 * 26%	4386		
628	28316	1894		3607		2322		
629	28317	5127	5 20%	6237	2 * 43%	5497	3 * 29%	
630	Local Check	4268	10	4285		4273		
	Exp. Mean	3732.62		4399.42		3919.5		
	CD	971.34		1073.54		643.71		
	CV%	12.72		11.93		8.03		
	D/S			08-07-2019				
	D/P			10-08-2019				
	Local Check			MTU 1140				

Table 2.19 contd.: Grain Yield (Kg/ha) of entries in IVT SDW (Normal), Kharif 2019

Entry No.	IET No.	Zone III					
		BI (1)		WB (1)		Zone III (2)	
		PSA		BNK		Mean	
601	28291	4700		4962		4831	
602	28292	5100		5890		5495	8
603	28293	4500		4890		4695	
604	28294	4600		6352	4	5476	9
605	28295	5100		4524		4812	
606	28296	5100		4943		5022	
607	28297	5000		4429		4715	
608	CR Dhan 506 (NC)	5600	7	6281	5	5941	4
609	28298	5800	6	4019		4910	
610	28299	4700		6500	3	5600	6
611	28300	6000	3	6052	9	6026	3
612	28301	5200	10	6205	6	5703	5
613	28302	3400		6910	2 * 10%	5155	
614	28303	5300	8	3852		4576	
615	28304	5900	4	4971		5436	10
616	28305	6600	1 * 6%	6162	7	6381	2 * 7%
617	28306	5200	9	5990		5595	7
618	28307	3500		4914		4207	
619	28308	2400		6033	10	4217	
620	28309	4000		5933		4967	
621	Zonal Check (ZC)	6200	2	4552		5376	
622	28310	5900	4	6943	1 * 11%	6422	1 * 8%
623	28311	3400		4524		3962	
624	28312	3000		5400		4200	
625	28313	2300		6105	8	4203	
626	28314	3500		4905		4203	
627	28315	3500		4710		4105	
628	28316	4000		4800		4400	
629	28317	3200		5790		4495	
630	Local Check (LC)	4400		6019		5210	
	Exp. Mean	4570		5452		5011	
	CD	490.4		1350.65		750.16	
	CV%	5.25		12.11		7.32	
	D/S	04-07-2019		03-07-2019			
	D/P	24-07-2019		20-08-2019			
	Local Check Name	Sudha		Sampriti			

*Superior to best check %superior over best check

#Superior over hybrid check %Superior over hybrid check

Table 2.20: Days to 50% flowering of entries in IVT SDW (WLM), Kharif 2019

Entry No.	IET NO	ZONE III							Zone III (3)	ZONE VII	Overall (4)
		OD		OD (1)	WB	UP		UP (2)		AP	
		@BBN	CTK	Mean	@CHN	MSD	GGT	Mean	Mean	MTU	Mean
601	28291	118	134	134	129	129		129	132	123	129
602	28292	132	138	138	124	124	105	114	122	119	121
603	28293	139	135	135	134				135	125	130
604	28294	130	136	136	125	115	112	113	121	115	119
605	28295	132	133	133	126				133	118	125
606	28296	119	123	123	116	113	96	105	111	105	109
607	28297	125	123	123	121	127		127	125	119	123
608	CR Dhan 506 (NC)	132	130	130	127				130	117	123
609	28298	111	109	109	105	114	104	109	109	106	108
610	28299	134	137	137	139				137	124	130
611	28300	139	140	140	126	121	113	117	125	127	125
612	28301	137	138	138	131				138	126	132
613	28302	143	138	138	106				138	126	132
614	28303	120	122	122	111	107	94	100	108	112	109
615	28304	137	136	136	117	129		129	132	121	128
616	28305	132	131	131	131				131	121	126
617	28306	138	135	135	127	124		124	129	115	125
618	28307	143	137	137	133	130		130	133	128	131
619	28308	125	131	131	125				131	116	123
620	28309	131	137	137	123		104	104	121	112	118
621	Zonal Check (ZC)	121	117	117	117	131	119	125	122	118	121
622	28310	138	138	138	139	124	120	122	127	125	127
623	28311	132	132	132	137				132	124	128
624	28312	134	137	137	126	133		133	135	127	132
625	28313	125	132	132	115	114	104	109	116	114	116
626	28314	138	137	137	126				137	126	131
627	28315	133	133	133	124				133	123	128
628	28316	111	127	127	105	112	103	108	114	110	113
629	28317	140	138	138	126	117		117	128	125	127
630	Local Check (LC)	130	132	132	118	115	96	105	114	119	115
	Exp Mean	130	132	132	124	121	106	117	126	119	123

Table 2.20 contd.: Days to 50% flowering of entries in IVT SDW (Normal), Kharif 2019

Entry No.	IET NO	Zone III		
		BI (1)	WB (1)	Zone III (2)
		PSA	BNK	Mean
601	28291	140	137	138
602	28292	122	128	125
603	28293	132	135	133
604	28294	116	134	125
605	28295	125	136	131
606	28296	113	130	121
607	28297	122	134	128
608	CR Dhan 506 (NC)	130	131	130
609	28298	111	135	123
610	28299	140	140	140
611	28300	147	130	139
612	28301	117	133	125
613	28302	143	140	141
614	28303	140	136	138
615	28304	135	138	136
616	28305	130	126	128
617	28306	125	135	130
618	28307	132	137	135
619	28308	141	132	137
620	28309	119	130	125
621	Zonal Check (ZC)	119	133	126
622	28310	120	135	127
623	28311	132	142	137
624	28312	140	147	144
625	28313	120	139	129
626	28314	125	132	129
627	28315	139	138	139
628	28316	142	132	137
629	28317	145	139	142
630	Local Check (LC)	112	122	117
	Exp Mean	129	135	132

Table 2.21: Plant Height (cm) of entries in IVT SDW (WLM), Kharif 2019

Entry No.	IET NO	ZONE III							Zone III (3)	ZONE VII	Overall (4)
		OD		OD (1)	WB	UP		UP (2)		AP	
		@BBN	CTK	Mean	@CHN	MSD	GGT	Mean	Mean	MTU	Mean
601	28291	132.00	170.00	170.00	154.33	166.00	151.00	158.50	162.33	193.20	170.05
602	28292	135.00	105.00	105.00	113.33	126.00	100.00	113.00	110.33	148.20	119.80
603	28293	146.00	157.00	157.00	140.67		133.00	133.00	145.00	183.90	157.97
604	28294	132.00	116.00	116.00	128.67	128.00	112.00	120.00	118.67	169.90	131.48
605	28295	145.00	133.00	133.00	139.00		126.00	126.00	129.50	183.30	147.43
606	28296	130.00	120.00	120.00	126.33	326.00	121.00	223.50	189.00	143.50	177.63
607	28297	154.00	149.00	149.00	163.33	147.00	135.00	141.00	143.67	179.20	152.55
608	CR Dhan 506 (NC)	136.00	130.00	130.00	123.33		114.00	114.00	122.00	180.90	141.63
609	28298	140.00	145.00	145.00	139.67	175.00	162.00	168.50	160.67	140.60	155.65
610	28299	118.00	126.00	126.00	122.33		112.00	112.00	119.00	179.30	139.10
611	28300	148.00	153.00	153.00	142.67	154.00	150.00	152.00	152.33	174.40	157.85
612	28301	112.00	106.00	106.00	101.33		95.00	95.00	100.50	138.90	113.30
613	28302	155.00	151.00	151.00	149.00		122.00	122.00	136.50	187.30	153.43
614	28303	142.00	155.00	155.00	178.67	158.00	155.00	156.50	156.00	180.40	162.10
615	28304	158.00	147.00	147.00	177.67	155.00	144.00	149.50	148.67	207.40	163.35
616	28305	144.00	154.00	154.00	137.00	.	125.00	125.00	139.50	202.40	160.47
617	28306	125.00	124.00	124.00	128.67	128.00	107.00	117.50	119.67	142.00	125.25
618	28307	144.00	165.00	165.00	160.00	167.00	154.00	160.50	162.00	203.80	172.45
619	28308	128.00	115.00	115.00	109.33		104.00	104.00	109.50	153.60	124.20
620	28309	132.00	119.00	119.00	117.33		110.00	110.00	114.50	146.10	125.03
621	Zonal Check (ZC)	157.00	158.00	158.00	154.67	162.00	141.00	151.50	153.67	135.60	149.15
622	28310	128.00	112.00	112.00	127.67	127.00	110.00	118.50	116.33	139.10	122.03
623	28311	146.00	133.00	133.00	145.33		125.00	125.00	129.00	174.50	144.17
624	28312	148.00	145.00	145.00	145.33	175.00	128.00	151.50	149.33	197.90	161.48
625	28313	122.00	113.00	113.00	112.67	112.00	93.00	102.50	106.00	141.70	114.93
626	28314	146.00	169.00	169.00	159.67		148.00	148.00	158.50	192.40	169.80
627	28315	150.00	171.00	171.00	150.00		151.00	151.00	161.00	181.90	167.97
628	28316	145.00	151.00	151.00	167.67	165.00	157.00	161.00	157.67	162.40	158.85
629	28317	135.00	132.00	132.00	145.67	124.00	115.00	119.50	123.67	176.20	136.80
630	Local Check (LC)	138.00	141.00	141.00	119.00	118.00	121.00	119.50	126.67	133.80	128.45
	Exp Mean	139.03	138.83	138.83	139.34	156.28	127.37	134.98	137.37	169.13	146.81

Table 2.21 contd.: Plant Height (cm) of entries in IVT SDW (Normal), Kharif 2019

Entry No.	IET NO	Zone III		
		BI (1)	WB (1)	Zone III (2)
		PSA	BNK	Mean
601	28291	138.00	153.00	145.50
602	28292	100.00	110.00	105.00
603	28293	121.00	140.00	130.50
604	28294	111.00	126.00	118.50
605	28295	125.00	151.00	138.00
606	28296	100.00	128.00	114.00
607	28297	130.00	133.00	131.50
608	CR Dhan 506 (NC)	108.00	134.00	121.00
609	28298	134.00	126.00	130.00
610	28299	99.00	127.00	113.00
611	28300	124.00	140.00	132.00
612	28301	82.00	100.00	91.00
613	28302	107.00	133.00	120.00
614	28303	131.00	150.00	140.50
615	28304	126.00	151.00	138.50
616	28305	120.00	140.00	130.00
617	28306	107.00	115.00	111.00
618	28307	132.00	157.00	144.50
619	28308	80.00	117.00	98.50
620	28309	108.00	118.00	113.00
621	Zonal Check (ZC)	127.00	128.00	127.50
622	28310	107.00	120.00	113.50
623	28311	111.00	135.00	123.00
624	28312	122.00	144.00	133.00
625	28313	77.00	113.00	95.00
626	28314	124.00	159.00	141.50
627	28315	137.00	169.00	153.00
628	28316	134.00	150.00	142.00
629	28317	107.00	135.00	121.00
630	Local Check (LC)	131.00	118.00	124.50
	Exp Mean	115.33	134.00	124.67

Table 2.22: Panicles/m2 of entries in IVT SDW (WLM), Kharif 2019

Entry No.	IET NO	ZONE III								ZONE VII	Overall (4)
		OD		OD (1)	WB	UP		UP (2)	Zone III (3)	AP	
		@BBN	CTK	Mean	@CHN	MSD	GGT	Mean	Mean	MTU	
601	28291	213	245	245	281	258		258	251	297	266
602	28292	253	311	311	314	254	138	196	234	297	250
603	28293	205	307	307	314				307		307
604	28294	260	327	327	330	336	196	266	286		286
605	28295	241	277	277	314				277	330	304
606	28296	222	317	317	281	295	200	247	271	330	285
607	28297	226	339	339	264	231		231	285		285
608	CR Dhan 506 (NC)	224	281	281	264				281		281
609	28298	200	215	215	264	260	169	215	215		215
610	28299	208	271	271	231				271		271
611	28300	171	231	231	264	316	176	246	241	297	255
612	28301	269	274	274	429				274	330	302
613	28302	208	277	277	330				277	330	304
614	28303	194	244	244	264	248	159	203	217		217
615	28304	219	337	337	314	208		208	272		272
616	28305	211	281	281	347				281		281
617	28306	243	340	340	347	195		195	268		268
618	28307	190	248	248	314	203		203	225		225
619	28308	255	320	320	297				320		320
620	28309	249	405	405	330		174	174	289		289
621	Zonal Check (ZC)	238	261	261	281	188	165	176	204		204
622	28310	244	261	261	264	235	169	202	221	297	240
623	28311	226	278	278	396				278	297	287
624	28312	195	396	396	281	188		188	292	264	283
625	28313	260	317	317	396	288	236	262	280	413	313
626	28314	231	271	271	347				271	264	267
627	28315	213	254	254	330				254		254
628	28316	185	195	195	264	240	202	221	212	198	209
629	28317	227	416	416	330	311		311	363		363
630	Local Check (LC)	250	264	264	297	282	237	259	261	264	262
	Exp Mean	224	292	292	309	252	185	224	266	301	272

Table 2.22 contd.: Panicles/m² of entries in IVT SDW (Normal), Kharif 2019

Entry No.	IET NO	Zone III (2)		
		BI (1)	WB (2)	Zone III (2)
		PSA	BNK	Mean
601	28291	191	197	194
602	28292	154	209	182
603	28293	159	218	188
604	28294	74	271	172
605	28295	166	238	202
606	28296	148	266	207
607	28297	143	214	179
608	CR Dhan 506 (NC)	161	219	190
609	28298	176	203	189
610	28299	180	239	209
611	28300	123	221	172
612	28301	147	224	185
613	28302	166	271	218
614	28303	128	241	184
615	28304	133	246	189
616	28305	146	222	184
617	28306	118	214	166
618	28307	132	157	144
619	28308	142	247	194
620	28309	124	218	171
621	Zonal Check (ZC)	130	180	155
622	28310	121	248	184
623	28311	129	192	160
624	28312	135	254	195
625	28313	144	239	192
626	28314	136	216	176
627	28315	132	202	167
628	28316	144	248	196
629	28317	152	248	200
630	Local Check (LC)	148	257	202
	Exp Mean	142	227	185

INITIAL VARIETY TRIAL– DEEP WATER (IVT-DW)**Locations: 04****Test Entries: 05****Checks: CR Dhan 500 (National), Dinesh (Zonal) and Local Check Table: 2.23**

IVT-DW trial was constituted with five test entries and three checks viz., CR Dhan 500 (National), Dinesh (Zonal) and Local Check. Among the five test entries, four entries were in first year of testing and one test entry IET 26741 (repeat) was in second year of testing. The trial was sent to seven locations and data was received from five locations. Among the five locations, the required water level (75 -120cm) was not maintained at Cuttack and PUSA, while information about water level was received from Chinsurah. Hence, data from these locations was not considered for evaluating the test entries. At Ghagharaghat, required water level (75 -120cm) was maintained, hence, data was considered for analysis. Data on adaptability parameters was not received any centres. The data pertaining to yield, days to 50% flowering, plant height, no. of panicles/m² and quality are presented in tables 2.24, 2.25, 2.26, 2.27 and 2.28. The findings of the experiment are discussed below.

Details of water regimes at different centres in IVT-DW, Kharif 2019

Location	Week	June	July	August	September	October	November	December
Ghagharaghat	1 st	-	-	15	64	127	56	-
	2 nd	-	-	32	71	117	30	-
	3 rd	-	-	53	108	97	18	-
	4 th	-	-	62	121	80	08	-
NRRI, Cuttack	1 st	-	-	10	35	50	25	10
	2 nd	-	-	20	40	55	20	10
	3 rd	-	10	30	40	40	20	-
	4 th	-	10	30	45	30	15	-
Pusa	1 st	10	31	52	71	40	-	-
	2 nd	14	35	75	80	30	-	-
	3 rd	19	31	70	96	25	-	-
	4 th	22	37	62	60	15	-	-
Chinsurah	No information							

Adaptability parameters of entries in IVT-DW, Kharif 2019.

Entry No.	IET No.	Seedling Survival (%)	Kneeing ability	Elongation	PACP	Grain shattering
		GGT	GGT	GGT	GGT	GGT
701	28318	-	-	-	-	-
702	28319	80	3	3	3	-
703	CR Dhan 500 (NC)	60	3	3	5	3
704	28320	-	-	-	-	-
705	Dinesh (ZC)	70	3	1	5	1
706	28321	-	-	-	-	-
707	26741 (R)	85	3	1	3	-
708	Local Check (LC)	80	1	1	3	1

Performance of superior test entries IVT-DW during Kharif 2019

Zone III (1)				
S. No.	IET No. /Designation/ Cross Combination	GY (Kg/ha) DFF/ GT	% over best check	Remarks
1	IET 28319 CR 3993-13-58-3 CR 1009/O. brachyantha// CR 1009	3200 132 LB	17	Promoted to second year of testing
2	IET 26741 (R) NDGR 706 Pankaj/Jalnidhi	3567 117 SB	31	Promoted to third year of testing
	CR Dhan 500 (NC)	2000 133		
	Dinesh (ZC)	2400 133		
	Local Check	3733 (BC) 117		

In Zone III, data from Ghagharaghat was considered for evaluating the performance of test entries. Grain mean yield of the entries varied from 2000 kg/ha (CR Dhan 500) to 3567 kg/ha (IET 26741), days to 50% flowering ranged from 117 days (Local check and IET 26741) to 133 days (CR Dhan 500 and Dinesh). Among checks, Local check recorded highest grain yield of 2733 kg/ha with 117 days to 50% flowering. **Among test entries, IET 28319 (17%) and IET 26741 (31%) recorded required yield advantage (15%) over the best check, hence, promoted to second and third year of testing respectively.**

Table 2.23: Composition of entries in Initial Variety Trial–Deep Water (IVT-DW), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
1st year of testing				
701	28318	CR 3993-13-58-3	CR 1009 / O. brachyantha // CR 1009	SB
702	28319	NDGR 709	NDR-207 / IR 49906-B-B-B-10-GHT-2	LB
703	CR Dhan 500 (NC)			
704	28320	CR 3993-14-13-24	CR 1009/O. brachyantha // CR 1009	SB
705	Dinesh (ZC)			
706	28321	CR 3993-11-45-3	CR1009 / O. brachyantha // CR 1009	SB
2nd year of testing				
707	26741 (R)	NDGR 706	Pankaj / Jalnidhi	SB
708	Local Check			

Table 2.24: Grain Yield of entries in IVT DW-WLM, Kharif 2019

Entry No	IET No	ZONE III		ZONE III (1)	
		UP(1)		Mean	
		GGT			
701	28318				
702	28319	3200	2 17%	3200	2 17%
703	CR Dhan 500 (NC)	2000	5	2000	5
704	28320				
705	Dinesh (ZC)	2400	4	2400	4
706	28321				
707	26741	3567	1 * 31%	3567	1 * 31%
708	Local Check (LC)	2733	3	2733	3
Exp. Mean		2780		2780	
	CD	583.88		583.88	
	CV%	11.15		11.15	
	D/S	02-07-2019			
	D/P				
Local Check Name		Jalnidhi			

Table 2.24 contd.: Grain Yield of entries in IVT DW Normal Kharif 2019

Entry No	IET No	ZONE III						ZONE III (3)	
		OD		BI		WB			
		CTK		PSA		CHN		mean	
701	28318	6724	1	19%	2800	8	5867	3	5130
702	28319	2715	6		3700	4	5440	6	3952
703	CR Dhan 500 (NC)	5447	5		3533	7	5752	4	4911
704	28320	5896	2		3900	2	6168	1	5321
705	Dinesh (ZC)	2705	7		3667	6	4389	7	3587
706	28321	5698	3		3667	5	5867	2	5077
707	26741	1819	8		3700	3	4135	8	3218
708	Local Check (LC)	5666	4		4433	1	5660	5	5253
Exp. Mean		4584			3675		5410		4708
CD		1158.21			529.44		519.23		588.09
CV%		14.43			8.23		5.48		7.13
D/S		05-07-2019			04-07-2019		03-07-2019		
D/P		06-08-2019			26-07-2019		05-08-2019		
Local Check Name		CRDhan 508			Vaidehi		Rajdeep		

Table 2.25: Days to 50% Flowering of entries in IVT DW-WLM, Kharif 2019

Entry No	IET No	ZONE III	ZONE III (1) Mean
		UP(1)	
		GGT	
701	28318		
702	28319	132	132
703	CR Dhan 500 (NC)	133	133
704	28320		
705	Dinesh (ZC)	133	133
706	28321		
707	26741	117	117
708	Local Check (LC)	117	117
Exp. Mean		126	126

Table 2.25 contd.: Days to 50% Flowering of entries in IVT DW Normal Kharif 2019

Entry No	IET No	ZONE III			ZONE III (3)
		OD	BI	WB	
		CTK	PSA	CHN	Mean
701	28318	118	125	123	122
702	28319	103	102	121	109
703	CR Dhan 500 (NC)	116	120	123	120
704	28320	119	125	121	122
705	Dinesh (ZC)	122	124	123	123
706	28321	119	125	124	123
707	26741	110	109	113	110
708	Local Check (LC)	130	108	124	121
Exp. Mean		117	117	121	119

Table 2.26: Plant Height of entries in IVT DW-WLM, Kharif 2019

Entry No	IET No	ZONE III		ZONE III (1)
		UP(1)		
		GGT		mean
701	28318			
702	28319	147.00		147.00
703	CR Dhan 500 (NC)	143.00		143.00
704	28320			
705	Dinesh (ZC)	172.00		172.00
706	28321			
707	26741	184.00		184.00
708	Local Check (LC)	209.00		209.00
Exp. Mean		171.00		171.00

Table 2.26 contd.: Plant Height of entries in IVT DW Normal Kharif 2019

Entry No	IET No	ZONE III			ZONE III (3) Mean
		OD	BI	WB	
		CTK	PSA	CHN	
701	28318	152.00	98.00	123.00	124.33
702	28319	148.00	113.00	121.00	127.33
703	CR Dhan 500 (NC)	193.00	134.00	123.00	150.00
704	28320	147.00	100.00	121.00	122.67
705	Dinesh (ZC)	191.00	164.00	123.00	159.33
706	28321	150.00	106.00	124.00	126.67
707	26741	182.00	185.00	113.00	160.00
708	Local Check (LC)	117.00	175.00	124.00	138.67
Exp. Mean		160.00	134.38	121.50	138.63

Table 2.27: Panicle/m² of entries in IVT DW-WLM, Kharif 2019

Entry No	IET No	ZONE III	ZONE III (1) mean
		UP(1)	
		GGT	
701	28318		
702	28319	182	182
703	CR Dhan 500 (NC)	153	153
704	28320		
705	Dinesh (ZC)	169	169
706	28321		
707	26741	190	190
708	Local Check (LC)	160	160
Exp. Mean		171	171

Table 2.27 contd.: Panicle/m² of entries in IVT DW Normal Kharif 2019

Entry No	IET No	ZONE III			ZONE III (3) Mean
		OD	BI	WB	
		CTK	PSA	CHN	
701	28318	303	215	242	253
702	28319	334	239	242	272
703	CR Dhan 500 (NC)	220	255	176	217
704	28320	292	223	242	252
705	Dinesh (ZC)	205	235	231	224
706	28321	257	249	242	249
707	26741	321	221	220	254
708	Local Check (LC)	295	226	198	240
Exp. Mean		278	233	224	245

ADVANCE VARIETY TRIAL 2 EARLY – TRANSPLANTED (AVT 2- E TP)

Locations: 09**Test Entries: 05**

Checks: CO 51-National, PR 124 (Northern), Narendra 97 (Eastern), Luit (North Eastern), Sahbhagidhan (Central & Western), MTU 1153 (Southern)-Zonal, US 314-Hybrid and Local Check **Table: 3.1**

Advance Variety Trial-2 Early Transplanted (AVT 2- E TP) constituted with 09 entries including four checks viz., national, zonal, hybrid and local checks. This trial was sent to 09 locations; however, data was received from 08 locations except Jabalpur. The conduct of the trial at all the locations was satisfactory. CV% at different locations was within acceptable limits except for Pantnagar (20.22), hence this location data was not included in the data analysis. The experimental mean grain yields ranged from 4471.45 kg/ha at Ludhiana to 6927 kg/ha at Rewa (Table 3.2). The data pertaining to yield, days to 50% flowering, plant height, panicles/m² and quality are presented in the tables 3.2, 3.3, 3.4, 3.5 and 3.6 respectively.

Zone wise performance of the entries is discussed here under:

The advance variety trial-2 early transplanted was conducted in zone II and zone V. The performance of entries in each zone is discussed below.

Zone II

The northern zone was represented by three locations Pantnagar, Ludhiana and Kaul. However, data from the Pant Nagar (PNT) was not included owing to high CV (20.22%). The experimental mean of the locations was 4471.45 kg/ha at Ludhiana and 4845.2 kg/ha at Kaul. Mean yield of the entries in this zone ranged from 3831 kg/ha (CO 51; National check) to 5565 kg/ha (Zonal check). None of the entries showed required yield superiority over the best check and hence none found promising.

Zone V

The central zone was represented by five locations Rewa (REW), Jagadapur (JDP), Bilaspur (BLP), Sakoli (SKL) and Sindewahi (SND) representing three states. However, data from Sindewahi location was not included owing to low yields (1692 kg/ha) and high CV (23.17%). The mean yield of entries in this location ranged from 5137 kg/ha (Local check) to 7503 kg/ha (IET 26468). The following two hybrid entries IET 26468 and IET 26477 showed required yield superiority of 37.5 and 29% over the best varietal check and 27.01 and 19% over hybrid check respectively. Hence IET 26468 and IET 26477 found promising for Zone V.

Three years performance of entries:

In three years of testing IET 26468 (JKRH 2354) and IET 26477 (RH-150025) performed well against the best varietal and hybrid checks with significant yield advantage in Chhattisgarh state only. However, they failed to show yield advantage over best varietal and hybrid check consecutively in the first and second year of testing in the states of Madhya Pradesh and Maharashtra.

Three year performance of promising entries in AVT 2-E TP, Kharif 2019

IET No/ Designation / Cross Combination	Year	Zonal mean yield FD/GT	Yield adv (%) over NC/ ZC/ LC/HC	% Increase over best check					
				State			Zone/ Region		
				Rank	%BC	% HC	Rank	%BC	%HC
26468 JKRH 2354 (Hybrid)	2019	7503	41.9	CH-1	28	24	Z V-1	37.5	27.01
		90	37.5	MP-1	43	19			
		LB	46.05 27.01	MA-1	28	47			
	2018	6190	24.3	CH-1	43	50	Z V-1	17.5	10
		93	17.5						
		LB	9.9 42.5						
	2017	7362	19.6	CH	16.71	42.90	Z V	19.53	18.91
		86	36.30						
		LB	19.53 18.91						
26477 RH-150025 (Hybrid)	2019	7045	33.30	CH-2	25	22	Z V-2	29	19
		91	29.17	MP-2	38	15			
		SB	37.14 19.26						
	2018	6021	21.0	CH-4	21	27	Z V-3	14	7
		88	14.3						
		SB	6.9 38.6						
	2017	6979	13.40	CH	18.39	44.9	Z V	13.31	12.72
		85	29.21						
		SB	13.31 12.72						

IET 26468 (JKRH 2354) a private hybrid from JK Seeds with 86 to 93 days to 50% flowering and long bold grains. It was found superior in performance over best varietal and hybrid check in the Zone V and found to be promising in the state of Chhattisgarh only during three years of testing from 2017 to 2019. Quality wise, it exhibited high HRR (65.0%), intermediate AC (21.2%), 4.0 ASV and 51 mm GC.

IET 26477 (RH-150025) a private hybrid from UPL with 85 to 91 days to 50% flowering and short bold grains. It was found superior in performance over best varietal and hybrid check in the Zone V and found to be promising in the state of Chhattisgarh only during three years of testing from 2017 to 2019. Quality wise, it exhibited high HRR (65.1%), intermediate AC (23.46%), 4.5 ASV and 24 mm GC.

ADVANCE VARIETY TRIAL 1 EARLY - TRANSPLANTED (AVT 1- E TP)

Locations:	44	Test Entries:	46
Checks:	CO 51-National, PR 124 (Northern), Narendra 97 (Eastern), Luit (North Eastern), Sahbhagidhan (Central & Western), MTU 1153 (Southern)-Zonal, US 314-Hybrid, Local Check and ADT 45 (Recurrent Parent)	Table:	3.7

Advance Variety Trial-1 Early Transplanted (AVT 1- E TP) constituted with 46 entries including four checks viz., national, zonal, hybrid, local check; four near isogenic lines and one recurrent parent. This trial was sent to 44 locations; however, data was received from 34 locations. The conduct of the trial at all the locations was satisfactory. CV% at different locations was within acceptable limits except for Wangbal (low CV 4.15%), Maruteru (low CV 4.62%), Lembucherra (high CV 22.59%) and Bikramganj (high CV 23.81%), whereas low mean experimental yield was recorded in locations viz., Ludhiana (2850 kg/ha), Wangbal (1988 kg/ha), Sindewahi (2345 kg/ha) and Ranchi (3579 kg/ha). hence these location data were not included in the data analysis. The experimental mean grain yields ranged from 4004 kg/ha at Sakoli to 8680 kg/ha at Gangavati (Table 3.8). The data pertaining to yield, days to 50% flowering, plant height, panicles/m² and quality are presented in the 3.8, 3.9, 3.10, 3.11 and 3.12 respectively.

Zone wise performance of the entries is discussed here under:

Zone II

The northern hill zone was represented by three locations Pantnagar, Ludhiana and Kaul. However, data from the location Kaul was not received and the data from the location Ludhiana was not included owing to low experimental mean yield (2850 kg/ha). Hence this zone is represented by only one location Pantnagar. The experimental mean of the location Pantnagar was 5645 kg/ha and the mean yield of the entries in this zone II ranged from 4644 kg/ha (IET 27874) to 7867 kg/ha (IET 26464). The following five varietal entries viz., IET's 27869, 27914, 27883, 27891 and 26464 showed required yield superiority over the best checks. The days to 50% flowering in entries ranged from 76 to 85 days, whereas national, zonal, local and hybrid checks flowered in 71, 94, 76 and 80 days respectively. IET 26464 a repeat entry recorded low AC (18.94%) hence dropped. IET 27891 is dropped due to high AC (26.22%) and hard GC (22mm). The following three entries viz., IET's 27869, 27914 and 27883 qualify for promotion to AVT 2-E TP.

Zone III

The eastern region was represented by twelve locations BBN, CTK, JYP, BKG, PTN, RCI, HZB, GHK, CHN, PNB, MSD and VRN spread across five states. However, the data from BBN (Bhubaneswar) and GHK (Gharkhatanga) was not received and the data from BKG (Bikramganj; high CV 23.81%) and RCI (Ranchi; low experimental mean 3579 kg/ha) were not included in the data analysis. The experimental mean of the locations ranged from was 4518 kg/ha at Cuttack to 8005 kg/ha at Varanasi. Mean yield of the entries in the zone II ranged from 4809 kg/ha (IET 26763) to 6926 kg/ha (IET 27329). Based on quality parameters,

IET 27891 dropped due to high AC (26.22%) and hard GC (22mm). Another entry IET 27907 shifted to IME trial as it had 97 days to 50% flowering. The following seven entries viz., IET's 27866, 27329, 27328, 27332, 27340, 26898 and 27880 registered required yield superiority over best check with the acceptable flowering duration and qualify for next stage evaluation.

Zone IV

The north eastern region was represented by four locations viz., Titabar, Arundhuti nagar, Lembucherra and Wangbal. The data from Titabar and Arundhuti nagar was not received and the data from Lembucherra and Wangbal were not included in the analysis owing to high or low CV and low experimental mean yield. Hence none of the entries promoted to AVT 2-E TP.

Zone V

The central zone was represented by five locations Rewa, Jabalpur, Jagadalpur, Sakoli and Sindewahi. However, data from Jabalpur was not received and data from Sindewahi was not included owing to low experimental mean yield (2345 kg/ha). The experimental mean yield of the location ranged from 4004 kg/ha at Sakoli to 5499 kg/ha at Jagadalpur. The mean yield of entries in this zone ranged from 3714 kg/ha (IET 27882) to 5622 kg/ha (Hybrid check). The following six entries showed required yield superiority over the best checks viz., IETs 27869, 27866, 27892, 27914, 27920 and 27905. IET 27923 shifted to IME trial as it had 96 days to 50% flowering. The six entries viz., IET's 27869, 27866, 27892, 27914, 27920 and 27905 qualify to be promoted to AVT 2 -E TP

Zone VI

The western zone was represented by eight locations Karjat, Radhanagari, Shirgaon, Vadagaon, Palghar, Nawagam, Dabhoi and Vyara. However, data from Radhanagari and palghar were not received and the data from Karjat was not included in analysis owing to low experimental mean yield (3073.7 kg/ha). The experimental mean of the locations ranged from 4833 kg/ha at Vyara to 5142 kg/ha at Vadagaon. Mean yield of entries ranged from 4555 kg/ha (Zonal check) to 5977 kg/ha (Hybrid check). Only one entry IET 27874 showed required yield advantage over best check but had low AC (17.48%), hence none of the entries were promoted to AVT 2-E TP.

Zone VII

The southern zone was represented by twelve locations namely Maruteru, Rudrur, Kunaram, Warangal, Aduthurai, Coimbatore, Moncompu, Pattambi, Mandya, Bhahmavar, Gangavati and Kurumbapet. The data from Rudrur was not received and the data from Maruteru and Bhahmava were not included in the analysis due to low CV and less experimental mean yield. The experimental mean of the locations ranged from 4795 kg/ha (Pattambi) to 8680 kg/ha (Gangavati). Mean yield of entries ranged from 5504 kg/ha (IET 28038) to 7881 Kg/ha (IET 27328). Among the test varietal entries, only one entry IET 27328 showed required yield advantage over best varietal and hybrid check. Quality wise, it had high HRR (68.4%), AC (25.40%), ASV (4) and GC (40mm), hence promoted to AVT 2-E TP.

Performance of entries in AVT 1-E TP, Kharif 2019

IET No	ZONE II				ZONE III				ZONE IV			
	Yield Kg/ha	FD	% BVC	% HC	Yield Kg/ha	FD	% BVC	% HC	Yield Kg/ha	FD	% BVC	% HC
27882					5464	85	-	-				
27874	4644	81	-	-	5546	88	-	-				
27869	5887	85	16.34	-	5623	84	-	-				
27866	5645	85	-	-	6248	87	11.83					
27892					5747	87	-	-				
27890					5548	89	-	-				
27907					6192	97	10.82	-				
27914	6342	82	25.3	-	5450	88	-	-				
27870					5490	92	-	-				
27905					5077	82	-	-				
27883	5904	76	16.6	-	5711	85	-	-				
27871	5251	79	-	-								
CO 51 NC	5060	71	-	-	5185	83	-	-				
27329 (H)					6926	90	24	11.63				
27328 (H)					6592	87	18	6.25				
27332 (H)					6586	86	17.88	6.15				
27342 (H)					5737	82	-	-				
27343 (H)	6502	79	28.4	-	6006	86	7.49	-				
27340 (H)					6563	92	17.46	5.78				
US314 HC	6496	80	-	-	6204	82	-	-				
26898					5928	86	6.10	-				
27894					5583	90	-	-				
26464 R (H)	7867	80	55.4	21.1								
27891	6596	85	30.3	-	5982	91	7.06	-				
27880					6310	85	12.94	-				
27875					5230	90	-	-				
27912					5815	88	-	-				
26763 R	5163	94	-	-	4809	96	-	-				
27919					5405	83	-	-				
27886					5530	92	-	-				
27913					5682	86	-	-				
LC	3914	76	-	-	5587	85	-	-				
ZC	3764	94	-	-	4156	82	-	-				
BVC	5060				5587							
HC	6496				6204							

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

IET No	ZONE V				ZONE VI				ZONE VII			
	Yield Kg/ha	FD	% BVC	% HC	Yield Kg/ha	FD	% BVC	% HC	Yield Kg/ha	FD	% BVC	% HC
27882	3714	85	-	-								
27874	4625	92	-	-	5200	91	6.44	-	6771		-	-
27869	5496	87	16.44	-	5025	87	-	-	6395	85	-	-
27866	5058	86	7.16	-	5018	87	-	-	6582	85	-	-
27892	5269	86	11.63	-								
27890	4159	89	-	-								
27885	4772	90	-	-								
27914	4961	87	5.10	-	5033	86	-	-	6187	86	-	-
27920	5094	92	7.92	-								
27887	4293	92	-	-								
27917									7025	90	-	-
27905	5553	84	17.64	-								
27893	4644	85	-	-								
27883	4537	95	-	-	4574	93	-	-	6050	86	-	-
27923	5149	96	9.08	-					7134	96	-	-
CO 51 NC	4720	83	-	-	4885	86	-	-	6461	83	-	-
27328 (H)									7881	89	11.14	23.27
27343 (H)					5761	91	17.93	-				
US 314 HC	5622	84		-	5977	84	-	-	6393	82	-	-
27913					4823	90	-	-				
27903	4632	92	-	-								
27906	4571	87	-	-								
LC	4014	87	-	-	4560	87	-	-	6241	84	-	-
ZC	3849	83	-	-	4555	85	-	-	7091	86	-	-
28039									5646	80	-	-
28038									5504	80	-	-
28040									6095	81	-	-
28037									5913	81	-	-
ADT 45 RP									5903	82	-	-
BVC	4720				4885				7091			
HC	5622				5977				6393			

Near Isogenic Lines (NILs) in the genetic background of ‘ADT 45’

In the zone VII, a total of four NIL's in the genetic background of ‘ADT 45’ were evaluated for yield performance. All the four NIL's derived from the cross ADT45/FL478 processing Saltol QTL for salinity tolerance. The recurrent parent (RP) ‘ADT 45’ is released and notified for Tamil Nadu state; hence yield performance over recurrent parent is considered for Tamil Nadu state only.

The entries performance is assessed in terms of yield advantage over recurrent parent

(on par or superior to RP) in both normal and under stress conditions. For normal condition, the NIL entries were evaluated in regular trial along with its recurrent parents. The data from two locations namely Aduthurai and Coimbatore from Tamil Nadu were considered for assessing NIL's performance over RP under normal condition. For confirmation of NILs, exclusive trial under the name AVT 1-NIL (CS) Coastal salinity was constituted with all the NIL entries along with their recurrent parents, tolerant and susceptible checks. The performance of NIL over its RP is assessed in terms of yield advantage over RP under stress condition. Only one location, Canning centre is considered under stress condition.

The yield performance of NIL entries over recurrent parent under normal and stress condition are presented in the following table.

S. No	IET No	Normal condition			Stress condition			Remarks
		RP Yield	NIL Yield	% over RP	RP Yield	NIL Yield	% over RP	
1	28037	5896	6278	+6.47	2458	2217	-9.8	Dropped (Inferior to RP in yield under stress)
2	28038	5896	6251	+6.02	2458	1930	-21.5	Dropped (Inferior to RP in yield under stress)
3	28039	5896	6296	+6.78	2458	1804	-26.6	Dropped (Inferior to RP in yield under stress)
4	28040	5896	6589	+11.75	2458	2061	-16.2	Dropped (Inferior to RP in yield under stress)

IETs 28037 (KR 15014), 28038 (KR 15006), 28039 (KR 15010) and 28040 (KR 15016) are the four sister lines derived from the cross of ADT 45/ FL478 with Saltol QTL introgressed from FL478 in the background of ADT 45. All the four NIL entries recorded required yield superiority over RP under normal condition, whereas, under stress condition, none of the NIL entry recorded on par or superior yield advantage over RP, Hence IETs 28037, 28038, 28039 and 28040 were not promoted to second year of testing.

Considering yield advantage with respect to best checks on zonal mean basis the following entries are promoted to next stage of evaluation.

Promoted only based on zonal mean basis:

Zone II- IET's 27869, 27914 and 27883

Zone III- IET's 27866, 27329, 27328, 27332, 27340, 26898 and 27880

Zone IV-None

Zone V- IET's 27869, 27866, 27892, 27914, 27920 and 27905

Zone VI- None

Zone VII- IET 27328

Shifts from AVT 1-E TP to AVT 1-IME: IET 27907 and IET 27923.

INITIAL VARIETY TRIAL EARLY – TRANSPLANTED (IVT - E TP)**Locations: 44****Test Entries: 61**

Checks: CO 51-National, PR 124 (Northern), Narendra 97 (Eastern), Luit (North Eastern), Sahbhagidhan (Central & Western), MTU 1153 (Southern)-Zonal and Local Check.

Table: 3.13

Initial variety trial early- transplanted was constituted with 64 entries including three checks viz., national, zonal, and local checks. This trial was sent to 44 locations; however, data was received from only 35 locations. The conduct of the trial at all the locations was satisfactory. CV% at different locations was within acceptable limits except for Pantnagar (23.18), Lembucherra (24.15), Wangbal (0.60), Jagadapur (23.67), Moncompu (22.64), Mugad (21.42), Kurumbapet (27.42), hence these locations were not included in the data analysis. The experimental mean grain yields ranged from 2607 kg/ha at Ranchi to 8749 kg/ha at Gangavati (Table 3.14). The locations with experimental mean yield less than 4000 kg/ha viz., Ranchi, Masodha, Arundhuti Nagar, Wangbal, Dabhoi, Vyara and Brahmavar were not included in the data analysis was not considered for analysis due to low experimental mean yield.

Overall mean yield ranged from 4033 kg/ha (IET 28360) to 6262 kg/ha (IET 28354); days to 50% flowering ranged from 83 days (IET 28259 and IET 28336) to 102 days (IETs 28344, 28346, 28372 and 28382); plant height varied from 86.68 cm (IET 28350) to 125.76 cm (IET 28372) and number of panicles/m² ranged from 269 (IET 28379) to 336 (IET 28342). The data pertaining to yield, flowering, plant height and panicles/m² were presented in tables 3.14, 3.15, 3.16 and 3.17. Fourteen entries viz., IETs 28329, 28332, 28343, 28344, 28347, 28352, 28353, 28354, 28366, 28370, 28371, 28374, 28377 and 28378 showed yield superiority (>5%) over the best check (LC) in overall mean, but due to variations in the days to fifty per cent flowering, entries viz., IETs 28332, 28343, 28354, 28377 were suited for this trial and these four entries on the rank basis were discussed below.

IET 28354 (CR 4073-1339-3-5-1-1-3) derived from the cross IET 22296 / RR 2-6 stood first in the trial with the overall mean grain yield of 6262 kg/ha, 88 days to 50% flowering and long slender grain type. On overall mean basis it out yielded 22 %, 38 % and 15 % over national, zonal and local checks respectively. It stood first in zone III and zone VI with yield advantage of 49 % and 40% respectively over best check. In the states of Odisha (1st rank), Maharashtra (5th rank), Kerala (2nd rank) and showed required yield superiority in all the mentioned states and zones

The second rank entry in the trial was IET 28343 (KNM 6965) derived from the cross MTU 1010 / KNM 118 with overall mean grain yield of 6037 kg/ha, 90 days to 50% flowering and long slender grains. It recorded 18 %, 33% and 11 % more yield than national, zonal and local checks, respectively on overall mean basis. IET 28343 stood third in zone II, eighth in zone III and sixth in zone VII. This entry yielded significantly higher to best check in the states of Haryana, Odisha, Uttar Pradesh, Gujarat Andhra Pradesh and Karnataka with the required yield advantage over checks.

Overall Performance of Promoting entries in IVT-E-TP, Kharif 2019

Rank	IET No/ Designation/ Cross combination	GY/ DFF/ GT	% Superiority over NC / ZC /LC	% Increase over BC (State)			% Increase over BC (Zonal)		
				Rank	Yield	% BVC	Rank	Yield	% BVC
1	IET 28354 CR 4073-1339-3-5- 1-1-3 (IET 22296/RR 2-6)	6262 88 LS	22 38 15	OD-1	9537	52	III-1	8319	49
				KE-2	6400	29	VI-1	6704	40
				M-5	5141	9			
				MA II-1	6704	38			
2	IET 28343 KNM 6965 (MTU 1010 / KNM 118)	6037 90 LS	18 33 11	HA-3	7350	26	II-3	6541	7
				OD-6	8399	34			13
				UP-14	5406	13	III-8	6290	
				MA1-7	5311	16	V-12	5522	10
				GU-3	6112	35			
				AP-6	6435	8	VII-6	6593	7
3	IET 28377 NVSR 2098 (Gurjari / PAU 201)	5822 89 LB	14 28 7	KA-7	8607	6			
				HA-	6550	12	III-3	6828	22
				BI-3	6357	25	V-	5442	8
				JH-5	8043	13			
				UP-	5406	13			
				MP-9	7317	23			
4	IET 28332 KNM 7048 (KPS 3219 / KNM 118)	5790 90 LS	13 27 6	KE-8	6183	25			
				KA-4	8744	8			
				HA-7	7100	21			
				BI-	5376	6			
				UP-2	6256	31	V-9	5672	13
				MA1-5	5434	19	VII-4	6712	9
	National check (NC)	5128 88		GU-	4744	5			
				TE-4	8235	16			
				KA-2	9033	12			
	Zonal Check (ZC)	4549 88							
	Local Check (LC)	5456 89							

IET 28377 (NVSR 2098) a selection from Gurjari and PAU 201 stood third in the trial with the overall mean grain yield of 5822 kg/ha, 89 days to 50% flowering and long bold grains. It recorded 14 %, 28 % and 7 % more yield than national, zonal and local checks, respectively on overall mean basis. It performed well in zone III (3rd rank) and zone V with 22 % and 8 % of yield advantage over best checks respectively. This entry out yielded best check in the following states viz., Bihar (3rd rank, 25%), Jharkhand (5th rank, 13%), Uttar Pradesh (13%), Madhya Pradesh (9th rank, 23%), Kerala (8th rank, 8%) and Karnataka (4th rank, 8%) with required yield advantage.

IET 28332 (KNM 7048) obtained from the cross KPS 3219 / KNM 118 stood fourth in the trial with the overall mean grain yield of 5790 kg/ha, 90 days to 50% flowering and long slender grains. This entry registered required yield advantage over national, zonal and local checks with 13 %, 27 % and 6 % respectively. IET 28332 performed well with fourth rank in zone VII, ninth in zone V. This entry showed superior performance in different states viz., Haryana, Bihar, Uttar Pradesh, Maharashtra, Gujarat, Tamil Nadu and Karnataka with the required yield advantage over checks.

Zone wise performance of top entries in each zone are presented in the following zonal performance table.

Rank	IET No/ Designation/ Cross combination	GY/ DFF/ GT	% Superiority over NC / ZC /LC	Performance across the states		
				State Rank	Yield	% BVC
Promising entries in Zone - III (Eastern):						
1	IET 28343 KNM 6965 (MTU 1010 / KNM 118)	6290 89 LS	6 53 11	OD-6 UP-14	8399 5406	34 13
2	IET 28356 KNM 7037 (KNM 606 / KNM 118)	5986 87 LS	7 55 13	OD-10 UP-7	8020 5825	28 22
3	IET 28333 AD 16003 (ADT 47 / IR 50)	5900 90 MS	13 63 19	OD-19 UP-7	7026 5725	12 20
	National check (NC)	5584 88				
	Zonal Check (ZC)	3862 82				
	Local Check (LC)	5292 89				
Promising entries in Zone - V (Central):						
1	IET 28343 KNM 6965 (MTU 1010 / KNM 118)	5522 90 LS	30 10 12	MA1-7	5311	6
	National check (NC)	4249 88				
	Zonal Check (ZC)	5041 90				
	Local Check (LC)	4950 93				
Promising entries in Zone - VII (Southern):						
1	IET 28329 RCPR 60-IR 97073-26-1-1-3 (IR 10L146 /IR 97073-26-1-1-3)	6764 87 LS	10 11 12	TE-1 KE-9	9080 6176	28 25
2	IET 28332 KNM 7048 (KPS 3219 / KNM 118)	6712 86 LS	9 10 11	TE-4 KA-2	8235 9033	16 12
3	IET 28343 KNM 6965 (MTU 1010 / KNM 118)	6593 87 LS	7 8 9	AP-6 TE-2 KA-7	6435 8861 8607	8 25 6
4	IET 28366 MTU 1312 (MTUAST 2-5-29-5)	6444 87 LS	5 5 7	AP-10	6300	5
	National check (NC)	6164 86				
	Zonal Check (ZC)	6118 93				
	Local Check (LC)	6039 86				

Considering yield advantage with respect to best check on overall mean basis, zonal mean basis and days to 50% flowering the following entries are promoted to next stage of evaluation AVT- 1 E TP.

Promoted on over all mean basis:

- IETs 28332, 28343, 28354 and 28377

Promoted based on zonal mean basis:

- Zone III- IETs 28333, 28343 and 28356.
- Zone V- IET 28343.
- Zone VII- 28329, 28332, 28343, 28366.

Shifts: Based on required yield superiority and deviation in days to 50% flowering.

- On overall mean basis entry to be shifted to medium duration is IET 28344 (102 days) and entries to be shifted to mid early are:
- IETs 28329 (91 days), 28347 (96 days), 28352 (95 days), 28353 (95 days), 28366 (91 days), 28370 (97 days), 28371 (94 days), 28374 (95 days), and 28378 (92 days)

Shifts based on zonal mean basis:

Zone II- entries to be shifted to Mid early

- IETs 28331 (95 days), 28343 (95 days), 28358 (99 days) and 28366 (95 days)
- Zone III- entry to be shifted to medium duration is IET 28372 (105days) and entries to be shifted to Mid early
- IETs 28329 (91days), 28331 (91days), 28337 (91days), 28342 (95 days), 28344 (100 days), 28347 (95 days), 28353 (96 days), 28354 (93days), 28355 (96 days), 28358 (91days), 28370 (95 days), 28371 (93 days), 28374 (93 days), 28377 (91days), 28378 (91 days) and 28380 (92 days)
- Zone V- entries to be shifted to medium duration are IETs 28344 (102 days), 28368 (104 days) and 28372 (106 days) and entries to be shifted to Mid early
- IETs 28328 (95 days), 28332 (91 days), 28333 (94 days), 28342 (98 days), 28347 (98 days), 28352 (99 days), 28355 (97 days), 28357 (95 days), 28365 (91 days), 28370 (98 days), 28371 (94 days), 28374 (97 days), 28377 (91 days), 28378 (95 days) and 28381 (97 days).

- **Zone VI-** entry to be shifted to medium duration is IET 28344 (104 days) and entries to be shifted to Mid early
- IETs 28352 (94 days), 28354 (95 days), 28366 (93 days) and 28371 (95 days)
- **Zone VII-** entry to be shifted to medium duration is IET 28344 (103 days) and entries to be shifted to Mid early
- IETs 28369 (92 days) and 28374 (91 days).

Table 3.1: Composition of entries in Advance Variety Trial 2-Early Transplanted (AVT 2-E TP), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
3rd Year of testing:				
801	26771	NVSR 2103	Gurjari / PAU 201	LB
802	26468	<i>JKRH-2354 (Hybrid)</i>	-	LB
803	CO -51 (NC)			
804	26803	RP 6221-HHZ 8-SAL9-DT2-Y2	Huang-Hua-Zhan*2 / Phalguna	LS
805	PR 124 (Northern), Narendra 97 (Eastern), Luit (North Eastern), Sahbhagidhan (Central & Western), MTU 1153 (Southern)—ZC			
806	26767	RCPR 46-IR 93827-29-1-1-2	IR 81039-B-173-U 3-3 / IR 81063-B-94-U 3-1	LS
807	26477	<i>RH-150025 (Hybrid)</i>	-	SB
808	US-314 (HC)			
809	Local Check			

Table 3.2: Grain Yield (kg/ha) of entries in AVT2 E TP (Zone II), Kharif 2019

Entry No.	IET No.	Zone II										
		UT		PU		PU (1)		HA(1)		Zone II (2)		
		@PNT		LDN		Mean		KUL		Mean		
801	26771	4195	6	4055	5	4055	5	4173	5	4114	6	
803	CO -51 (NC)	4628	3	3831	6	3831	6			3831	7	
804	26803	4894	2	4958	2 #	4958	2 #	12%	3785	6	4372	5
805	Zonal Check (ZC)							5565	2	5565	1	
806	26767	4398	4	4533	3	4533	3	4542	4	4538	4	
808	US-314 (HC)	5741	1	4417	4	4417	4	5912	1	5165	2	
809	Local Check (LC)	4289	5	5035	1	5035	1	5094	3	5065	3	
Exp. Mean		4690.82		4471.45		4471.45		4845.2		4663.97		
		1429.29		403.18		403.18		519.18		441.47		
		20.22		5.98		5.98		7.11		6.37		
D/S		05-07-2019		02-07-2019				08-07-2019				
D/P		24-07-2019		27-07-2019				06-08-2019				
Local Check Name		Govind		PR 126				HKR-48				

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 3.2 contd.: Grain Yield (Kg/ha) of entries in AVT2 E TP (Zone V), Kharif 2019

Entry No.	IET No.	Zone V											
		MP (1)				CH				CH (2)			
		REW				JDP		BLP		Mean			
802	26468	8830	1 *#	43%	19%	7165	1 *#	7275	1 *#	7220	1 *#	28%	24%
803	CO -51 (NC)	5546	5			5279	6	5625	4	5452	5		
805	Zonal Check (ZC)	6194	4			5397	5	4950	6	5174	6		
807	26477	8530	2 *#	38%	15%	7021	2 *#	7175	2 *	7098	2 *#	25%	22%
808	US-314 (HC)	7446	3			5397	4	6200	3	5799	3		
809	Local Check (LC)	5016	6			5795	3	5525	5	5660	4		
Exp. Mean		6927				6009		6125		6067			
CD		1369.5				1015.3		980.49		858.67			
CV%		13.12				11.21		10.62		9.39			
D/S		05-07-2019				03-07-2019		10-07-2019					
D/P		01-08-2019				26-07-2019		07-08-2019					
Local Check Name						Samleshwari		Chandrasini					

*Superior to best check %superior over best check

#Superior over hybrid check %Superior over hybrid check

Table 3.2 contd.: Grain Yield (Kg/ha) of entries in AVT2 E TP (Zone V), Kharif 2019

Entry No.	IET No.	Zone V											
		MA				MA (1)				Zone V (4)			
		SKL		@SND		Mean		Mean		Mean		Mean	
802	26468	6740	1 *#	1681	3	6740	1 *#	28%	47%	7503	1 *#	38%	27%
803	CO -51 (NC)	4689	4	1128	5	4689	4			5285	5		
805	Zonal Check (ZC)	5274	3	1002	6	5274	3			5454	4		
807	26477	5455	2 #	1658	4	5455	2 #		19%	7045	2 *#	29%	19%
808	US-314 (HC)	4583	5	1812	2	4583	5			5907	3		
809	Local Check (LC)	4212	6	2873	1	4212	6			5137	6		
Exp. Mean		5159		1692		5159				6055			
CD		833.28		591.11		833.28				743.45			
CV%		10.72		23.17		10.72				8.15			
D/S		03-07-2019		05-07-2019									
D/P		25-07-2019		29-07-2019									
Local Check Name		Sakoli 6		SYE-1									

Table 3.3: Days to 50% flowering of entries in AVT2 E TP (Zone II), Kharif 2019

Entry No.	IET NO	ZONE II			
		UT	PU(1)	HA(1)	Zone II (2)
		@PNT	LDN	KUL	Mean
801	26771	88	88	82	85
803	CO -51 (NC)	74	76		76
804	26803	83	87	70	79
805	Zonal Check (ZC)			87	87
806	26767	82	84	81	83
808	US-314 (HC)	78	83	79	81
809	Local Check (LC)	73	85	86	86
Exp Mean		79	84	81	82

Table 3.3 contd.: Days to 50% flowering of entries in AVT2 E TP (Zone V), Kharif 2019

Entry No.	IET NO	ZONE-V							
		MP (1)	CH		CH (2)	MA		MA (1)	Zone V (4)
		REW	JDP	BLP	Mean	SKL	@SND	Mean	Mean
802	26468	97	94	92	93	77	93	77	90
803	CO -51 (NC)	86	84	89	87	67	87	67	81
805	Zonal Check (ZC)	89	89	88	89	76	86	76	86
807	26477	98	94	92	93	79	87	79	91
808	US-314 (HC)	89	86	86	86	80	95	80	85
809	Local Check (LC)	90	88	94	91	78	92	78	88
	Exp Mean	92	89	90	90	76	90	76	87

Table 3.4: Plant Height (cm) of entries in AVT2 E TP (Zone II), Kharif 2019

Entry No.	IET NO	Zone II			
		PU	PU(1)	HA(1)	Zone II (2)
		@PNT	LDN	KUL	Mean
801	26771	111.00	101.75	89.00	95.38
803	CO -51 (NC)	105.00	100.25		100.25
804	26803	111.00	95.50	90.00	92.75
805	Zonal Check (ZC)			80.00	80.00
806	26767	126.00	104.50	90.00	97.25
808	US-314 (HC)	119.00	106.25	85.00	95.63
809	Local Check (LC)	90.00	94.25	80.00	87.13
	Exp Mean	110.33	100.42	85.67	93.04

Table 3.4 contd.: Plant Height (cm) of entries in AVT2 E TP (Zone V), Kharif 2019

Entry No.	IET NO	ZONE-V							
		MP (1)	CH		CH (2)	MA		MA (1)	Zone V (4)
		REW	JDP	BLP	Mean	SKL	@SND	Mean	Mean
802	26468	115.25	98.70	105.00	101.85	110.60	98.50	110.60	107.39
803	CO -51 (NC)	107.25	98.40	108.00	103.20	115.80	72.20	115.80	107.36
805	Zonal Check (ZC)	108.00	101.90	115.00	108.45	119.20	94.00	119.20	111.03
807	26477	111.67	99.50	112.00	105.75	115.60	105.00	115.60	109.69
808	US-314 (HC)	108.50	99.00	108.00	103.50	98.80	73.60	98.80	103.58
809	Local Check (LC)	76.75	96.35	102.00	99.18	98.20	86.50	98.20	93.33
	Exp Mean	104.57	98.98	108.33	103.65	109.70	88.30	109.70	105.39

Table 3.5: Panicles/m2 of entries in AVT2 E TP (Zone II), Kharif 2019

Entry No.	IET NO	ZONE II			
		UT	PU (1)	HA (1)	Zone II (2)
		@PNT	LDN	KUL	Mean
801	26771	306	210	259	234
803	CO -51 (NC)	315	241		241
804	26803	287	219	187	203
805	Zonal Check (ZC)			274	274
806	26767	310	213	243	228
808	US-314 (HC)	311	200	241	220
809	Local Check (LC)	281	219	223	221
	Exp Mean	302	217	238	227

Table 3.5 contd.: Panicles/m² of entries in AVT2 E TP (Zone V), Kharif 2019

Entry No.	IET NO	ZONE-V					
		MP(1)	CH	MA		MA (1)	Zone V (3)
		REW	JDP	SKL	@SND	Mean	Mean
802	26468	268	200	250	295	250	239
803	CO -51 (NC)	252	199	243	362	243	231
805	Zonal Check (ZC)	218	174	205	397	205	199
807	26477	239	179	247	261	247	221
808	US-314 (HC)	226	206	235	286	235	222
809	Local Check (LC)	232	213	247	300	247	231
	Exp Mean	239	195	238	317	238	224

Table 3.6: Grain Quality Characteristics of entries in AVT-2-E TP, Kharif 2019

Entry No.	IET NO.	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
801	26771	81.1	70.8	58.9	6.83	2.53	2.69	LB	OC	5	22.79	50
802	26468	78.8	71.4	65.0	6.47	2.32	2.78	LB	VOC	4	21.20	51
803	CO-51	76.5	67.3	59.3	5.44	2.12	2.56	MS	VOC	5	23.29	50
804	26803	78.2	70.9	69.4	6.33	2.05	3.08	LS	A	5	22.70	22
805	MTU-1153	79.6	71.3	68.4	6.19	2.19	2.82	LB	A	4	18.30	56
806	26767	80.0	71.7	69.2	6.77	2.08	3.25	LS	A	7	23.67	22
807	26477	78.5	70.6	65.1	5.76	2.62	2.19	SB	VOC	4.5	23.46	24
808	US-314	78.6	69.3	66.2	5.92	2.20	2.69	MS	VOC	5.5	22.46	47

HULL: Hulling (%); Milling (%): HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB::Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

Table 3.7: Composition of entries in Advance Variety Trial 1-Early Transplanted (AVT 1-E TP), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type	
2 nd Year of testing:					
901	27882	TRC 2018-7	Naveen / Kataktara	MS	
902	27874	BRR 2107	HHZ 14-SAL 10-DT 1-DT1-Sel	LS	
903	27869	JGL 25958	MTU 1010 / NLR 34449	LS	
904	27866	HKR 16-1-IR14L521	IR 09L272 / IR 10L146	LS	
905	27892	RCPR 58-IR 93827-29-1-1-3	IR 81039-B-173-U-3-3 / IR 81063-B-94-U-3-1	LS	
906	27890	IABR 2-GSR IR1-24-D5-Y1-L1-L1	Huang hua zhan / Qi-si-ying-zhan	LS	
907	27885	NLR 3448	NLR 34449 / MTU 1010 (5813-15-1-2-1-1)	MS	
908	27907	CR 4120-1-2-2-1-1	CR 3984-50-1-1-1 / IR 83399-B-B-52	LS	
909	27914	CRR 807-1	IR 10L146 / IR 10L137	LS	
910	27920	AD 16028	WGL 14377 / MDU 5	LB	
911	27870	RDR 1232	JGL 3644 / RP 2421	MS	
912	27887	PAU 5729-60-5-4-1	IRBB 60 / PAU 3699-13-2-2-4	LS	
913	27917	KNM 2305	JGL 11470 / Himalaya 741	LB	
914	27905	NP 9968	PRN 8 / PRN 85	MS	
915	27893	CB MAS 14110	Improved White Ponni / APO	MS	
916	27883	CR 4009-4-2- GSR IR1-DQ 138-LI1-Y1	GSR IR1-8-S6-S3-Y2 / GSR IR1-8-Y7-D2-S1	LS	
917	27871	RNR 21571	MTU 1010 / JGL 3855 // MTU 1010 /// NLR 34449	LB	
918	27923	OR 2569-3	OR 1662-1 / IR 55236-35	SB	
919	CO 51 (NC)				
920	27329	MP-3050 (Hybrid)	-	LB	
921	27328	SHX-015 (Hybrid)	-	LB	
922	27332	NPH-X1 (Hybrid)	-	SB	
923	27342	Bio-699 (Hybrid)	-	LS	
924	27343	LP-18201 (Hybrid)	-	LS	
925	27340	US-319 (Hybrid)	-	LB	
926	US 314 (HC)				
927	26898	HURS 17-7- IR 95786-9-2-1-2	IR 10 L-149 / IR 10 L 152	LS	
928	27894	SKL 3-1-41-8-33-15	Mugadh Sugandha / SKL-8	LS	
929	26464 (R)	LP- 17201 (Hybrid)	-	LB	
930	27891	YNP 7020	NPG 505 / GB 3	LB	
931	27880	ORJ 1346 (TP 27626)	IR 78875-176-B-2 / IR 78875-207-B-3	LB	
932	27875	TRC 2018-13	Naveen / Bhalum 3	SB	
933	27912	HKR 15-2-IR 99784-11-8-1-2	IR 98003:257 / MR 219	LS	
934	26763 (R)	TRC 2017-11	Kataktara / Naveen	SB	
935	27919	JGL 24267	MTU 1001 / JGL 3844	LB	
936	27886	CR 4118-1-1-2-2-1	CR Dhan 201 / IR 84899-B-183-13-1-1-2	LS	
937	27913	BRR 2106	BP 11820-5F-KN-10-2-Sel	LB	
938	27903	PAU 5729-60-5-2-1)	IRBB 60 / PAU 3699-13-2-2-4	LB	
939	27906	CRR 756-1	IR 08L183 / MTU 1010	LS	
940	Local Check				
941	PR 124 (Northern), Narendra 97 (Eastern), Luit (North Eastern), Sahbhagidhan (Central & Western), MTU 1153 (Southern)—ZC				
942	28039	KR 15010	ADT 45 / FL478	MS	
943	28038	KR 15006	ADT 45 / FL478	MS	
944	28040	KR 15016	ADT 45 / FL478	MS	
945	28037	KR 15014	ADT 45 / FL478	MS	
946	ADT 45 (RP)				SS

Table 3.8: Grain yield (Kg/h) of entries of AVT-1-E-TP Zone -II

Entry No.	IET No	ZONE II				Zone II (1)	
		UK (1)		PU (0)		Mean	
		PNT		@LDN			
902	27874	4644		2546	10	4644	
903	27869	5887	7 16%	3180	3	5887	7 16%
904	27866	5645	8 12%	4080	1	5645	8 12%
909	27914	6342	5 * 25%	3750	2	6342	5 * 25%
916	27883	5904	6 17%	2289		5904	6 17%
917	27871	5251	9	1962		5251	9
919	CO 51 (NC)	5060		2315		5060	
924	27343	6502	3 * 28%	2966	8	6502	3 * 28%
926	US 314 (HC)	6496	4	1962		6496	4
929	26464	7867	1*# 55% 21%	3180	3	7867	1*# 55% 21%
930	27891	6596	2 * 30%	3053	6	6596	2 * 30%
934	26763	5163	10	3096	5	5163	10
940	Local Check	3914		3006	7	3914	
941	Zonal Check (ZC)	3764		2517		3764	
Exp. Mean		5645		2850		5645	
CD		1248.69		655.98		1248.69	
CV%		13.18		13.71		13.18	
D/S		18-07-2019		17-07-2019			
D/P		02-08-2019		07-08-2019			
Local Check Name		Govind		PR 126			

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 3.8 contd.: Grain yield (Kg/h) of entries of AVT-1-E-TP Zone -3

Entry No.	IET No.	ZONE III-EASTERN									
		OD				OD(2)		BI		BI(1)	
		CTK		JYP		Mean		@BKG	PTN	Mean	
901	27882	5200	5	6283		5742		3569	4773	4773	
902	27874	3780		5410		4595		3659	5833	* 5833	* 24%
903	27869	4467		7588	8	6028	10 7%	6218	5 5935	* 5935	* 26% 5%
904	27866	4707	10	7838	5	6273	6 * 11%	5859	7 5933	* 5933	* 26% 5%
905	27892	4473		6758		5616		4512	5807	* 5807	* 23%
906	27890	3093		5498		4296		5499	4867	4867	
908	27907	4433		7784	6	6109	9 * 8%	5769	9 5407	* 5407	* 15%
909	27914	3467		6584		5026		5454	4680	4680	
911	27870	3987		6216		5102		5971	6 4600	4600	
914	27905	4287		5065		4676		4108	5053	5053	7%
916	27883	4407		5985		5196		5612	6927	1 *# 6927	1 *# 47% 23%
919	CO 51 (NC)	4007		7263	9	5635		4489	4613	4613	
920	27329	5340	4 *#	8773	2 *#	7057	2 *# 25% 10%	6981	3 6420	5 *# 6420	5 *# 36% 14%
921	27328	5153	6 *	7123		6138	7 * 9%	6509	4 6407	6 *# 6407	6 *# 36% 14%
922	27332	4493		7763	7	6128	8* 9%	5522	6693	3 *# 6693	3 *# 42% 19%
923	27342	3787		5714		4751		4893	6227	7 *# 6227	7 *# 32% 11%
924	27343	3713		7125	10	5419		7542	1 6853	2 *# 6853	2 *# 46% 22%
925	27340	4833	8	8867	1 *#	6850	3 *# 22%	7228	2 6187	8 *# 6187	8 *# 31% 10%
926	US 314 (HC)	4773	9	8024	4	6399	4	4444	5627	5627	* 20%
927	26898	4527		8161	3 *	6344	5 * 13%	4085	6433	4 *# 6433	4 *# 37% 14%
928	27894	4220		5068		4644		5297	5967	10 *# 5967	10 * 27% 6%
930	27891	6653	3	4338		5496		5792	8 5260	12%	
931	27880	7467	1 *#	6733		7100	1*# 26% 11%	3614	5593	5593	* 19%
932	27875	4873	7	5125		4999		4018	5227	11% 5227	11%
933	27912	6840	2 *#	4918		5879		4355	6157	9 *# 6157	9 *# 31% # 9%
934	26763	4593		4592		4593		5051	5287	5287	12%
935	27919	3980		5315		4648		5724	10 5273	5273	* 12%
936	27886	4567		4373		4470		4085	5753	5753	* 22%
937	27913	3700		5623		4662		4377	5900	5900	* 25%
940	Local Check	4453		4736		4595		5095	4707	4707	
941	Zonal Check (ZC)	1793		1942		1868		3659	3680	3680	
Exp. Mean		4518		6213		5365		5129	5615	5615	
CD		456.8		723.28		426.02		1994.36	623.55	623.55	
CV%		6.19		7.13		4.86		23.81	6.8	6.8	
D/S		08-08-2019		17-07-2019				17-07-2019	20-07-2019		
D/P		01-09-2019		12-08-2019				12-08-2019	16-08-2019		
Local Check Name		Satabdi		Mandakini				Jendra Bhagw	Sahbhagi Dhan		

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 3.8 contd.: Grain yield (Kg/h) of entries of AVT-1-E-TP Zone -3

Entry No.	IET No.										
		JH			JH(1)		WB			WB(2)	
		@RCI	HZB		Mean		CHN	PNB		Mean	
901	27882	3038	6536		6536		5096	#	3260		4178
902	27874	3733	6797		6797		4177		3760		3969
903	27869	3125	6209		6209		4094		4560		4327
904	27866	2633	7582		7582		5597	7* #	5240	6	5419 5 5%
905	27892	3241	6765		6765		4873	#	5060	9	4967
906	27890	3125	6700		6700		5124	#	5080	8	5102 9
908	27907	2199	4869		4869		5040	#	4680		4860
909	27914	3675	7843	7	7843	7	5263	10 #	4380		4822
911	27870	5556	1 7908	6	7908	6	5402	8 #	4220		4811
914	27905	3588	5686		5686		5068	#	3600		4334
916	27883	3675	7320		7320		5040	#	4840		4940
919	CO 51 (NC)	3385	7516		7516		4901		3980		4441
920	27329	3617	7582	10	7582	10	6683	1 * #	5100	7	5892 2 *# 14% 16%
921	27328	4398	6 7941	5	7941	5	6461	2 * #	6260	1 *	6361 1 *# 23% 25%
922	27332	4658	5 9314	1 * #	9314	1 * 20% # 22%	6043	4 * #	5420	5	5732 3 *# 11% 12%
923	27342	4051	7 8170	3	8170	3 5% 7%	5179	#	4160		4670
924	27343	4861	2				5319	9 #	4780		5050
925	27340	3848	10 9281	2 *#	9281	2 * 19% # 21%	4038		4840		4439
926	US 314 (HC)	3877	9 7647	9	7647	9	4317		5860	2	5089 10
927	26898	3675	7190		7190		4762	#	4040		4401
928	27894	3443	6438		6438		4873	#	5820	3	5347 6
930	27891	3906	8 7941	4	7941	4	5040	#	3780		4410
931	27880	4746	3 6732		6732		5904	5 *#	4220		5062
932	27875	2893	5163		5163		5124	#	4380		4752
933	27912	4717	4 6732		6732		4957	#	4460		4709
934	26763	3617	6765		6765		5040	#	4220		4630
935	27919	3328	6601		6601		5681	6 * #	3900		4791
936	27886	2055	7124		7124		5152	#	5540	4	5346 7
937	27913	2893	7026		7026		6210	3 *#	4740		5475 4 6%
940	Local Check	2951	7778	8	7778	8	4901	#	5029	10	4965
941	Zonal Check (ZC)	2431	6144		6144		5152	#			5152 8
Exp. Mean		3579	7110		7110		5178		4640		4917
CD		1045.91	1114.53		1114.53		436.64		995.29		547.06
CV%		17.89	9.59		9.59		5.16		13.12		6.81
D/S		15-07-2019	17-07-2019				16-07-2019	23-07-2019			
D/P		12-08-2019	17-08-2019				19-08-2019	14-08-2019			
Local Check Name		BVD-110	Sahbhagidhan				Ajit	Navin			

Table 3.8 contd.: Grain yield (Kg/h) of entries of AVT-1-E-TP Zone -3

Entry No.	IET No.							ZONE III (8)	
		UP				UP(2)			
		MSD		VRN		Mean		Mean	
901	27882	5367	4	7193		6280		5464	
902	27874	5400	3	9213	6*	7307	4 * 12% 9.15 #	5546	
903	27869	5367	4	6760		6064		5623	
904	27866	4633		8453	10	6543		6248	6 * 12%
905	27892	4533		7703		6118		5747	
906	27890	5167		8853	7	7010	7 7%	5548	
908	27907	6533	1*#	10793	1*#	8663	1 *# 32% 29%	6192	8 * 11%
909	27914	3867		7513		5690		5450	
911	27870	3867		7720		5794		5490	
914	27905	5167		6693		5930		5077	
916	27883	3500		7667		5584		5711	
919	CO 51 (NC)	3533		5667		4600		5185	
920	27329	5433	2	10080	4*#	7757	2 *# 18% 15%	6926	1 * 24% # 12%
921	27328	5233	9	8160		6697	9	6592	2 *# 18%
922	27332	4567		8393		6480		6586	3 *# 18%
923	27342	4833		7827		6330		5737	
924	27343	3800		10453	2*#	7127	6 * 9%	6006	9 * 7.49%
925	27340	4033		10427	3*#	7230	5 * 10%	6563	4 *# 17%
926	US 314 (HC)	4667		8720	8	6694	10	6204	7
927	26898	4333		7980		6157		5928	* 6.10%
928	27894	4867		7413		6140		5583	
930	27891	4967		9880	5*#	7424	3 *# 13% 11%	5982	10 * 7.06%
931	27880	5200		8627	9	6914	8 6%	6310	5 * 13%
932	27875	5067		6880		5974		5230	
933	27912	5367	4	7087		6227		5815	
934	26763	3167				3167		4809	
935	27919	5367	4	7120		6244		5405	
936	27886	4867	17	6867		5867		5530	
937	27913	5233	9	7020		6127		5682	
940	Local Check	5133		7960		6547		5587	
941	Zonal Check (ZC)	5367	4	5013		5190		4156	
Exp. Mean		4788		8005		6318		5739	
CD		800.44		953.06		548.2		301.62	
CV%		10.24		7.28		5.31		3.22	
D/S		20-07-2019		17-07-2019					
D/P		14-08-2019		01-07-2019					
Local Check Name		Shushk Samra		HUR 3022					

Table 3.8 contd.: Grain yield (Kg/h) of entries of AVT-1-E-TP Zone -4

Entry No.	IET No.	ZONE IV			
		TR		MAN	
		@LMB		@WBL	
902	27874	5043	2	1600	6
903	27869	4537	4	1333	7
904	27866	4259	7	1667	5
909	27914	3766	8	1689	4
916	27883	4323	6	667	8
919	CO 51 (NC)	4351	5	2067	2
926	US 314 (HC)	5100	1	2000	3
940	Local Check	4836	3	3867	1
941	Zonal Check (ZC)	3424		3000	
EXP.Mean		4404		1988	
CD		1722		143	
CV		22.59		4.15	
D/S		29-07-2019		21-07-2019	
D/P		18-08-2019		15-08-2019	
Local Check Name				SANA	

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 3.8 contd.: Grain yield (Kg/h) of entries of AVT-1-E-TP Zone -5

ENTRY	IET No.	ZONE-V										ZONE V (3)	
		MP(1)		CH(1)		MA			MA (1)				
		REW		JDP		SKL		@SND	Mean		Mean		
901	27882	3496		4046		3600		2631	6	3600		3714	
902	27874	5966	3 * 46%	4626		3284		2270	9	3284		4625	
903	27869	6031	2 * 47%	6242	2 11%	4216	10	2264	10	4216	10	5496	3 * 16%
904	27866	5232	7 28%	5697	7	4245	9	1853		4245	9	5058	7 7%
905	27892	5533	5 * 35%	5590	9	4685	5 #	1841		4685	5 # 6% 23%	5269	4 12%
906	27890	4226		5740	6	2512		1801		2512		4159	
907	27885	4784	9 17%	6213	3 10%	3319		2212		3319		4772	9
909	27914	4316	5%	6111	4 8%	4456	6	2025		4456	6 17%	4961	8 5%
910	27920	4540	10 11%	5919	5 4.83%	4823	3 #	2523	8	4823	3 # 9% 27%	5094	6 8%
912	27887	4364	7%	5315		3200		2917	3	3200		4293	
914	27905	5822	4 * 42%	5483		5353	2 * #	2579	7	5353	2 * # 21% 41%	5553	2 * 18%
915	27893	4206		5003		4722	4 #	2981	2	4722	4 # 7% 24%	4644	
916	27883	5380	6 * 31%	5483		2749		3581	1	2749		4537	
918	27923	4108		5590	9	5749	1 * #	2121		5749	1 *# 30% 51%	5149	5 9%
919	CO 51 (NC)	4094		5646	8	4421	7	2742	4	4421	7	4720	10
926	US 314 (HC)	6164	1	6899	1 *	3802		2005		3802		5622	1 * 19%
938	27903	5159	8 26%	4917		3819		2727	5	3819		4632	
939	27906	4375	7%	5072		4265	8	2150		4265	8 12%	4571	
940	Local Check	2688		5248		4106		1646		4106		4014	
941	Zonal Check (ZC)	3658		5142		2746		2022		2746		3849	
EXP.Mean		4707		5499		4004		2345		4004		4737	
CD		1247.68		1240.69		801.92		671.63		801.92		674.24	
CV		16.04		13.65		12.12		17.33		12.12		8.61	
D/S		17-07-2019		17-07-2019		16-07-2019		24-07-2019					
D/P		10-08-2019		09-08-2019		08-08-2019		16-08-2019					
Local Check Name				Samleshwari		Sakoli-6		SYE-1					

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 3.8 contd.: Grain yield (Kg/h) of entries of AVT-1-E-TP Zone -6

ENTRY	IET No.	ZONE 6														ZONE(4)				
		MA				MA(2)			GU			GU(2)								
		@KJT		SHR		VDG		Mean			NWG		VYR		Mean		Mean			
902	27874	3748	4	5437	2	5156	6	5297	3	10%	5005	8	5203	4	5104	4	5200	3	6%	
903	27869	2591	6	5017	5	5423	3	5220	4	8%	5330	4	4330	6	4830	7	5025	5		
904	27866	1910	8	4346	9	5006	8	4676	10		5023	7	5698	3 *	5361	3	8%	5018	6	
909	27914	3047	5	5154	3	5217	4	5186	5	7%	3778		5984	2 *	4881	6		5033	4	
916	27883	1812	9	4508	7	5143	7	4826	8		5127	6	3517	9	4322	10	4574	9		
919	CO 51 (NC)	3878	3	4487	8	5165	5	4826	7		5554	3	4334	5	4944	5	4885	7		
924	27343					5872	2 *	5872	1	22%	5650	2			5650	2 *	14%	5761	2	18%
926	US 314 (HC)	4010	2	5563	1	5893	1	5728	2		5704	1	6747	1	6226	1	5977	1		
937	27913					4913	9	4913	6		4732	10			4732	8	4823	8		
940	Local Check	2530	7	4979	6	4257		4618			5197	5	3807	8	4502	9	4560	10		
941	Zonal Check (ZC)	4138	1	5067	4	4521	10	4794	9		4750	9	3880	7	4315		4555			
Exp. Mean		3073.71		4950.93		5142.45		5067.55			5077.29		4833.33		5006.15		5039.2			
CD		497.61		739.66		576.32		1675.95			690.86		1063.53		685.63		1658.43			
CV%		11.09		10.24		7.76		22.9			9.42		15.08		9.48		22.79			
D/S		22-07-2019		17-07-2019		16-07-2019					18-07-2019		17-07-2019							
D/P		22-08-2019		05-08-2019		08-08-2019					03-09-2019		07-08-2019							
Local Check Name		Karijat 7		Ratnagiri 1		Phule Radha						Mahisagar		NAUR-1						

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 3.8 contd.: Grain yield (Kg/h) of entries of AVT-1-E-TP Zone -7

ENTRY	IET No.	ZONE VII							
		AP		TE			TE(2)		
		@MTU		KNM		WGL	Mean		
902	27874	4488	5	5746		7579	4	6663	
903	27869	3685		6851		7399	7	7125	9
904	27866	5579	2	7578	7	7807	3	7693	6
909	27914	5591	1	7832	6	6558		7195	8
913	27917	4196	7	8579	4 *	7403	5	7991	4
916	27883	3782		6080		6782	10	6431	
918	27923	3676		8429	5 *	7134	8	7782	5
919	CO 51 (NC)	3538		6884		8178	2	7531	7
921	27328	3704		9361	2 *			9361	1 *
926	US 314 (HC)	4401	6	9385	1	7403	5	8394	3
940	Local Check	4151	8	7061	8	6810	9	6936	10
941	Zonal Check (ZC)	5511	3	8687	3	8393	1	8540	2
942	28039	3654		6747		5307		6027	
943	28038	4904	4	5954		5516		5735	
944	28040	3767		6999	10	5047		6023	
945	28037	4031	10	7048	9	5469		6259	
946	ADT 45 (RP)	4099	9	6105		5585		5845	
Exp. Mean		4280		7372		6773		7149	
CD		328.88		997.62		1157.98		606.69	
CV%		4.62		8.14		10.25		5.1	
D/S		17-07-2019		15-07-2019		12-07-2019			
D/P		14-08-2019		18-08-2019		13-08-2019			
Local Check Name		MTU1153		KNM 118		KNM-118			

*Superior to best check

%superior over best check

Table 3.8 contd.: Grain yield (Kg/h) of entries of AVT-1-E-TP Zone -7

ENTRY	IET No.	TA				TA(2)		KE				KE(2)		
		ADT		CBT		Mean		MNC		PTB		Mean		
		7764	2 *	6493	9	7129	2	6273	5 #	5506	7 #	5890	3#	7% 60%
903	27869	6598	9	5443		6021		5660	7	4380	9 #	5020	#	36%
904	27866	6137		7375	3	6756	8	5238		4335		4787	#	31%
909	27914	6801	5	7332	4	7067	3	3645		3485		3565		
913	27917	6801	5	6881	6	6841	7	5462	9	6202	3 #	5832	4#	6% 59%
916	27883	5772		6649	8	6211		4719		5992	4 #	5356	8#	46%
918	27923	6593	10	7530	2	7062	4	6459	3 #	6634	1 #	6547	1*#	19% 79%
919	CO 51 (NC)	6753	7	6491	10	6622	9	4805		5735	5 #	5270	10	
921	27328	8623	1 * #	7839	1	8231	1 * 19% # 20%	6528	2 #			6528	2 *#	18% 78%
926	US 314 (HC)	7018	4	6873	7	6946	5	4338		2991		3665		
940	Local Check	5935		6352		6144		4805		6218	2 #	5512	7	
941	Zonal Check (ZC)	6564		7293	5	6929	6	6638	1	4406	8 #	5522	6	
942	28039	7289	3 *	5303		6296		5330	10	2957		4144		,13%
943	28038	6299		6202		6251		3930		3579		3755		
944	28040	6720	8	6458		6589	10	5824	6	4240		5032	#	37%
945	28037	6530		6025		6278		6315	4 #	4362	10	5339	9#	45%
946	ADT 45 (RP)	6564		5228		5896		5646	8	5699	6 #	5673	5#	54%
Exp. Mean		6751		6575		6663		5389		4795		5143		
CD		807.53		771.07		554.97		1768.69		1381.73		987.88		
CV%		7.19		7.05		5.01		19.73		17.28		11.55		
D/S		08-07-2019		19-07-2019				20-09-2019		19-08-2019				
D/P		08-08-2019		27-08-2019				09-10-2019		05-09-2019				
Local Check Name				CO 51				Jyothi		Pratyasha				

*Superior to best check %superior over best check

Table 3.8 contd.: Grain yield (Kg/h) of entries of AVT-1-E-TP Zone -7

ENTRY	IET No.	KA						KA(2)		PU (1)		Zone (9)		
		MND		@BRM		GNV		Mean		KBP		Mean		
		6418	1 #	2578		9782	3 #	8100	2 # 18%	5376		6771	5	6%
903	27869	5279		2725		10177	2 #	7728	4 # 13%	5765	7	6395	8	
904	27866	5411	10	4187	1	9650	4	7531	6 10%	5705	8	6582	6	
909	27914	5067		2711		7926		6497		7034	2 11% 20%	6187		
913	27917	6134	3 #	2432		9254	6	7694	5 # 12.5%	6511	4 11%	7025	4	10%
916	27883	5554	8	2738		7317		6436		5585	10	6050		
918	27923	6088	4	2818	10	8412	8	7250	7	6930	3 9% 18%	7134	2	12%
919	CO 51 (NC)	5451	9	2618		8181	10	6816		5675	9	6461	7	
921	27328	6034	5	2831	9	9495	5	7765	3# 14%	7288	1# 15% 24%	7881	1 * #	11% 23%
926	US 314 (HC)	5305		3083	6	8369	9	6837	10	5854	6	6393	9	
940	Local Check	4727		3216	4	7933		6330		6332	5	6241	10	
941	Zonal Check (ZC)	5840	6	3177	5	10772	1	8306	1	5227		7091	3	
942	28039	5361		2565		8162		6762		4361		5646		
943	28038	5321		3668	2	7327		6324		5406		5504		
944	28040	5574	7	2871	8	8560	7	7067	9	5436		6095		
945	28037	4609		2884	7	8136		6373		4719		5913		
946	ADT 45 (RP)	6316	2 #	3216	3	8115		7216	8	3868		5903		
Exp. Mean		5558		2960		8680		6593		5710		6334		
CD		807.91		421.37		1294.12		752.53		1337.93		415.12		
CV%		8.74		8.56		8.96		6.86		14.09		3.94		
D/S		07-08-2019		22-07-2019		07-08-2019				13-09-2019				
D/P		04-09-2019		07-08-2019		30-08-2019				05-10-2019				
Local Check Name		KMP-105 (Raksha)		Mahaveera		GNV 10-89				ADT 53				

Table 3.9: Days to 50% Flowering of entries in AVT-1-E-TP Zone –II

Entry No.	IET No	ZONE II		Zone II (1) Mean
		UK (1)	PU (0)	
		PNT	@LDN	
902	27874	81.33	83.67	81.33
903	27869	84.67	82.33	84.67
904	27866	84.67	85.67	84.67
909	27914	82.33	86.00	82.33
916	27883	75.67	97.33	75.67
917	27871	79.00	80.67	79.00
919	CO 51 (NC)	71.67	74.67	71.67
924	27343	79.00	80.67	79.00
926	US 314 (HC)	80.00	79.67	80.00
929	26464	80.33	83.33	80.33
930	27891	84.67	87.67	84.67
934	26763	93.67	91.33	93.67
940	Local Check	75.67	82.33	75.67
941	Zonal Check (ZC)	94.33	86.00	94.33
	Exp. Mean	81.93	84.38	81.93

Table 3.9 contd.: Days to 50% of flowering of entries of AVT-1-E-TP Zone -3

Entry No.	IET No.	ZONE III-EASTERN								
		OD		OD(2)	BI		BI(1)	JH		JH(1)
		CTK	JYP	Mean	@BKG	PTN	Mean	@RCI	HZB	Mean
901	27882	87	89	88	71	79	79	87	96	96
902	27874	86	98	92	80	88	88	95	100	100
903	27869	88	92	90	79	82	82	89	93	93
904	27866	86	95	91	79	85	85	93	98	98
905	27892	87	92	90	80	88	88	87	99	99
906	27890	88	94	91	82	86	86	88	99	99
908	27907	91	109	100	91	96	96	97	126	126
909	27914	88	92	90	80	88	88	87	97	97
911	27870	88	94	91	86	90	90	96	101	101
914	27905	87	93	90	79	80	80	90	91	91
916	27883	87	95	91	70	85	85	87	93	93
919	CO 51 (NC)	87	96	91	76	80	80	84	86	86
920	27329	91	102	97	85	91	91	95	101	101
921	27328	87	93	90	81	86	86	89	98	98
922	27332	87	95	91	79	86	86	89	90	90
923	27342	87	89	88	82	82	82	90	89	89
924	27343	90	93	92	79	85	85	85		
925	27340	90	102	96	85	88	88	89	101	101
926	US 314 (HC)	88	89	88	79	78	78	86	97	97
927	26898	87	92	90	82	82	82	88	100	100
928	27894	87	102	94	85	84	84	90	98	98
930	27891	90	96	93	86	90	90	96	98	98
931	27880	87	93	90	85	83	83	86	93	93
932	27875	91	101	96	83	82	82	89	101	101
933	27912	87	97	92	74	84	84	89	99	99
934	26763	91	95	93	93	91	91	96	118	118
935	27919	86	92	89	74	80	80	87	85	85
936	27886	92	103	98	86	90	90	89	100	100
937	27913	87	94	91	74	82	82	86	101	101
940	Local Check	89	94	91	81	81	81	71	85	85
941	Zonal Check (ZC)	86	87	86	74	76	76	83	82	82
	Exp. Mean	88	95	92	81	85	85	89	97	97

Table 3.9 contd.: Days to 50% flowering of entries of AVT-1-E-TP Zone -3

Entry No.	IET No.								Overall (8)
		WB		WB(2)	UP		UP(2)	ZONE III (8)	
		CHN	PNB	Mean	MSD	VRN	Mean	Mean	
901	27882	87	85	86	83	71	77	85	85
902	27874	90	91	91	74	78	76	88	88
903	27869	89	84	86	77	71	74	84	84
904	27866	91	91	91	78	74	76	87	87
905	27892	90	91	91	73	77	75	87	87
906	27890	92	86	89	86	83	85	89	89
908	27907	97	97	97	78	82	80	97	97
909	27914	90	91	90	83	72	78	88	88
911	27870	94	94	94	89	85	87	92	92
914	27905	89	73	81	73	71	72	82	82
916	27883	89	77	83	73	81	77	85	85
919	CO 51 (NC)	90	81	86	70	77	73	83	83
920	27329	95	95	95	69	78	74	90	90
921	27328	91	86	88	77	81	79	87	87
922	27332	89	90	90	83	71	77	86	86
923	27342	84	73	78	76	76	76	82	82
924	27343	85	84	85	85	78	82	86	86
925	27340	94	92	93	86	79	83	92	92
926	US 314 (HC)	85	78	82	74	68	71	82	82
927	26898	91	90	90	72	75	73	86	86
928	27894	93	93	93	87	75	81	90	90
930	27891	91	95	93	83	86	85	91	91
931	27880	90	81	86	84	73	79	85	85
932	27875	92	83	87	86	81	84	90	90
933	27912	87	90	89	77	79	78	88	88
934	26763	93	93	93	88		88	96	96
935	27919	85	85	85	78	72	75	83	83
936	27886	94	93	93	77	87	82	92	92
937	27913	85	82	84	82	76	79	86	86
940	Local Check	87	88	88	71	85	78	85	85
941	Zonal Check (ZC)	81		81	84	76	80	82	82
Exp. Mean		90	87	88	79	77	78	87	87

Table 3.9 contd.: Days to 50% flowering of entries of AVT-1-E-TP Zone -4

Entry No.	IET No.	ZONE IV	
		TR	MAN
		@LMB	@WBL
902	27874		113
903	27869		108
904	27866		112
909	27914		105
916	27883		110
919	CO 51 (NC)		90
926	US 314 (HC)		106
940	Local Check		87
941	Zonal Check (ZC)		96
EXP.Mean			103

Table 3.9 contd.: Days to 50% flowering of entries of AVT-1-E-TP Zone -5

ENTRY	IET No.	ZONE-V					ZONE V (3) Mean
		MP(1)	CH(1)	MA(1)		MA (1)	
		REW	JDP	SKL	@SND	Mean	
901	27882	88	88	80	93	80	85
902	27874	95	93	88	103	88	92
903	27869	90	88	82	90	82	87
904	27866	91	87	82	93	82	86
905	27892	89	87	81	91	81	86
906	27890	91	91	84	94	84	89
907	27885	93	90	86	95	86	90
909	27914	91	88	82	91	82	87
910	27920	98	92	87	97	87	92
912	27887	99	91	87	95	87	92
914	27905	88	85	79	87	79	84
915	27893	89	85	80	88	80	85
916	27883	103	90	91	91	91	95
918	27923	103	96	90	105	90	96
919	CO 51 (NC)	89	84	77	95	77	83
926	US 314 (HC)	88	85	78	83	78	84
938	27903	95	93	89	98	89	92
939	27906	90	89	81	90	81	87
940	Local Check	92	90	77	97	77	87
941	Zonal Check (ZC)	88	83	79	93	79	83
EXP.Mean		93	89	83	94	83	88

Table 3.9 contd.: Days to 50% flowering of entries of AVT-1-E-TP Zone -6

ENTRY	IET No.	ZONE VI							ZONE(4) Mean
		MA			MA(2)	GU		GU(2)	
		@KJT	SHR	VDG	Mean	NWG	VYR	Mean	
902	27874	86	81	95	88	102	89	95	91
903	27869	84	82	92	87	93	83	88	87
904	27866	85	84	93	88	88	84	86	87
909	27914	86	82	90	86	90	83	86	86
916	27883	100	81	102	91	89	99	94	93
919	CO 51 (NC)	84	78	85	81	102	80	91	86
924	27343			92	92	91		91	91
926	US 314 (HC)	83	81	84	82	88	82	85	84
937	27913			89	89	90		90	90
940	Local Check	87	81	93	87	89	85	87	87
941	Zonal Check (ZC)	86	81	85	83	93	82	88	85
Exp. Mean		87	81	91	87	92	85	89	88

Table 3.9 contd.: Days to 50% flowering of entries of AVT-1-E-TP Zone -7

ENTRY	IET No.	ZONE VII															Zone VII (9)
		AP	TE		TE(2)	TA		TA(2)	KE		KE(2)	KA			KA(2)	PU(1)	
		@MTU	KNM	WGL	Mean	ADT	CBT	Mean	MNC	PTB	Mean	MND	@BRM	GNV	Mean	KBP	Mean
902	27874	83	82	91	87	87	102	94	80	81	81	96	90	96	96	72	87
903	27869	81	83	90	87	80	98	89	79	79	79	87	91	96	92	74	85
904	27866	84	83	91	87	89	94	92	81	82	81	87	92	90	88	71	85
909	27914	83	93	90	92	84	91	88	79	80	80	87	95	90	88	76	86
913	27917	89	100	96	98	87	96	92	81	83	82	94	94	96	95	77	90
916	27883	76	82	91	87	89	93	91	81	80	81	92	87	93	92	75	86
918	27923	90	106	99	102	91	102	96	87	86	87	102	95	100	101	89	96
919	CO 51 (NC)	75	83	85	84	80	89	85	79	83	81	87	87	94	90	71	83
921	27328	83	82		82	86	101	94	86		86	97	88	95	96	77	89
926	US 314 (HC)	81	82	90	86	82	89	85	76	77	77	84	88	90	87	72	82
940	Local Check	83	83	91	87	78	88	83	83	83	83	84	91	89	87	74	84
941	Zonal Check (ZC)	81	83	91	87	92	93	93	82	83	83	92	96	88	90	73	86
942	28039	74	79	79	79	86	86	86	76	75	75	83	79	85	84	74	80
943	28038	74	80	79	80	81	90	85	77	70	74	85	78	85	85	73	80
944	28040	75	79	79	79	83	89	86	78	76	77	87	82	85	86	74	81
945	28037	74	78	81	80	86	89	88	78	74	76	86	83	84	85	73	81
946	ADT 45 (RP)	75	78	81	80	86	88	87	79	81	80	87	84	86	87	72	82
Exp. Mean		80	84	88	86	85	93	89	80	80	80	89	88	91	90	74	85

Table 3.10: Plant Height(cm)of entries in AVT-1-E-TP Zone –II

Entry No.	IET No	ZONE II		Zone II (1)
		UK (1)	PU (0)	
		PNT	@LDN	Mean
902	27874	81	79	81
903	27869	110	95	110
904	27866	96	92	96
909	27914	102	85	102
916	27883	104	85	104
917	27871	117	83	117
919	CO 51 (NC)	117	86	117
924	27343	106	85	106
926	US 314 (HC)	110	91	110
929	26464	115	88	115
930	27891	114	86	114
934	26763	100	82	100
940	Local Check	83	78	83
941	Zonal Check (ZC)	83	74	83
Exp. Mean		103	85	103

Table 3.10 contd.: Plant Height (cm) of entries in AVT-1-E-TP Zone -3

Entry No.	IET No.	ZONE III-EASTERN								
		OD		OD(2)	BI		BI(1)	JH		JH(1)
		CTK	JYP	Mean	@BKG	PTN	Mean	@RCI	HZB	Mean
901	27882	110.90	111.87	111.39	133.00	100.21	100.21	92.00	105.27	105.27
902	27874	98.30	78.07	88.19	101.00	86.21	86.21	86.00	85.50	85.50
903	27869	107.96	100.13	104.05	114.00	90.30	90.30	89.00	100.33	100.33
904	27866	97.10	101.80	99.45	109.00	87.54	87.54	90.00	98.26	98.26
905	27892	107.53	107.53	107.53	112.00	97.10	97.10	90.00	92.92	92.92
906	27890	84.42	81.67	83.05	116.00	79.99	79.99	79.00	85.71	85.71
908	27907	116.48	108.13	112.31	117.00	106.37	106.37	82.00	98.47	98.47
909	27914	91.76	98.53	95.15	102.00	88.92	88.92	93.00	94.01	94.01
911	27870	99.18	89.87	94.53	114.00	102.99	102.99	90.00	93.65	93.65
914	27905	106.28	105.00	105.64	115.00	97.52	97.52	85.00	92.31	92.31
916	27883	110.19	96.40	103.30	116.00	94.42	94.42	88.00	95.91	95.91
919	CO 51 (NC)	101.08	98.50	99.79	106.00	87.28	87.28	95.00	102.69	102.69
920	27329	108.53	110.63	109.58	122.00	101.94	101.94	82.00	94.78	94.78
921	27328	101.37	93.83	97.60	103.00	84.42	84.42	85.00	100.97	100.97
922	27332	103.64	104.60	104.12	120.00	103.59	103.59	94.00	101.09	101.09
923	27342	119.90	99.63	109.77	130.00	108.23	108.23	100.00	97.91	97.91
924	27343	86.52	84.53	85.53	111.00	96.38	96.38	87.00		
925	27340	101.32	103.40	102.36	127.00	106.00	106.00	88.00	91.93	91.93
926	US 314 (HC)	100.16	95.60	97.88	121.00	216.31	216.31	86.00	94.27	94.27
927	26898	108.10	101.60	104.85	123.00	103.21	103.21	93.00	95.15	95.15
928	27894	102.14	96.23	99.19	107.00	88.29	88.29	85.00	96.84	96.84
930	27891	93.86	88.73	91.30	109.00	87.33	87.33	79.00	93.92	93.92
931	27880	110.08	105.20	107.64	125.00	104.96	104.96	104.00	102.19	102.19
932	27875	107.99	112.93	110.46	130.00	103.54	103.54	95.00	88.00	88.00
933	27912	104.50	95.63	100.07	113.00	91.94	91.94	75.00	93.39	93.39
934	26763	106.04	97.27	101.66	109.00	95.52	95.52	84.00	90.18	90.18
935	27919	95.04	97.03	96.04	112.00	85.74	85.74	83.00	93.58	93.58
936	27886	105.49	96.37	100.93	113.00	90.53	90.53	81.00	88.01	88.01
937	27913	100.84	98.80	99.82	113.00	90.09	90.09	90.00	96.74	96.74
940	Local Check	96.08	115.27	105.68	125.00	105.52	105.52	105.00	85.19	85.19
941	Zonal Check (ZC)	79.64	80.90	80.27	101.00	85.18	85.18	84.00	95.99	95.99
Exp. Mean		102.01	98.57	100.29	115.13	98.95	98.95	88.35	94.84	94.84

Table 3.10 contd.: Plant Height (cm) of entries in AVT-1-E-TP Zone -3

Entry No.	IET No.	WB		WB(2)	UP		UP(2)	ZONE III (8)	Overall (8)
		CHN	PNB	Mean	MSD	VRN	Mean	Mean	Mean
901	27882	113.67	101.50	107.58	85.00	115.30	100.15	105.47	105.47
902	27874	103.67	83.10	93.38	90.00	103.93	96.97	91.10	91.10
903	27869	112.33	97.50	104.92	87.00	115.23	101.12	101.35	101.35
904	27866	106.67	91.30	98.98	111.00	118.17	114.58	101.48	101.48
905	27892	117.00	101.40	109.20	90.00	117.80	103.90	103.91	103.91
906	27890	99.00	95.60	97.30	89.00	108.20	98.60	90.45	90.45
908	27907	135.00	98.40	116.70	110.00	120.53	115.27	111.67	111.67
909	27914	110.33	97.30	103.82	90.00	127.47	108.73	99.79	99.79
911	27870	114.67	100.80	107.73	95.00	116.97	105.98	101.64	101.64
914	27905	115.33	86.70	101.02	88.00	121.20	104.60	101.54	101.54
916	27883	113.00	94.20	103.60	88.00	110.83	99.42	100.37	100.37
919	CO 51 (NC)	107.33	96.90	102.12	81.00	104.20	92.60	97.37	97.37
920	27329	122.33	101.40	111.87	94.00	125.43	109.72	107.38	107.38
921	27328	106.67	92.30	99.48	75.00	103.20	89.10	94.72	94.72
922	27332	118.67	98.30	108.48	69.00	122.07	95.53	102.62	102.62
923	27342	118.00	102.70	110.35	104.00	130.37	117.18	110.09	110.09
924	27343	96.00	94.50	95.25	103.00	110.50	106.75	95.92	95.92
925	27340	111.67	100.50	106.08	98.00	126.27	112.13	104.89	104.89
926	US 314 (HC)	108.67	99.60	104.13	89.00	125.23	107.12	116.10	116.10
927	26898	112.33	93.30	102.82	88.00	115.10	101.55	102.10	102.10
928	27894	108.67	90.90	99.78	111.00	104.67	107.83	99.84	99.84
930	27891	105.00	92.50	98.75	93.00	109.30	101.15	95.46	95.46
931	27880	126.00	104.20	115.10	107.00	123.73	115.37	110.42	110.42
932	27875	127.00	102.20	114.60	100.00	131.00	115.50	109.08	109.08
933	27912	101.67	87.80	94.73	88.00	119.57	103.78	97.81	97.81
934	26763	106.67	86.40	96.53	95.00		95.00	96.72	96.72
935	27919	103.67	90.80	97.23	122.00	113.13	117.57	100.12	100.12
936	27886	112.33	93.00	102.67	69.00	104.73	86.87	94.93	94.93
937	27913	104.00	97.10	100.55	92.00	114.30	103.15	99.23	99.23
940	Local Check	105.33	105.20	105.27	110.00	100.60	105.30	102.90	102.90
941	Zonal Check (ZC)	86.67		86.67	101.00	102.13	101.57	90.21	90.21
Exp. Mean		110.62	95.91	103.12	93.94	115.37	104.33	101.18	101.18

Table 3.10 contd.: Plant Height (cm) of entries in AVT-1-E-TP Zone -4

Entry No.	IET No.	ZONE IV	
		TR	MAN
		@LMB	@WBL
902	27874	94.78	64.00
903	27869	99.43	82.00
904	27866	109.90	78.00
909	27914	96.28	74.00
916	27883	100.14	70.00
919	CO 51 (NC)	99.18	80.00
926	US 314 (HC)	96.81	82.00
940	Local Check	108.14	62.00
941	Zonal Check (ZC)	103.90	72.00
EXP.Mean		101.00	74.00

Table 3.10 contd.: Plant Height (cm) of entries in AVT-1-E-TP Zone -5

ENTRY	IET No.	ZONE-V					ZONE V (3)	Overall (3)
		MP(1)	CH(1)	MA(1)		MA (1)		
		REW	JDP	SKL	@SND	Mean		
901	27882	103.00	104.40	114.40	115.80	114.40	107.27	107.27
902	27874	86.67	94.73	77.60	81.80	77.60	86.33	86.33
903	27869	93.00	99.93	97.60	100.20	97.60	96.84	96.84
904	27866	92.33	99.60	97.00	101.57	97.00	96.31	96.31
905	27892	93.67	104.93	109.60	109.97	109.60	102.73	102.73
906	27890	85.67	92.33	75.20	95.80	75.20	84.40	84.40
907	27885	75.00	81.67	74.60	83.37	74.60	77.09	77.09
909	27914	94.67	97.33	96.40	95.73	96.40	96.13	96.13
910	27920	101.67	99.33	98.80	102.97	98.80	99.93	99.93
912	27887	87.33	93.00	74.80	94.50	74.80	85.04	85.04
914	27905	86.33	99.53	106.40	102.67	106.40	97.42	97.42
915	27893	88.00	101.40	96.20	115.40	96.20	95.20	95.20
916	27883	106.33	102.60	97.40	103.60	97.40	102.11	102.11
918	27923	112.00	113.53	112.40	135.03	112.40	112.64	112.64
919	CO 51 (NC)	92.00	96.47	94.60	104.43	94.60	94.36	94.36
926	US 314 (HC)	94.67	102.60	94.60	97.50	94.60	97.29	97.29
938	27903	90.00	87.07	75.80	75.67	75.80	84.29	84.29
939	27906	86.67	97.00	95.00	101.60	95.00	92.89	92.89
940	Local Check	105.67	101.40	83.20	93.23	83.20	96.76	96.76
941	Zonal Check (ZC)	99.67	97.53	108.20	104.13	108.20	101.80	101.80
EXP.Mean		93.72	98.32	93.99	100.75	93.99	95.34	95.34

Table 3.10 contd.: Plant Height (cm) of entries in AVT-1-E-TP Zone -6

ENTRY	IET No.	ZONE 6							ZONE(4)	Overall (4)
		MA			MA(2)	GU		GU(2)		
		@KJT	SHR	VDG	Mean	NWG	VYR	Mean	Mean	Mean
902	27874	100.75	100.90	62.47	81.68	91.20	98.40	94.80	88.24	88.24
903	27869	122.25	108.75	73.47	91.11	96.40	115.90	106.15	98.63	98.63
904	27866	116.75	112.15	74.60	93.38	101.20	114.50	107.85	100.61	100.61
909	27914	114.00	105.60	70.13	87.87	99.40	107.40	103.40	95.63	95.63
916	27883	121.00	102.75	80.53	91.64	86.40	115.70	101.05	96.35	96.35
919	CO 51 (NC)	105.25	106.20	66.40	86.30	92.20	110.80	101.50	93.90	93.90
924	27343			69.07	69.07	85.40		85.40	77.23	77.23
926	US 314 (HC)	115.25	108.80	69.63	89.22	105.80	102.70	104.25	96.73	96.73
937	27913			73.83	73.83	86.80		86.80	80.32	80.32
940	Local Check	100.75	99.25	68.80	84.03	96.00	118.20	107.10	95.56	95.56
941	Zonal Check (ZC)	125.00	116.95	74.30	95.63	105.60	110.90	108.25	101.94	101.94
Exp. Mean		113.44	106.82	71.20		95.13	110.50	100.60	93.00	93.00

Table 3.10 contd.: Plant Height (cm) of entries in AVT-1-E-TP Zone -7

ENTRY	IET No.	ZONE VII															Zone VII (9)
		AP	TE		TE(2)	TA		TA(2)	KE		KE(2)	KA			KA(2)	PU (1)	
		@MTU	KNM	WGL	Mean	ADT	CBT	Mean	MNC	PTB	Mean	MND	@BRM	GNV	Mean	KBP	Mean
902	27874	116.87	84.53	88.00	95.47	106.40	91.60	99.00	101.80	98.87	100.33	80.73	63.50	103.00	91.87	104.00	95.44
903	27869	140.40	101.91	122.93	107.35	112.80	100.80	106.80	102.70	106.40	104.55	84.00	66.50	115.40	99.70	109.00	106.22
904	27866	124.93	104.47	122.07	99.94	95.40	95.40	95.40	110.33	110.00	110.17	82.13	69.00	118.70	100.42	104.00	104.72
909	27914	125.80	101.59	118.40	98.49	95.40	88.40	91.90	92.13	94.93	93.53	74.93	71.50	103.60	89.27	111.00	97.82
913	27917	141.27	112.73	120.93	118.86	125.00	101.80	113.40	105.17	121.40	113.28	88.60	75.00	122.80	105.70	122.00	113.38
916	27883	139.53	101.33	111.33	105.37	109.40	99.73	104.57	114.67	114.13	114.40	86.80	72.50	105.00	95.90	119.00	106.82
918	27923	150.93	121.01	141.27	122.40	123.80	114.27	119.03	117.53	125.53	121.53	94.67	62.00	127.70	111.18	128.00	121.53
919	CO 51 (NC)	121.27	94.78	102.87	94.59	94.40	94.67	94.53	109.13	108.40	108.77	88.47	73.50	111.50	99.98	107.00	101.25
921	27328	122.80	91.79		100.39	109.00	91.20	100.10	109.60		109.60	75.93	70.50	101.80	88.87	107.00	98.05
926	US 314 (HC)	129.73	106.09	114.27	100.14	94.20	91.20	92.70	101.20	107.20	104.20	79.73	77.00	101.00	90.37	114.00	100.99
940	Local Check	134.93	99.13	127.73	97.07	95.00	92.47	93.73	112.20	107.73	109.97	78.80	77.50	116.90	97.85	103.00	103.66
941	Zonal Check (ZC)	122.47	107.07	122.47	107.33	107.60	95.73	101.67	112.40	112.80	112.60	86.07	73.50	116.00	101.03	112.00	108.01
942	28039	118.87	96.92	102.87	95.16	93.40	82.80	88.10	97.33	91.13	94.23	78.20	68.50	97.90	88.05	99.00	93.28
943	28038	112.20	83.51	96.47	87.56	91.60	82.73	87.17	93.67	96.47	95.07	72.27	76.00	95.00	83.63	92.00	89.30
944	28040	107.00	94.71	92.87	91.45	88.20	85.40	86.80	101.33	97.80	99.57	76.07	71.00	97.90	86.98	106.00	93.36
945	28037	111.93	93.25	97.80	90.92	88.60	85.80	87.20	106.13	103.93	105.03	77.53	71.00	99.20	88.37	97.00	94.36
946	ADT 45 (RP)	104.60	91.17	94.27	90.09	89.00	87.00	88.00	98.53	96.93	97.73	80.93	77.00	104.00	92.47	108.00	94.43
Exp. Mean		125.03	99.18	111.03	100.15	101.13	93.00	97.06	105.05	105.85	105.56	81.52	71.50	108.08	94.80	108.35	101.33

Table 3.11: Panicles (m2) of entries in AVT-1-E-TP Zone -II

Entry No.	IET No	ZONE II		Zone II (1)
		UK (1)	PU (0)	
		PNT	@LDN	Mean
902	27874	254	260	254
903	27869	313	231	313
904	27866	245	268	245
909	27914	318	266	318
916	27883	272	275	272
917	27871	306	253	306
919	CO 51 (NC)	327	229	327
924	27343	298	260	298
926	US 314 (HC)	283	218	283
929	26464	271	198	271
930	27891	267	222	267
934	26763	328	262	328
940	Local Check	266	235	266
941	Zonal Check (ZC)	249	227	249
	Exp. Mean	286	243	286

Table 3.11 contd.: Panicles/m2 of entries of AVT-1-E-TP Zone -3

Entry No.	IET No.	ZONE III-EASTERN								
		OD		OD(2)	BI		BI(1)	JH		JH(1)
		CTK	JYP	Mean	@BKG	PTN	Mean	@RCI	HZB	Mean
901	27882	394	320	357	280	166	166	238	324	324
902	27874	486	360	423	423	233	233	198	379	379
903	27869	653	391	522	418	267	267	230	265	265
904	27866	722	433	577	352	239	239	218	344	344
905	27892	467	364	415	388	246	246	188	356	356
906	27890	458	300	379	492	291	291	228	366	366
908	27907	951	382	667	350	232	232	249	270	270
909	27914	420	415	418	453	288	288	242	349	349
911	27870	433	333	383	317	259	259	228	315	315
914	27905	434	420	427	456	254	254	230	291	291
916	27883	527	486	507	380	276	276	200	386	386
919	CO 51 (NC)	452	396	424	387	292	292	258	342	342
920	27329	532	461	496	354	319	319	252	360	360
921	27328	565	378	471	313	267	267	248	342	342
922	27332	459	377	418	267	215	215	229	358	358
923	27342	436	233	334	173	132	132	149	359	359
924	27343	502	422	462	458	240	240	203		
925	27340	675	389	532	243	249	249	187	373	373
926	US 314 (HC)	415	408	412	283	183	183	242	320	320
927	26898	556	433	494	388	248	248	282	365	365
928	27894	570	334	452	427	274	274	252	342	342
930	27891	474	383	429	215	205	205	200	354	354
931	27880	657	257	457	253	197	197	142	317	317
932	27875	534	371	453	284	268	268	258	327	327
933	27912	524	329	427	248	269	269	252	367	367
934	26763	550	383	466	285	260	260	252	388	388
935	27919	449	308	378	320	226	226	268	277	277
936	27886	618	315	466	253	236	236	257	319	319
937	27913	438	488	463	247	247	247	218	354	354
940	Local Check	493	294	393	257	215	215	243	356	356
941	Zonal Check (ZC)	695	379	537	354	324	324	247	270	270
Exp. Mean		533	372	453	333	246	246	229	338	338

Table 3.11 contd.: Panicles/m2 of entries of AVT-1-E-TP Zone -3

Entry No.	IET No.							ZONE III	Overall (8)
		WB		WB(2)	UP		UP(2)		
		CHN	PNB	Mean	MSD	VRN	Mean	Mean	Mean
901	27882	242	252	247	305	225	265	279	279
902	27874	231	272	252	277	254	266	312	312
903	27869	209	260	235	304	240	272	324	324
904	27866	264	249	257	276	253	264	347	347
905	27892	264	251	258	282	289	286	315	315
906	27890	286	270	278	294	322	308	323	323
908	27907	231	245	238	306	278	292	362	362
909	27914	286	269	278	257	337	297	328	328
911	27870	264	245	254	263	237	250	294	294
914	27905	253	314	284	303	245	274	314	314
916	27883	242	225	233	258	323	290	340	340
919	CO 51 (NC)	275	292	284	246	289	268	323	323
920	27329	341	257	299	307	288	297	358	358
921	27328	297	269	283	300	232	266	331	331
922	27332	286	283	285	283	299	291	320	320
923	27342	253	233	243	279	148	214	259	259
924	27343	275	246	261	263	256	259	315	315
925	27340	187	276	232	265	257	261	334	334
926	US 314 (HC)	220	272	246	278	212	245	289	289
927	26898	253	228	241	266	245	255	324	324
928	27894	264	256	260	289	243	266	321	321
930	27891	308	250	279	278	298	288	319	319
931	27880	297	205	251	295	212	254	305	305
932	27875	264	289	277	287	277	282	327	327
933	27912	286	263	275	302	321	311	333	333
934	26763	275	270	273	245			339	339
935	27919	286	242	264	301	280	291	296	296
936	27886	297	202	250	278	325	302	324	324
937	27913	319	244	281	294	236	265	327	327
940	Local Check	242	234	238	289	326	308	306	306
941	Zonal Check (ZC)	330		330	303	345	324	378	378
Exp. Mean		269	256	263	283	270	277	321	321

Table 3.11 contd.: No. of Panicles/m2 of entries of AVT-1-E-TP Zone -4

Entry No.	IET No.	ZONE IV	
		TR	MAN
		@LMB	@WBL
902	27874	258	252
903	27869	233	279
904	27866	256	294
909	27914	344	210
916	27883	297	288
919	CO 51 (NC)	383	393
926	US 314 (HC)	275	262
940	Local Check	419	294
941	Zonal Check (ZC)	283	227
EXP.Mean		306	278

Table 3.11 contd.: Panicles (m2) of entries in AVT-1-E-TP Zone -5

ENTRY	IET No.	ZONE-V					ZONE V (3)	Overall (3)
		MP(1)	CH(1)	MA(1)		MA (1)		
		REW	JDP	SKL	@SND	Mean	Mean	Mean
901	27882	227	147	167	199	167	180	180
902	27874	196	250	180	252	180	209	209
903	27869	183	233	229	200	229	215	215
904	27866	188	216	222	196	222	209	209
905	27892	177	203	240	212	240	207	207
906	27890	211	243	214	204	214	222	222
907	27885	222	298	249	266	249	256	256
909	27914	188	216	267	164	267	224	224
910	27920	174	216	215	180	215	202	202
912	27887	221	211	238	224	238	223	223
914	27905	193	202	242	212	242	212	212
915	27893	182	154	272	205	272	203	203
916	27883	236	202	195	222	195	211	211
918	27923	191	168	254	174	254	204	204
919	CO 51 (NC)	236	211	299	244	299	249	249
926	US 314 (HC)	207	214	217	160	217	213	213
938	27903	197	205	197	216	197	200	200
939	27906	229	261	275	222	275	255	255
940	Local Check	180	224	262	211	262	222	222
941	Zonal Check (ZC)	154	148	195	198	195	166	166
EXP.Mean		200	211	231	208	231	214	214

Table 3.11 contd.: No of Panicles (m2) of entries in AVT-1-E-TP Zone -6

ENTRY	IET No.	ZONE 6							ZONE(4)	Overall (4)
		MA			MA(2)	GU		GU(2)		
		@KJT	SHR	VDG	Mean	NWG	VYR	Mean	Mean	Mean
902	27874	287	200	249	224	269	210	240	232	232
903	27869	284	212	264	238	269	212	240	239	239
904	27866	292	206	279	243	267	213	240	241	241
909	27914	341	256	289	273	257	260	258	266	266
916	27883	376	212	292	252	268	182	225	238	238
919	CO 51 (NC)	326	209	302	255	271	189	230	243	243
924	27343			304	304	272		272	288	288
926	US 314 (HC)	265	242	314	278	274	206	240	259	259
937	27913			247	247	271		271	259	259
940	Local Check	294	182	288	235	275	174	225	230	230
941	Zonal Check (ZC)	279	236	249	242	271	162	217	229	229
Exp. Mean		305	217	280	254	270	201	242	248	248

Table 3.11 contd.: No. of Panicles/m² of entries of AVT-1-E-TP Zone -7

ENTRY	IET No.	ZONE VII															Zone VII (9)
		AP	TE		TE(2)	TA		TA(2)	KE		KE(2)	KA			KA(2)	PU (1)	
		@MTU	KNM	WGL	Mean	ADT	CBT	Mean	MNC	PTB	Mean	MND	@BRM	GNV	Mean	KBP	Mean
902	27874	321	352	384	368	243	325	284	229	324	277	450	313	354	402	446	345
903	27869	275	390	374	382	290	355	323	233	418	325	413	253	391	402	413	364
904	27866	352	367	399	383	224	365	295	249	341	295	433	319	354	393	424	351
909	27914	332	452	372	412	251	391	321	334	399	367	443	241	398	421	457	389
913	27917	352	434	374	404	261	293	277	209	303	256	387	236	210	298	369	316
916	27883	299	428	425	426	245	363	304	262	420	341	427	326	369	398	380	369
918	27923	273	346	370	358	274	328	301	253	324	289	443	282	390	417	424	350
919	CO 51 (NC)	282	487	398	443	258	387	323	233	359	296	483	265	462	473	479	394
921	27328	299	419		419	203	345	274	262		262	420	314	482	451	457	370
926	US 314 (HC)	277	393	380	386	227	322	274	236	303	269	407	264	318	362	391	331
940	Local Check	288	452	371	411	271	368	320	222	448	335	533	319	467	500	446	398
941	Zonal Check (ZC)	286	402	380	391	308	343	326	360	317	339	403	300	340	372	336	354
942	28039	268	502	386	444	302	370	336	296	476	386	433	287	365	399	391	391
943	28038	315	543	433	488	259	428	344	236	439	337	423	267	331	377	435	392
944	28040	383	625	422	524	325	398	362	254	516	385	400	302	384	392	413	415
945	28037	330	610	399	505	293	387	340	284	520	402	410	284	305	358	545	417
946	ADT 45 (RP)	359	449	415	432	229	373	301	264	411	338	473	329	401	437	490	390
Exp. Mean		311	450	393	422	263	361	312	260	395	323	434	288	372	403	429	373

Table 3.12: Grain quality characteristics of entries in AVT 1-E TP, Kharif 2019

Entry No.	IET No.	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
901	27882	77.9	70.5	68.0	5.81	2.27	2.55	MS	VOC	4	22.93	52
902	27874	77.9	70.4	62.4	6.6	1.93	3.41	LS	A	7	17.48	83
903	27869	79.4	71.6	66.5	6.33	2.04	3.1	LS	A	4	22.46	64
904	27866	78.2	70.9	68.2	7.11	2.16	3.29	LS	VOC	7	24.14	45
905	27892	79.2	71.8	67.7	6.85	2.14	3.2	LS	A	7	24.43	42
906	27890	78.1	71.4	69.1	6.71	2.05	3.27	LS	A	7	17.62	76
907	27885	77.9	71.1	69.4	5.47	2.17	2.52	MS	A	4	23.90	22
908	27907	76.3	67.6	56.8	6.81	2.07	3.28	LS	VOC	5	24.96	52
909	27914	78.4	70.6	64.7	6.96	2.10	3.31	LS	A	7	26.86	60
910	27920	77.6	69.4	63.8	6.14	2.05	2.99	LB	VOC	4	23.84	24
911	27870	78.2	70	65.7	5.22	1.89	2.76	MS	A	4	24.84	22
912	27887	77.3	70.3	68.1	6.48	2.13	3.04	LS	VOC	7	24.31	43
913	27917	77.5	68.3	60.5	6.38	2.37	2.69	LB	VOC	4	24.98	48
914	27905	80.0	71.7	67.3	5.64	1.96	2.87	MS	VOC	4	25.13	53
915	27893	79.9	71.5	67.2	5.52	1.86	2.96	MS	VOC	4	21.35	61
916	27883	78.3	69.7	63.9	6.79	1.98	3.42	LS	A	5.8	23.46	42
917	27871	78.6	69.2	65.2	6.69	2.38	2.81	LB	VOC	4	22.41	68
918	27923	78.2	69.4	65.6	5.64	2.41	2.34	SB	VOC	4	26.75	63
919	CO 51	77.9	70.3	68.8	5.63	1.96	2.87	MS	A	4	25.02	51
920	27329	78.8	72.6	69.5	6.17	2.20	2.8	LB	VOC	6.3	23.20	22
921	27328	81.3	73	68.4	6.27	2.33	2.69	LB	VOC	4	25.40	40
922	27332	79.4	71.4	64.5	5.73	2.62	2.18	SB	VOC	5	24.52	27
923	27342	80.6	72.5	69.1	7.06	2.33	3.03	LS	VOC	5.3	24.55	58
924	27343	79.7	72.3	67.1	6.58	2.09	3.14	LS	A	5.6	20.35	25
925	27340	80.5	70.3	66.0	6.14	2.06	2.98	LB	A	4.9	22.64	57
926	US 314	80.0	71.2	65.3	5.73	2.10	2.72	MS	VOC	4.6	21.56	50
927	26898	80.2	71	66.5	7.06	2.25	3.13	LS	A	4.6	25.84	55
928	27894	79.4	71.7	67.0	6.82	2.14	3.18	LS	VOC	4	22.23	51
929	26464	80.4	74.3	70.0	6.63	2.30	2.88	LB	VOC	7	18.94	54
930	27891	79.9	72.5	68.1	6.2	2.34	2.64	LB	VOC	7	26.22	22
931	27880	76.6	69.1	67.4	6.29	2.18	2.88	LB	VOC	4	20.94	54
932	27875	79.7	71	69.3	5.43	2.28	2.38	SB	VOC	4	24.40	24
933	27912	79.1	71.5	68.1	6.76	2.14	3.15	LS	VOC	4	21.79	48
934	26763	78.3	72.3	69.8	5.48	2.35	2.33	SB	VOC	5	18.89	26
935	27919	78.9	70.2	66.5	6.25	2.14	2.92	LB	VOC	4	21.91	42
936	27886	75.9	66.9	58.7	7.21	2.16	3.33	LS	VOC	4	26.89	52
937	27913	79.0	71.6	68.2	6.26	2.16	2.89	LB	VOC	5	21.73	28
938	27903	77.6	70.7	69.0	6.42	2.16	2.97	LB	VOC	7	21.82	47
939	27906	81.8	73.9	69.9	7.2	2.13	3.38	LS	A	7	26.07	28
940	Local Check	-	-	-	-	-	-	-	-	-	-	-
941	MTU 1153	80.3	71.5	68.3	5.58	2.15	2.72		VOC	4	21.53	62
942	28039	77.3	68.5	66.3	5.36	1.97	2.72	MS	A	4	26.51	45
943	28038	79.5	71.7	69.1	5.87	2.17	2.7	MS	VOC	5	27.19	38
944	28040	77.6	68.5	65.1	5.31	1.88	2.82	MS	VOC	4	26.81	29
945	28037	77.0	69.6	66.9	5.72	1.99	2.87	MS	VOC	4	26.57	38
946	ADT 45	77.9	69.4	63.6	5.58	1.85	3.01	SS	VOC	4	27.72	33

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB::Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

Table 3.13: Composition of entries in Initial Variety Trial–Early Transplanted (IVT-E TP), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
1st year of testing				
1001	28322	BRR 2134	Sita / Rajendra Mahsuri-1	MS
1002	28323	HTW 29-IR 97069-1-1-1-1	IR 09L317 / IR10L137	MB
1003	28324	CB 15530	JGL 1798 / IET 21572	MS
1004	28325	NVSR 6221	IR 71907-3R-2-1-1 / IR 68652-3B-30-2	LB
1005	28326	Pusa 2081-1	Divya / PR 116	MS
1006	28327	ACK 12021	Mutant of White Ponni-WP22-2	MS
1007	28328	UPR 4142-2-1-1-4	Pant Dhan 11 / Pant Dhan 19	LS
1008	28329	RCPR 60-IR 97073-26-1-1-3	IR10L146 / IR10L137	LS
1009	28330	GNV 1901	SIRI 1253 / IET 19251	MS
1010	28331	NWGR 13041	Gurjari / IET 18672	MB
1011	28332	KNM 7048	KPS 3219 / KNM 118	LS
1012	28333	AD 16003	ADT 47 / IR 50	MS
1013	28334	NLR 3580	IET 21687 / NLR 40024	LB
1014	28335	CR 4069-1311-1-1-3-1-4	Pyari / Satari	LS
1015	28336	NP 9878	MTU 1010 / NP 256	LB
1016	28337	RNR 26128	BPT 5204 / MTU 1081	LS
1017	28338	CR 4156-1-506-2-24	CR 1009 / O. brachyantha //CR 1009	MS
1018	28339	Rewa 1328-3-15-7	Mutant from Germplasm ACC No. 258	LS
1019	28340	RP 6344-52-96-13-5	PR 37951-3B-37-1-2*4 / ST 12	LS
1020	28341	UPR 4004-9-1-1-1	Pant Dhan 18 / UPRI 2008-16	LS
1021	28342	RP 5507-JBB 689-1	Swarna / IRGC 63248 // Swarna Sub1	LS
1022	28343	KNM 6965	MTU 1010 / KNM 118	LS
1023	28344	MTU 1330 (MTU 2640-11-1-1-1)	MTU 1010 / MTU 1156	MS
1024	CO 51 (NC)			
1025	28345	CB 16585	CO 51 / JGL 17211	MS
1026	28346	RGL 7013	RGL 1880 / JGL 1798	MS
1027	28347	BRR 2015	Sita / Sugandha	MS
1028	28348	Pusa 2080-21	PRR 310 / PRR 497	MS
1029	28349	MSN 99	KMR 4 / BPT 5204	MS
1030	28350	NVSR 2310	Gurjari / IET 22057	LB
1031	28351	SKL-3-1-41-8-33-15	Mugadh Sugandha / SKL-8	LS
1032	28352	WGL 1191	RP 4092-115-08-5-3 / KMP 150	MS
1033	28353	NLR 3573	IET 21687 / NLR 40024	MS
1034	28354	CR 4073-1339-3-5-1-1-3	IET 22296 / RR 2-6	LS
1035	28355	IR 73930-31-3-2 CR 3728-1-1	IR 65629-157-3-2-3-2-1/ IR 66160-121-4-1-1-1	LS
1036	28356	KNM 7037	KNM 606 / KNM 118	LS
1037	28357	UPR 3968-1-1-1-1	Pant Dhan 10 / NDR 2065	LS
1038	28358	RP 5599-212-56-3-1	MTU 1010 / KMR 3	LS
1039	28359	KMP 200	IR 64 / IET 16348	SB
1040	PR 124 (Northern), Narendra 97 (Eastern), Luit (North Eastern), Sahbhagidhan (Central & Western), MTU 1153 (Southern) – ZC			
1041	28360	CRU-BR-07 (11-119-37-14-07-E)	Vandana / IET 25701	MB
1042	28361	Rewa 1328-3-34-4	Mutant from Germplasm ACC No. 258	LS

Entry No.	IET No.	Designation	Cross combination	Grain Type
1043	28362	CR 4148-120	N 22 Mutant	LS
1044	28363	AD 17036	WGL 14377 / MDU 5	MS
1045	28364	GNV 1903	Gangavati Sona / ES 18	MS
1046	28365	RP 6351-20-32-6	MTU 1010 / ST 12	LS
1047	28366	MTU 1312 (MTUAST 2-5-29-5)	(MTU 1010/MTU 1081) // *2 MTU 1010	LS
1048	28367	HTW 33-IR 105690-1-1B-B	MTU 1010*3 / Khao Nok	MB
1049	28368	ACK 14090	ADT 43 / BB 8	MS
1050	28369	CR 3847-2-1-1-1	IR 84852-B-12-2 / IET 25345	LS
1051	28370	NWGR 13087	Dandi / IR 61608-3B-16-2-3	MS
1052	28371	UPR 3973-3-1-1-1	Pant Dhan 10 / CRMAS 2232-85	LB
1053	28372	KMP 220	Jyothi / BR 2655-6	MS
1054	28373	CR 4148-477	N 22 Mutant	MS
1055	28374	HTW 30-IR 90257-B-273-1-B-B	CT 9993-5-10-1-M / 2* Sambha Mahsuri	MB
1056	28375	NVSR 6228	NAUR-1 / IET 20036	LB
1057	28376	CR 4116-3-2-1-1-1	CR 4043-3-1-1-1 / CR Dhan 204	LS
1058	28377	NVSR 2098	Gurjari / PAU 201	LB
1059	28378	RCPR 61-IR14L572	IR10L146 / IR10L149	LS
1060	28379	CR 4205 -61-2 (IR 121055-1-1-CR 4205 -61-2)	MTU 1010*2 / ST 12	LS
1061	28380	UPR 4130-1-1-1-1	Pant Dhan 10 / CR 2707-185-10-4-1	LS
1062	28381	NLR 3581	IET 21687 / NLR 40024	MS
1063	28382	CR 3993-4-9-6-1	CR 1009 / O. brachyantha // CR 1009	MS
1064	Local Check			

Table 3.14: Grain yield (kg/ha) of entries in IVT E TP, Kharif 2019

Entry No.	IET No.	Zone II													
		UT	PU (1)		HA (1)		Zone II (2)		OD			OD (2)			
		@PNT	LDN		KUL		Mean		CTK		JYP		Mean		
1001	28322	3523		5441	9	4150		4796		3214		5620		4417	
1002	28323	4609		4308		4900		4604		3773		5755		4764	
1003	28324	3456		6798	1 7%	4150		5474		3942		5657		4800	
1004	28325	4328		3722		4000		3861		4760		6273		5517	
1005	28326	4542		4025		4750		4388		3019		4248		3634	
1006	28327	5047		4242		4900		4571		4292		6231		5262	
1007	28328	3758		4690		6000		5345		5513		8000		6757	8%
1008	28329	6008		5145		6600	13%	5873		4396		9146	8	6771	8%
1009	28330	6112	8	5040		6000		5520		4422		6995		5709	
1010	28331	5036		4868		8500	1 * 45%	6684	1 10%	3519		9002	9	6261	
1011	28332	7190	1	5481	8	7100	7 * 21%	6291	7	6377	*	6734		6556	
1012	28333	5964		4499		4900		4700		4669		9382	6 *	7026	12%
1013	28334	6688	3	3939				3939		4318		1984		3151	
1014	28335	3286		3906		5200		4553		6474	*	2444		4459	
1015	28336	3250		2424		5550		3987		8136	6 *	4444		6290	
1016	28337	4177		3696		6700	15%	5198		4786		8731	0	6759	8%
1017	28338	3055		1983		4250		3117		5669		8146		6908	10%
1018	28339	2122		2648		4250		3449		5149		5042		5096	
1019	28340	4193		3241		4600		3921		3091		6833		4962	
1020	28341	5760		4058		5850		4954		2656		6646		4651	
1021	28342	5583		4677		4150		4414		5370		7444		6407	
1022	28343	6523	4	5731	6	7350	3 * 26%	6541	3 7%	5955	*	10843	2 *	8399	6 *
1023	28344	812		2082		4000		3041		7578	*	11264	1 *	9421	2 *
1024	CO 51 (NC)	4917		3307		5200		4254		3162		8042		5602	
1025	28345	4070		3109		5400		4255		8805	1 *	7637		8221	9 *
1026	28346	2802		1291		4500		2896		2195		6366		4281	
1027	28347	5961		5415		7000	* 20%	6208	9	5623	,	7225		6424	
1028	28348	6164	7	4091		5950		5021		5422	,	5530		5476	
1029	28349	4841		3386		4300		3843		5208		7211		6210	
1030	28350	5367		3953		4900		4427		4896		5632		5264	
1031	28351	5914		4374		5750		5062				7796		7796	* 24%
1032	28352	6107	9	5652	7	7000	8 * 20%	6326	6	4091		5646		4869	
1033	28353	6339	5	5356		7000	8 * 20%	6178	10	7818	*	8780		8299	7 *
1034	28354											9537	5 *	9537	1 *
1035	28355	3490		3794		5500		4647		7935	10 *	9745	3 *	8840	4 *
1036	28356	6938	2	5171		6400	, 9%	5786		7643	*	8396		8020	* 28%
1037	28357	4536		4730				4730		7396	*	7572		7484	* 19%
1038	28358	3745		6594	2	6550	, 12%	6572	2 8%	7474	*	6796		7135	* 14%
1039	28359	3268		3650		4100		3875		4994		5201		5098	
1040	Zonal Check (ZC)	3924		2938		4850		3894		5006		1414		3210	
1041	28360	4094		2984		6800	* 16%	4892		4130		6220		5175	
1042	28361	2620		3057		5350		4204		5130		6032		5581	
1043	28362	4839		3966		5050		4508		3026		5963		4495	
1044	28363	5128		3979		5050		4515		8091	7 *	7995		8043	10 *
1045	28364	3857		3735		5950		4843		6084	*	8780	10	7432	* 18%
1046	28365	5271		3709		6500	, 11%	5105		4084		4738		4411	
1047	28366	5268		6509	3	6550	, 12%	6530	4 7%	7831	*	7991		7911	* 26%
1048	28367	6107	9	5079		7350	3 * 26%	6215	8	3890		5382		4636	
1049	28368	1909		4677		4950		4814		7429	*	6563		6996	, 11%
1050	28369	5094		5217		5950		5584		8084	8 *	6574		7329	* 17%
1051	28370	3969		4242		7000	8 * 20%	5621		8422	3 *	6632		7527	* 20%
1052	28371	3792		4598		4000		4299		8234	4 *	9347	7 *	8791	5 *
1053	28372	2396		1377		4900		3139		8214	5 *	7778		7996	* 27%
1054	28373	3810		3814		4750		4282		4753		4313		4533	
1055	28374	4977		5441	9	7250	6 * 24%	6346	5	7773	*	7153		7463	* 19%
1056	28375	5268		5870	5	6300	, 8%	6085		6481	*	6428		6455	
1057	28376	5057		4743		7400	2 * 26%	6072		6429	*	5053		5741	
1058	28377	5177		4895		6550	, 12%	5723		7916	*	8671		8294	8 *
1059	28378	6286	6	4433		7250	5 * 24%	5842		8506	2 *	9727	4 *	9117	3 *
1060	28379	4180		4513		5400		4957		8045	9 *	7505		7775	* 24%
1061	28380	5815		4901		4650		4776		7604	*	6190		6897	, 10%
1062	28381	4917		3715		6700	, 15%	5208				6949		6949	, 11%
1063	28382	1112		1107		6150	, 5%	3629		7591	*	7870		7731	* 23%
1064	Local Check	3081		6357	4	5850		6104		4565		7998		6282	
	Exp. Mean	4562		4228		5670		4928		5755		6926		6395	
	CD	2114.06		1203.06		865.34		812.25		739.36		1206.83		742.18	
	CV%	23.18		14.23		7.63		8.25		6.42		8.72		5.81	
	D/S	04-06-2019								08-08-2019		22-06-2019			
	D/P	06-07-2019								02-09-2019		10-07-2019			
	Local Check Name	Govind								Satabdi		Mandakini			

Table 3.14 contd.: Grain yield (kg/ha) of entries in IVT E TP, Kharif 2019

Entry No.	IET No.			BI		BI (2)		JH		JH (1)		WB (1)	
		BKG		PTN		Mean		@RCI	HZB	Mean		CHN	
1001	28322	5909		3560		4735		2726	4022	4022		5556	
1002	28323	5909		5400	*	5655	11%	2859	4891	4891		5291	
1003	28324	3889		3460		3675		1862	6630	6630		4266	
1004	28325	5404		3570		4487		1995	6522	6522		6415	9 5%
1005	28326	5354		5010	*	5182		3059	5072	5072		4762	
1006	28327	5455		5880	4 *	5668	12%	3590	5 6667	6667		5622	
1007	28328	6515	9	4290		5403	6%	2793	4783	4783		6151	
1008	28329	6919	5	5160	*	6040	5 * 19%	3590	5 4855	4855		6283	
1009	28330	5051		4890		4971		2593	6812	6812		6151	
1010	28331	7121	4	5530	10	6326	4 * 24%	1795	8696	1 * 8696	1 * 22%	6548	6 8%
1011	28332	6162		4590		5376	6%	2460	5652	5652		5159	
1012	28333	4899		4880		4890		3191	5399	5399		6349	
1013	28334							1928	7536	6 7536	6% 6%		
1014	28335	5859		4370		5115		931	4674	4674		4762	
1015	28336	2525		3050		2788		1396	5036	5036		4167	
1016	28337	6010		5890	3 *	5950	6 17%	997	7536	6 7536	6 6%	4034	
1017	28338	5354		4760		5057		2660	5362	5362		6548	6 8%
1018	28339	2374		4760		3567		2061	5580	5580		4034	
1019	28340	6414	10	3420		4917		2327	7174	8 7174	8	6614	3 9%
1020	28341	3838		3700		3769		3125	4928	4928		7474	1* 23%
1021	28342	5758		6030	2 *	5894	8 16%	4322	3 6014	6014		5754	
1022	28343	5657		3430		4544		3457	10 6449	6449			
1023	28344	6010		5750	7 *	5880	9 16%	3059	6341	6341		5489	
1024	CO 51 (NC)	6263		3900		5082		2859	7101	9 7101	9	6085	
1025	28345	5202		3630		4416		1928	6159	6159		4365	
1026	28346	5808		4840		5324	5%	1862	4420	4420		5423	
1027	28347	6566	8	5080	*	5823	10 15%	3590	5 6486	6486		6481	8 7%
1028	28348	5657		5250	*	5454	7%	2793	4348	4348		6614	3 9%
1029	28349	5859		5170	*	5515	9%	2327	5290	5290		6217	
1030	28350	4596		4560		4578		3258	1812	1812		5886	
1031	28351	5960		4840		5400	6%	2992	4203	4203		6746	2 11%
1032	28352	7475	2	5760	6 *	6618	2 * 30%	3324	4819	4819		6415	9 5%
1033	28353	7778	1	5620	8 *	6699	1 * 32%	3125	4964	4964		5820	
1034	28354							1463	7101	9 7101	9		
1035	28355	5657		4940		5299		3524	9 4928	4928		5820	
1036	28356	5404		2990		4197		2992	6884	6884		4762	
1037	28357	6768	6	4810		5789	14%	3324	3986	3986		6019	
1038	28358	5960		5440	*	5700	12%	2194	5145	5145		5423	
1039	28359	3434		3050		3242		931	8261	3 8261	3 16%	4101	
1040	Zonal Check (ZC)	4040		3300		3670		931	4058	4058		4431	
1041	28360	3283		4820		4052		1862	3768	3768		4034	
1042	28361	3535		3940		3738		2261	3986	3986		4497	
1043	28362	5051		4040		4546		1795	5507	5507		4167	
1044	28363	4949		3830		4390		3391	5435	5435		5820	
1045	28364	3889		5560	9 * 26%	4725		2793	5181	5181		4960	
1046	28365	4141		3400		3771		2527	5978	5978		6151	
1047	28366	5455		4540		4998		2327	3768	3768		5754	
1048	28367	5051		5420	*	5236		2726	8406	2 8406	2 18%	5291	
1049	28368	6162		4830		5496	8%	3723	4 6449	6449		4630	
1050	28369	4798		5130	*	4964		4455	1 4275	4275		5556	
1051	28370	5354		5880	4 *	5617	11%	3324	7065	7065		4630	
1052	28371	5505		4580		5043		2128	8188	4 8188	4 15%	5489	
1053	28372	5101		4410		4756		2926	6159	6159		5622	
1054	28373	2626		3800		3213		3059	3841	3841		5820	
1055	28374	5909		4560		5235		4388	2 6413	6413		6217	
1056	28375	6667	7 6%	4430		5549	9%	2593	6159	6159		6614	3 9%
1057	28376	4848		4080		4464		1928	5652	5652		5622	
1058	28377	5707		6170	1 * 39%	5939	7 17%	3590	5 8043	5 8043	5 13%	5886	
1059	28378	7424	3 19%	5290	* 19%	6357	3 * 25%	2859	6522	6522		6217	
1060	28379	3737		3470		3604		1995	5290	5290		5423	
1061	28380	4646		5270	* 19%	4958		1596	6957	6957		6019	
1062	28381	5101		5020	* 13%	5061		1729	4203	4203		5688	
1063	28382	5253		3170		4212		2194	4783	4783		4696	
1064	Local Check	5202		4430		4816		2460	5362	5362		4828	
Exp. Mean		5326		4591		4958		2607	5687	5687		5536	
CD		1688.03		523.71		869.57		902.36	1350.41	1350.41		769.72	
CV%		15.85		5.7		8.77		17.32	11.88	11.88		6.95	
D/S		02-07-2019		04-07-2019		29-06-2019		08-07-2019					
D/P		08-08-2019		02-08-2019		13-08-2019		06-08-2019					
Local Check Name		Rajendra Bhagwati		Sahbhagi Dhan		BVD-110		Sahbhagidha					

Table 3.14 contd.: Grain yield (kg/ha) of entries in IVT E TP, Kharif 2019

Table 1 - Vertical Granular (g) of Chicks in P-1, L-11, R-10, R-10													
Entry No.	IET No.	UP		UP (1)		Zone III (7)		Zone IV		TR			
		@MSD	VRN	Mean		Mean		@ARD	@LMB	@WBL			
1001	28322	3200	3815		3815		4528		4198	8	5665	4	1750
1002	28323	2300	4574		4574		5085		3648		4571		4500
1003	28324	2500	4336		4336		4597				2919		4500
1004	28325	2750	4000		4000		5278		3448		4162		3200
1005	28326	2600	5175		5175	8%	4663		2562		3144		1700
1006	28327	2700	4618		4618		5538		3343		5569		4300
1007	28328	2300	4369		4369		5660		3713		4258		4500
1008	28329	2675	5731	6 *	5731	6 * 20%	6070	* 9%	3546		4264		4500
1009	28330	2825	5900	3 *	5900	3 * 23%	5746		4290	6	3902		4500
1010	28331	2700	3663		3663		6297	7 * 13%	3660		5288		1700
1011	28332	2600	6256	2 *	6256	2 * 31%	5847		4111	10	5016		5500
1012	28333	2600	5725	7 *	5725	7 * 20%	5900	6%	4611	5	3161		2500
1013	28334	3050					4613				3151		1700
1014	28335	3300	1613		1613		4314		2528		3195		3000
1015	28336	2000	3636		3636		4428		2565		3155		4500
1016	28337	3050	4513		4513		5929	6%	3657		3763		3400
1017	28338	2475	2406		2406		5464		3198		4127		2000
1018	28339	2400	2563		2563		4215		3225		2310		2750
1019	28340	2000	4394		4394		5420		3460		3673		3400
1020	28341	3500	5775	5 *	5775	5 * 21%	5002				1950		4550
1021	28342	2300	5513	*	5513	* 15%	5983	7%	5398	1	4699		2000
1022	28343	2000	5406		5406	13%	6290	8 * 13%	3315		3207		5000
1023	28344	3000	4144		4144		6654	4 * 19%	4954	4	4796		4500
1024	CO 51 (NC)	3125	4538		4538		5584		3759		4222		4500
1025	28345	2655	4025		4025		5689		3593		3543		4700
1026	28346	2515	3181		3181		4605		2852		4466		1500
1027	28347	3000	4938		4938		6057	* 8%	2623		5500	6	2450
1028	28348	3350	6725	1 *	6725	1 * 40%	5649		2910		3505		3100
1029	28349	3050	2038		2038		5285		4077		3546		2000
1030	28350	3225	5550	*	5550	* 16%	4705		2735		2484		1500
1031	28351	3555	5394	1	5394	13%	5823		2787		5202		3700
1032	28352	2300	3988		3988		5456		3917		3434		4500
1033	28353	3050	5300		5300	11%	6583	5 * 18%	2509		5295	9	2500
1034	28354	3300					8319	1 * 49%			4009		4500
1035	28355	2200	4968		4968		6285	9 * 13%	2503		4139		3900
1036	28356	2820	5825	4 *	5825	4 * 22%	5986	7%	2667		4958		6000
1037	28357	2300	4138		4138		5813				3796		3000
1038	28358	2350	5637	9 *	5637	9 * 18%	5982	7%	2645		3348		3000
1039	28359	2950	4456		4456		4785		2543		3493		4400
1040	Zonal Check (ZC)	2750	4788		4788		3862		2608		3006		3000
1041	28360	3350	7 3413		3413		4238		2639		5312	8	3200
1042	28361	3350	7 1688		1688		4115		3191		3667		2100
1043	28362	2995	7 5001		5001		4679		2651		3602		2200
1044	28363	2250		4888	4888		5858		4991		5053		2700
1045	28364	2400		2875	2875		5333		2812		2948		1000
1046	28365	2600		5408	5408	13%	4843		4201	7	4074		4600
1047	28366	2550		5594	5594	10 * 17%	5848	0	5006	2	6010	2	2000
1048	28367	2800		4406	4406		5407		4154	9	3920		3200
1049	28368	2600		2594	2594		5522		4046		5022		1500
1050	28369	3280		5388	5388	13%	5686		3423		3847		1500
1051	28370	2580		3463	3463		5921	6%	2525		3887		3800
1052	28371	3200		4513	4513		6551	6 * 17%			5232		3000
1053	28372	3450	4 4370		4370		5951	7%	3849		6010		2250
1054	28373	3200		5063	5063	6%	4317		2448		3316		2200
1055	28374	2975		4731	4731		6108	10 * 9%	2463		4372		5500
1056	28375	2950		3275	3275		5722		2753		5451	7	2100
1057	28376	3395	5 4863		4863		5221		2602		3685		2000
1058	28377	3350	7 5406		5406	13%	6828	3 * 22%	2975		6745	1	4400
1059	28378	3375	6 5454		5454	14%	7020	2 * 26%	2605		4674		4500
1060	28379	3300		5544	* 5544	* 16%	5573		2503		4916		4800
1061	28380	2200		4794	4794		5926	6%			4344		3700
1062	28381	2650		5646	8 * 5646	8 * 18%	5435		2522		4324		2700
1063	28382	3525	2 3481		3481		5263		2534		3603		1200
1064	Local Check	2800		4656	4656		5292		2404		4740		4500
	Exp. Mean	2819		4518	4518		5510		3289		4166		3263
	CD	455.98		698.85	698.85		453.7		360.52		2036.2		39.746
	CV%	8.09		7.74	7.74		4.12		5.472382		24.45852		0.609489
	D/S	20-07-2019		08-06-2019					10-08-2019		25-07-2019		18-07-2019
	D/P	14-08-2019		30/6-2019					12-09-2019		18-08-2019		12-08-2019
	Local Check Name	Shushk		HUR-3022					Satabdi (1064)				SANA

Table 3.14 contd.: Grain yield (kg/ha) of entries in IVT E TP, Kharif 2019

Entry No.	IET No.	ZONE V									
		MP (1)		CH		MA1		MA1 (2)		Zone V(3)	
		REW		@JDP		SKL	SND	Mean		Mean	
1001	28322	6288	,6%	4368		3301	4382	3842		4657	
1002	28323	5201		4954		4607	3494	4051		4434	
1003	28324	3903		4193		3449	3089	3269		3481	
1004	28325	6441	,8%	5755		3752	4531	4141		4908	
1005	28326	5125		3600		4099	4339	4219		4521	
1006	28327	5395		4629		3237	4645	3941		4426	
1007	28328	6253	,5%	5788		4910	10 4794	4852	,6%	5319	,6%
1008	28329	4817		5872		4723	6 4844	4784		4795	
1009	28330	4951		5625		5322	8 4375	4848	,6%	4883	
1010	28331	6410	,8%	5462		3880		3885		4725	
1011	28332	6148		4948		5804	4*	5064		5434	5* 19%
1012	28333										
		6459	,8%	4310		5193		5163		5178	,13%
1013	28334	3502		5143		4762		3871		4316	
1014	28335	5414		5768		4112		3757		3935	
1015	28336	5134		3275		3797		4084		3940	
1016	28337	5270		5234		4485		5668	6	5076	,11%
1017	28338	5322		5495		4768		4815		4792	
1018	28339	6692	,12%	3730		2683		3132		2908	
1019	28340	4143		5605		3861		4638		4249	
1020	28341	7587	5 27%	5462		3764		3864		3814	
1021	28342	8061	2 * 35%	6875	3	3906		5007		4457	
1022	28343	5945		6426		5779	5*	4844		5311	7* 16%
1023	28344	5098		5553		6544	1*	5291		5918	1* 29%
1024	CO 51 (NC)	4164		3372		4408		4176		4292	
1025	28345										
		4046		5072		3012		3970		3491	
1026	28346	2399		5664		6145	2*	4695		5420	6* 18%
1027	28347	7048	,18%	7207	2	5225		5959	2	5592	3* 22%
1028	28348	4219		5833		4878		4496		4687	
1029	28349	4937		5527		4247		4467		4357	
1030	28350	6072		3509		3443		4276		3859	
1031	28351	5103		5885		4273		5036		4654	
1032	28352	7881	3 32%	3698		5811	3*	5455	7	5633	2* 23%
1033	28353	4436		6536	9	4505		5156		4830	
1034	28354	5727		5794		3578				3578	
1035	28355	6642	,12%	5814		4505		6030	1	5267	10 15%
1036	28356										
		4322		5684		4421		2749		3585	
1037	28357										
		7148	,20%	6797	4	5257		4631		4944	,8%
1038	28358										
		5888		4069		5753	6*	2173		3963	
1039	28359	4779		3665		3024		4957		3991	
1040	Zonal Check (ZC)										
		5955		6582	8	4472		4695		4583	
1041	28360	4721		6178		2580		3196		2888	
1042	28361	6629	,11%	4648		3095		2749		2922	
1043	28362	4504		4408		4852		4588		4720	
1044	28363										
		7337	8 23%	5911		2741		4801		3771	
1045	28364	2338		3665		2638		3324		2981	
1046	28365	6943	,17%	4622		4788		5007		4897	,7%
1047	28366	6180		5645		4762		4453		4608	
1048	28367	5010		5944		5077		3814		4446	
1049	28368	6035		6615	7	4685		5220		4952	,8%
1050	28369	5060		6217		5315	9	5135		5225	,14%
1051	28370	8444	1 * 42%	6647	6	5534	7	5057		5295	9 16%
1052	28371	7465	6 25%	6478	10	5206		5710	5	5458	4* 19%
1053	28372										
		7063	,19%	5534		4794		5007		4901	,7%
1054	28373	4772		4787		2413		3821		3117	
1055	28374	7674	4, 29%	6003		4588		5781	4	5185	
1056	28375	5776		5521		3842		4794		4318	
1057	28376	6665	,12%	5293		4427		4737		4582	
1058	28377	7317	9 23%	7454	1	4710		4297		4504	
1059	28378	7462	7 25%	5612		4794		5071		4933	,8%
1060	28379										
		4960		4902		4736		5334	9	5035	,10%
1061	28380	5332		5085		4923		4254		4589	
1062	28381	5922		4844		4698		5909	3	5303	8* 16%
1063	28382										
		3794		5007		5232		4141		4686	
1064	Local Check	5925		6732	5	3520		5405	8	4462	
	Exp. Mean	5682		5352		4401		4541		4463	
	CD	1969.4		2532.6		1144.7		1016.1		712.17	
	CV%	17.34412		23.67921		13.016		11.19285		7.98	
	D/S	03-07-2019		19-06-2019		24-06-2019		26-06-2019			
	D/P	07-08-2019		10-07-2019		17-07-2019		04-08-2019			
	Local Check Name			Samleshwari		Sakoli-6		SYE-1			

Table 3.14 contd.: Grain yield (kg/ha) of entries in IVT E TP, Kharif 2019

Entry No.	IET No.	Zone VI									
		MA II				MA II (3)		MA (5)		GU	
		KJT	SHR	VDG		Mean		Mean		NWG	
1001	28322	4785	2328	4982	7	4032		3956		4138	
1002	28323	4486	3862	4314		4221		4153		3339	
1003	28324	2512	2526	3650		2896		3046		3670	
1004	28325	3243	4392	4391		4008		4062		3023	
1005	28326	4082	3849	3956		3962		4065		3232	
1006	28327	3856	4537	4739		4377		4203		4917	9
1007	28328	2429	4802	4643		3958		4316		4277	
1008	28329	4656	4246	4770		4557		4648		2476	
1009	28330	4039	4471			4255		4552		4165	
1010	28331	3256	4603	3787		3882		3882		3906	
1011	28332	4879	2302	3729		3637		4356		4744	
1012	28333	4953	3929	4475		4452		4743		4228	
1013	28334	2331	5172	4510	8	4005		4129		4327	
1014	28335	4395	2963	3087		3482		3663			
1015	28336	1415	3069			2242		3091		2728	
1016	28337	5969	4333	5080	5	4794		4907	9	3629	
1017	28338	4713	3399	4746		4286		4488		3880	
1018	28339	2975	2976	3285		3079		3010		3303	
1019	28340	4127	4008	4906	9	4347		4308		2997	
1020	28341	3955	4815	4189		4320		4117		3295	
1021	28342	4424	3836	4671		4310		4369		5407	5
1022	28343	4777	3915	4468		4387		4757		6112	3*
1023	28344	5914	4074			4994	8	5456	2* 16%	6512	1*
1024	CO 51 (NC)	3213	3849	3085		3382		3746		4312	
1025	28345	3442	3214	3468		3375		3421		3432	
1026	28346	3563	4074	4410		4016		4577		6387	2*
1027	28347	4701	4471	4070		4414		4885	10	4977	7
1028	28348	4441	4894	3850		4395		4512		4063	
1029	28349	4943	3849	3728		4173		4247		4384	
1030	28350	2516	4563	2553		3211		3470		3249	
1031	28351	5305	4907	4187	10	4800	10	4742		4938	8
1032	28352	6122	5106	4489	9	5239	3 8%	5396	3* 15%	4994	6
1033	28353	5213	4365	3914		4497		4631		4780	
1034	28354	6704				6704	1* 38%	5141	5* 9%		
1035	28355	5511	4537	5379	2*	5142	5 6%	5192	4* 10%	3298	
1036	28356	3985	2646	3377		3336		3435		3582	
1037	28357	3366	4841	4799		4336		4579		3104	
1038	28358	5651	5966	3800	3	5139	6 6%	4669		3132	
1039	28359	1386	3479	3149		2671		3199		2761	
1040	Zonal Check (ZC)	2553	2513	3872		2980		3621		2918	
1041	28360	2166	3730	4827		3574		3300		3078	
1042	28361	2483	2976	4660		3373		3193		3652	
1043	28362	3981	2844	4857	10	3894		4224		3416	
1044	28363	3842	4378	4334		4185		4020		3431	
1045	28364	3955	2976	4916	8	3949		3562		4866	
1046	28365	2601	3095	3665		3120		3831		4786	
1047	28366	5872	5516	4270	5	5219	4 8%	4975	7 6%	4694	
1048	28367	4860	4352	4428		4547		4506		4586	
1049	28368	4682	4735	4484		4634		4761		2561	
1050	28369	4704	4550	4698		4651		4880		3168	
1051	28370	4674	4630	5065	6	4790		4992	6 6%	4566	
1052	28371	6147	6376	5198	4*	5907	2* 21%	5727	1* 22%	4032	
1053	28372	3059	6362	4703	2	4708		4785		4503	
1054	28373	2006	3188	4155		3116		3117		3604	
1055	28374	3744	5833	4690	4	4756	13	4927	8	5622	4*
1056	28375	2594	4180	4397		3724		3961		3703	
1057	28376	4395	5344	5259	7	4999	7	4832		3159	
1058	28377	3067	4418	3398		3628		3978		3373	
1059	28378	4115	4484	5612	1*	4737		4815		4368	
1060	28379	2720	3545	4756		3673		4218		3941	
1061	28380	2917	3611	4417		3649		4025		2967	
1062	28381	4661	4788	3493		4314		4710		4900	
1063	28382	5710	4034	4262		4669		4676		4601	
1064	Local Check	4846	5423	4318	6	4863	9	4703		4526	
	Exp. Mean	4040	4128	4290		4171		4288		4012	
	CD	802.41	1177.6	774.77		553.19		391.33		1052.3	
	CV%	9.94	14.27	9.03		6.63		4.56		13.11833	
	D/S	15-06-2019	19-06-2019	14-06-2019						24-06-2019	
	D/P	16-07-2019	11-07-2019	18-07-2019						26-07-2019	
	Local Check Name	karjat 7	Ratnagiri 1	Phule Radha						Mahisagar	

Table: 3.14 contd.: Grain yield (kg/ha) of entries in IVT E TP, Kharif 2019

Entry No.	IET No.									Zone VII	
						GU (1)		Zone VI(4)		AP(1)	
		@DBI	@VYR	Mean		Mean		Mean		MTU	
1001	28322	3209	3094	4138		4058		4772			
1002	28323	2750	2919	3339		4000		4904			
1003	28324	3215	3189	3670		3090		5481			
1004	28325	2507	2025	3023		3762		4092			
1005	28326	2420	2545	3232		3780		4783			
1006	28327	3440	2956	4917	9 9%	4512		6777	1*	13%	
1007	28328	2772	2755	4277		4038		4808			
1008	28329	2776	6201	2 2476		4037		4452			
1009	28330	3732	4809	8 4165		4225		5994			
1010	28331	2509	3054	3906		3888		3226			
1011	28332	4510	9 3863	4744	, 5%	3914		5253			
1012	28333	3418	4501	4228		4396		5442			
1013	28334	3427	2495	4327		4085					
1014	28335	2406	3647			3482		5338			
1015	28336	2072	3250	2728		2404		3142			
1016	28337	3242	4080	3629		4503		5342			
1017	28338	3396	3407	3880		4185		3516			
1018	28339	2451	2012	3303		3135		3365			
1019	28340	2531	2430	2997		4009		4227			
1020	28341	3244	3628	3295		4063		5214			
1021	28342	3913	2557	5407	5 19%	4585		3390			
1022	28343	4144	5365	5 6112	3* 35%	4818	8	6435	6	8%	
1023	28344	5111	3 4402	6512	1* 44%	5500	2* 15%	6332	9	6%	
1024	CO 51 (NC)	3262	1671	4312		3615		4993			
1025	28345	2678	2465	3432		3389		5004			
1026	28346	5227	2 3338	6387	2* 41%	4608		4986			
1027	28347	5000	4 5023	6 4977	7 10%	4555		3868			
1028	28348	2906	4958	7 4063		4312		4765			
1029	28349	3485	3297	4384		4226		4427			
1030	28350	3128	2878	3249		3220		5028			
1031	28351	4323	6640	1 4938	8 9%	4834	7	5367			
1032	28352	4367	10 4612	10 4994	6 10%	5178	4 8%	5203			
1033	28353	5357	1 3762	4780	, 6%	4568		6585	2	10%	
1034	28354	3440	1615			6704	1* 40%				
1035	28355	2946	4598	3298		4681	11	3814			
1036	28356	4144	4240	3582		3398		6055			
1037	28357	3396	3742	3104		4028		4633			
1038	28358	3093	4112	3132		4637		5053			
1039	28359	2282	2055	2761		2694		3166			
1040	Zonal Check (ZC)	2362	3381	2918		2964		5979			
1041	28360	2455	2778	3078		3450		3234			
1042	28361	2785	1894	3652		3443		5147			
1043	28362	3106	2784	3416		3774		3504			
1044	28363	2968	2107	3431		3996		6428	7	8%	
1045	28364	4675	5 3482	4866	, 8%	4178		4509			
1046	28365	4086	2237	4786	, 6%	3537		4803			
1047	28366	4162	5411	4 4694		5088	5 6%	6300	, 5%		
1048	28367	3690	5706	3 4586		4557		4847			
1049	28368	3351	2572	2561		4115		5488			
1050	28369	3685	4354	3168		4280		5281			
1051	28370	4073	4057	4566		4734	10	4177			
1052	28371	3565	4536	4032		5438	3* 14%	6407	8	7%	
1053	28372	3859	3307	4503		4657		4427			
1054	28373	2415	1931	3604		3238		4391			
1055	28374	4064	4614	9 5622	4* 24%	4972	6	5114			
1056	28375	2660	2556	3703		3718		5345			
1057	28376	4122	3231	3159		4539		5014			
1058	28377	3266	3378	3373		3564		5032			
1059	28378	4523	8 4086	4368		4645		5173			
1060	28379	3320	2268	3941		3740		3490			
1061	28380	4554	6 3066	2967		3478		6485	4	8%	
1062	28381	4144	3760	4900	10 8%	4461		6492	3	9%	
1063	28382	4064	2730	4601		4652		6460	5		
1064	Local Check	4539	7 2816	4526		4778	9	4509			
	Exp. Mean	3480	3457	4012		4142		4956			
	CD	700.81	1021.8	1052.3		522.67		653.2			
	CV%	10.07721	14.79197	13.11833		6.31		6.591348			
	D/S	08-06-2019	19-06-2019					08-07-2019			
	D/P	17-07-2019	25-07-2019					13-08-2019			
	Local Check Name	Gurjari	GR 7					MTU1153			

Table 3.14 contd.: Grain yield (kg/ha) of entries in IVT E TP, Kharif 2019

Entry No.	IET No.	Zone VII															
		TE (1)		TA				TA(2)		KE				KE (1)			
		WGL		ADT		CBT		Mean		@MNC		PTB		Means			
1001	28322	6297		5144		6074		5609		4913		6249	6*	6249	6* 26%		
1002	28323	5543		4290		6909		5599		3188		4634		4634			
1003	28324	3311		5226		6186		5706		2712		4543		4543			
1004	28325	4615		5041		5553		5297		3871		3185		3185			
1005	28326	4072		6770	9	6453		6611		3417		3211		3211			
1006	28327	4608		6816	6	5903		6359		5700		5031		5031			
1007	28328	3982		5556		5399		5477		5933		3001		3001			
1008	28329	9080	1* 28%	5401		5569		5485				6176	9*	6176	9* 25%		
1009	28330	5309		4938		7405	8	6172		3613		2921		2921			
1010	28331	5837		6276		5240		5758		4642		4738		4738			
1011	28332	8235	4 16%	5247		5579		5413		3746		4603		4603			
1012	28333	7036		5504		7746	5	6625	10	5913		3031		3031			
1013	28334			4115		4988		4551		4822							
1014	28335	5649		4733		4980		4856		3496		4567		4567			
1015	28336	4857		4424		4874		4649		5108		4540		4540			
1016	28337	5121		6430		6951		6691	8	3950		4559		4559			
1017	28338	6478		5535		5013		5274		4074		3375		3375			
1018	28339	4095		4784		5531		5158		3817		3021		3021			
1019	28340	5905		6019		5141		5580		3800		4669		4669			
1020	28341	7459	7 5%	5607		4594		5100		5728		4427		4427			
1021	28342	4540		6173		8133	2	7153	3 7%	6638	4	3124		3124			
1022	28343	8861	2* 25%	5093		5500		5296		6292	7	3047		3047			
1023	28344	7496	6 6%	5813		7678	6	6745	5	3967	2	2982		2982			
1024	CO 51 (NC)	5382		6121		7253		6687	9	3821		3216		3216			
1025	28345	5173		5761		4688		5224		5225		6313	4*	6313	4* 28%		
1026	28346	3560		5453		4383		4918		5442		3053		3053			
1027	28347	6154		5144		6304		5724		5454		6193	7*	6193	7* 25%		
1028	28348	7036		6121		5465		5793		6896	2	4736		4736			
1029	28349	5030		5401		6390		5896		4475		4638		4638			
1030	28350	5415		4887		4554		4720		4688		3002		3002			
1031	28351	6410		5144		6481		5813		4763		3122		3122			
1032	28352	5573		6842	5	5423		6132		4671		3106		3106			
1033	28353	7406	8	6615	10	5194		5904		4492		2969		2969			
1034	28354			6790	7	5161		5976				6400	2*	6400	2* 29%		
1035	28355	4359		5710		7774	4	6742	6	5017		4753		4753			
1036	28356	8394	3 18%	5916		3216		4566		4258		4531		4531			
1037	28357	6742		6173		2939		4556		3867		3115		3115			
1038	28358	5675		5730		5175		5453		4012		6606	1*	6606	1* 33.5%		
1039	28359	5234		4115		4460		4288		4442		4403		4403			
1040	Zonal Check (ZC)	7097		6584		3719		5152		6200	8	4574		4574			
1041	28360	4819		4990		3243		4116		5192		3196		3196			
1042	28361	4653		4012		2925		3469		3779		2943		2943			
1043	28362	4827		4012		2978		3495		3313		3314		3314			
1044	28363	6192		5453		5733		5593		4204		3326		3326			
1045	28364	6440		5895		5933		5914		4438		2999		2999			
1046	28365	5814		4938		5921		5430		4692		6357	3*	6357	3* 28%		
1047	28366	6342		5453		5464		5458		6604	5	4803		4803			
1048	28367	5799		4835		4719		4777		2825		4799		4799			
1049	28368	3733		7459	1 13%	7308		7383	2 10%	6038	10	5603	*	5603	* 13%		
1050	28369	7557	5 6%	5123		7543	7	6333		7358	1	5740	*	5740	* 16%		
1051	28370	5053		5401		6935		6168		6088	9	6266	5*	6266	5* 27%		
1052	28371	6176		7356	2 12%	5460		6408		5115		4439		4439			
1053	28372	3854		6224		9153	1* 15%	7688	1* 15%	4833		4568		4568			
1054	28373	5415		4733		7388	9	6060		6788	3	3188		3188			
1055	28374	7327	9	6790	7	7376	10	7083	4 6%	5321		4942		4942			
1056	28375	5181		5761		3445		4603		6371	6	6125	*	6125	* 24%		
1057	28376	7134		6276		4766		5521		5050		4418		4418			
1058	28377	5701		5967		3711		4839		5600		6183	8*	6183	8* 25%		
1059	28378	3771		6996	4 6%	3185		5090		4578		3084		3084			
1060	28379	5814		4938		3443		4190		3379		4741		4741			
1061	28380	5068		6224		3401		4813		3079		3135		3135			
1062	28381	6591		7047	3 7%	3939		5493		4446		5176		5176	, 5%		
1063	28382	6033		5504		4156		4830		4004		3317		3317			
1064	Local Check	6780		5453		7958	3	6705	7	5400		4949		4949			
	Exp. Mean	5792		5629		5501		5565		4767		4317		4317			
	CD	1596.5		1327.8		669.43		725.83		2158.3		534.24		534.24			
	CV%	13.78437		11.80293		6.089661		6.52		22.6426		6.190706		6.190706			
	D/S	08-07-2019		#####		12-06-2019				19-09-2019		05-07-2019					
	D/P	07-08-2019		08-08-2019		10-07-2019				04-10-2019		24-07-2019					
	Local Check Name	KNM-118		ADT 53		CO 51				Jyothi		Kanchana					

Table 3.14 contd.: Grain yield (kg/ha) of entries in IVT E TP, Kharif 2019

Entry No.	IET No.	Zone VII(7)									
		KA						KA (2)			
		MND		@BRM	@MGD	GNV		Mean			
1001	28322	4952		4212	4	3864		8161		6557	
1002	28323	5208		4230	3	5464		8849		7029	
1003	28324	4702		3030		5209		8221		6461	
1004	28325	6625		3945	10	6282		8813		7719	
1005	28326	5244		3206		4582		8376		6810	
1006	28327	6310		2503		4736		8765		7537	
1007	28328	6327		2842		3627		10057		8192	
1008	28329	6589		3545		6436		10081		8335	
1009	28330	5970		3545		6873	6	8885		7427	
1010	28331	6387		4152	5	5764		10801	3*	8594	8 6%
1011	28332	7315	2	3788		6036		10751	6*	9033	2* 12%
1012	28333	6762	5	3636		5755		8873		7817	
1013	28334	5333				3745				5333	
1014	28335	2899		2364		4091		7215		5057	
1015	28336	6387		4085	7	5209		10703	7*	8545	9 6%
1016	28337	6702	7	3364		6518	9	8436		7569	
1017	28338	6268		3909		4091		9166		7717	
1018	28339	4577		2697		4545		7156		5866	
1019	28340	5125		2279		4745		10913	2*	8019	
1020	28341	6452		3212		4727		10039		8246	
1021	28342	7399	1	3606		5264		10919	1*	9159	1* 13%
1022	28343	6637	10	3727		6155		10578	9	8607	7 6%
1023	28344	6863	4	4758	1	3945		10766	5*	8815	3* 9%
1024	CO 51 (NC)	6738	6	3370		5336		9447		8093	
1025	28345	5440		1970		6473	10	7497		6469	
1026	28346	6536		3667		5500		10787	4*	8661	6 7%
1027	28347	5649		3491		7209	3	9950		7799	
1028	28348	5512		4030	9	5291		8256		6884	
1029	28349	6089		3545		5500		8639		7364	
1030	28350	5369		3818		5236		9112		7241	
1031	28351	5000		2121		7091	4	9776		7388	
1032	28352	5857		2333		7245	2	9010		7434	
1033	28353	6381		3909		5436		8926		7654	
1034	28354	5363								5363	
1035	28355	6244		3636		8282	1	8765		7505	
1036	28356	6649	9	3000		5809		8711		7680	
1037	28357	5917		3030		5955		6958		6437	
1038	28358	5387		3545		2764		9070		7228	
1039	28359	5369		3758		2918		6001		5685	
1040	Zonal Check (ZC)	6524		2818		6827	7	8352		7438	
1041	28360	4339		2697		4900		5199		4769	
1042	28361	4833		2394		5700		5477		5155	
1043	28362	5113		3424		2882		7126		6119	
1044	28363	6506		3727		4427		7951		7229	
1045	28364	3357		3061		5800		8759		6058	
1046	28365	4851		3879		5027		7407		6129	
1047	28366	6399		1545		3909		10350		8375	10
1048	28367	6661	8	3527		5273		10679	8*	8670	5 7%
1049	28368	6167		2485		6927	5	7592		6879	
1050	28369	6095		4636	2	5800		8980		7538	
1051	28370	6560		4097	6	4391		7969		7264	
1052	28371	6238		2667		5000		6569		6404	
1053	28372	6446		3727		5109		8340		7393	
1054	28373	6310		3212		4555		7036		6673	
1055	28374	6333		3909		6545	8	9262		7797	
1056	28375	5679		3212		5509		8759		7219	
1057	28376	5655		2879		4255		9142		7398	
1058	28377	6935	3	3515		3218		10554	10 12%	8744	4 8%
1059	28378	6429		3333		6255		8370		7399	
1060	28379	6083		2945		4782		9172		7628	
1061	28380	5185		3152		4736		8627		6906	
1062	28381	5518		3515		4482		7634		6576	
1063	28382	5060		3485		5955		7790		6425	
1064	Local Check	4690		4061	8	5545		7933		6312	
	Exp. Mean	5852		3351		5262		8749		7247	
	CD	953.38		655.82		2253		1189.3		667	
	CV%	8.153178		9.787296		21.41815		6.797839		4.6	
	D/S	07-08-2019		17-06-2019		12-06-2019		07-08-2019			
	D/P	07-09-2019		08-07-2019				30-08-2019			
	Local Check Name	KMP-105 (Raksha)		Mahaveera		MGD 101		GNV 10-89			

Table 3.14 contd.: Grain yield (kg/ha) of entries in IVT E TP, Kharif 2019

Entry No.	IET No.	PUD		Zone VII(7)		Overall (23)	
		@KBP		Mean		Mean	
1001	28322	5793		5950		4919	
1002	28323	4675		5762		4976	
1003	28324	3388		5381		4504	
1004	28325	5759		5418		4885	
1005	28326	5962		5558		4739	
1006	28327	4946		6315	9	5367	
1007	28328	5894		5590		5285	
1008	28329	6978	8	6764	2* 10%	5744	* 5.28%
1009	28330	5894		5917		5455	
1010	28331	3455		6072		5638	
1011	28332	3117		6712	4* 9%	5790	* 6%
1012	28333	5827		6342	8	5630	
1013	28334			4812		4335	
1014	28335	2913		5054		4473	
1015	28336	7046	7	5561		4460	
1016	28337	3997		6220		5603	
1017	28338	7215	6	5622		5021	
1018	28339	5352		4647		4086	
1019	28340	5962		6000		5063	
1020	28341	5488		6256		5225	
1021	28342	4133		6240		5639	
1022	28343	5352		6593	6* 7%	6037	4 * 11%
1023	28344	5352		6847	1* 11%	6092	3 * 12%
1024	CO 51 (NC)	5759		6164		5128	
1025	28345	6301		5696		4904	
1026	28346	8198	3	5537		4715	
1027	28347	6301		6180		5849	8 * 7%
1028	28348	8062	4	5985		5318	
1029	28349	6301		5802		5037	
1030	28350	3930		5338		4601	
1031	28351	6301		5900		5460	
1032	28352	6233		5859		5727	* 5%
1033	28353	5962		6297		5864	6 * 7%
1034	28354			5929		6262	1 * 15%
1035	28355	7588	5	5917		5679	
1036	28356	4505		6210		5306	
1037	28357	6098		5211		5229	
1038	28358	3252		6100		5656	
1039	28359			4678		4240	
1040	Zonal Check (ZC)	6436		6118		4549	
1041	28360			4146		4033	
1042	28361	5081		4284		4063	
1043	28362	5149		4410		4421	
1044	28363	6165		5941		5326	
1045	28364	5759		5413		4779	
1046	28365	5420		5727		5004	
1047	28366	5962		6444	7 5%	5863	7 * 7%
1048	28367	5285		6049		5424	
1049	28368	6843	9	6193		5393	
1050	28369	9079	2	6617	5* 7%	5649	
1051	28370	6640		6052		5783	* 6%
1052	28371	5285		6092		5967	5 * 9%
1053	28372	5285		6145		5497	
1054	28373	5420		5494		4400	
1055	28374	5217		6735	3* 9%	6110	2 * 12%
1056	28375	5691		5756		5296	
1057	28376	9553	1	6058		5438	
1058	28377	5827		6298	10	5822	9 * 7%
1059	28378	6843		5287		5815	10 * 7%
1060	28379	3184		5383		5070	
1061	28380	4268		5446		5112	
1062	28381	3117		6057		5445	
1063	28382	5420		5474		4965	
1064	Local Check	5759		6039		5456	
	Exp. Mean	5633		5814		5228	
	CD	3091		424.32		254.4	
	CV%	27.424		3.65		2.43	
	D/S	16-09-2019					
	D/P	11-10-2019					
	Local Check Nam	ADT 37					

Table 3.15: Days to 50% flowering of entries in IVT E TP, kharif 2019

Entry No.	IET No.	Zone II									
		UT	PU (1)	HA (1)	Zone II (2)	OD		OD (2)	BI		BI (2)
		@PNT	LDN	KUL	Mean	CTK	JYP	Mean	BKG	PTN	Mean
1001	28322	108	111	104	107	91	92	92	102	94	98
1002	28323	100	99	95	97	92	86	89	97	91	94
1003	28324	97	89	92	91	89	85	87	91	91	91
1004	28325	95	87	89	88	88	88	88	94	92	93
1005	28326	96	91	92	91	90	89	89	99	92	95
1006	28327	109	105	103	104	93	87	90	103	91	97
1007	28328	96	93	93	93	89	93	91	95	93	94
1008	28329	98	100	92	96	86	88	87	96	90	93
1009	28330	94	98	91	94	89	85	87	91	92	91
1010	28331	99	101	90	95	90	93	91	90	91	90
1011	28332	98	99	93	96	90	84	87	91	92	91
1012	28333	100	101	94	97	90	84	87	104	90	97
1013	28334	94	91		91	87	90	88			
1014	28335	107	117	80	98	90	81	85	95	92	93
1015	28336	86	87	81	84	86	79	82	81	80	80
1016	28337	99	103	94	98	88	86	87	95	91	93
1017	28338	100	111	95	103	94	92	93	94	93	93
1018	28339	101	111	99	105	92	90	91	96	95	95
1019	28340	98	101	97	99	91	90	90	94	93	93
1020	28341	94	100	92	96	91	87	89	90	88	89
1021	28342	103	102	96	99	94	96	95	104	91	98
1022	28343	97	98	92	95	89	89	89	91	89	90
1023	28344	121	104	101	103	90	97	93	95	101	98
1024	CO 51 (NC)	89	88	82	85	93	83	88	89	84	86
1025	28345	101	106	98	102	92	89	90	91	92	91
1026	28346	110	114	106	110	89	95	92	108	102	105
1027	28347	99	104	96	100	91	95	93	99	93	96
1028	28348	96	94	94	94	89	97	93	100	91	95
1029	28349	110	119	106	113	88	93	90	108	101	104
1030	28350	94	88	91	90	92	86	89	92	88	90
1031	28351	102	103	99	101		89	89	96	94	95
1032	28352	100	106	102	104	88	89	88	102	91	97
1033	28353	104	101	99	100	92	94	93	96	93	94
1034	28354						94	94			
1035	28355	103	99	97	98	90	96	93	101	91	96
1036	28356	90	96	89	92	84	83	84	87	87	87
1037	28357	96	98		98	89	86	87	94	92	93
1038	28358	97	101	98	99	93	86	89	93	92	92
1039	28359	85	85	78	81	82	79	80	76	80	78
1040	Zonal Check (ZC)	87	85	79	82	84	80	82	86	82	84
1041	28360	94	92	89	90	76	84	80	85	90	88
1042	28361	105	107	101	104	88	91	89	95	96	95
1043	28362	96	99	93	96	89	89	89	92	92	92
1044	28363	98	101	96	98	89	90	89	93	92	92
1045	28364	106	110	104	107	92	96	94	98	98	98
1046	28365	94	98	87	93	92	87	90	90	92	91
1047	28366	96	99	91	95	93	85	89	90	92	91
1048	28367	96	96	90	93	92	86	89	87	88	87
1049	28368	103	103	100	101	92	97	95	93	102	97
1050	28369	104	100	95	97	89	95	92	115	97	106
1051	28370	101	102	95	98	90	94	92	94	95	95
1052	28371	97	100	96	98	89	90	89	101	91	96
1053	28372	107	103	107	105	92	99	95	115	102	108
1054	28373	90	87	81	84	92	82	87	86	86	86
1055	28374	100	103	98	101	89	91	90	94	92	93
1056	28375	93	98	95	96	92	93	92	90	91	91
1057	28376	100	100	94	97	92	89	91	101	101	101
1058	28377	98	96	89	92	89	89	89	89	91	90
1059	28378	98	99	92	96	93	89	91	91	90	91
1060	28379	104	99	91	95	89	85	87	89	88	89
1061	28380	93	98	93	95	92	88	90	102	90	96
1062	28381	107	110	102	106		89	89	100	95	97
1063	28382	120	102	96	99	89	92	91	111	97	104
1064	Local Check	88	94	89	91	89	88	88	93	84	88
	Exp. Mean	99	99	94	97	90	89	89	95	92	93

Table 3.15 contd.: Days to 50% flowering of entries in IVT E TP, kharif 2019

Entry No.	IET No.	JH		JH (1)	WB (1)	Zone III (7)		UP (1)	Zone III (7)	Zone IV	
		Mean		Mean	CHN	UP		Mean	Mean	TR	
		@RCI	HZB			@MSD	VRN			@ARD	@WBL
1001	28322	105	100	100	100	87	103	103	97	96	106
1002	28323	100	89	89	92	87	87	87	90	83	87
1003	28324	100	93	93	87	78	88	88	89		87
1004	28325	101	97	97	93	77	90	90	92	95	102
1005	28326	103	102	102	94	76	87	87	93	96	102
1006	28327	102	94	94	98	83	94	94	94	86	99
1007	28328	111	96	96	92	85	89	89	92	86	86
1008	28329	100	96	96	94	87	87	87	91	83	99
1009	28330	99	94	94	89	85	86	86	89	83	86
1010	28331	103	94	94	89	75	91	91	91	84	95
1011	28332	100	92	92	90	84	86	86	89	83	92
1012	28333	94	88	88	88	74	88	88	90	85	101
1013	28334	103	98	98		82			92		99
1014	28335	101	98	98	91	82	104	104	93	85	94
1015	28336	93	82	82	82	85	79	79	81	84	86
1016	28337	103	94	94	93	78	89	89	91	83	94
1017	28338	106	102	102	96	74	96	96	95	97	98
1018	28339	105	95	95	100	74	91	91	94	97	96
1019	28340	103	98	98	97	83	89	89	93	97	98
1020	28341	100	92	92	88	82	87	87	89		87
1021	28342	108	97	97	94	76	94	94	95	97	116
1022	28343	101	94	94		83	81	81	89	83	101
1023	28344	117	94	94	102	95	121	121	100	98	86
1024	CO 51 (NC)	98	94	94	94	82	78	78	88	84	94
1025	28345	102	92	92	95	78	86	86	91	83	99
1026	28346	115	110	110	102	82	99	99	100	92	118
1027	28347	106	102	102	95	82	94	94	95	98	106
1028	28348	103	100	100	96	88	92	92	95	95	116
1029	28349	106	102	102	103	73	104	104	100	93	102
1030	28350	102	92	92	88	93	83	83	88	83	100
1031	28351	103	98	98	97	82	88	88	93	86	95
1032	28352	105	98	98	98	80	90	90	93	87	87
1033	28353	105	106	106	96	78	94	94	96	86	106
1034	28354	103	92	92		78			93		86
1035	28355	106	101	101	103	78	94	94	96	99	100
1036	28356	99	94	94	91	84	83	83	87	84	94
1037	28357	104	96	96	95	74	88	88	91		97
1038	28358	103	94	94	92	88	90	90	91	82	97
1039	28359	89	85	85	82	82	91	91	82	83	86
1040	Zonal Check (ZC)	90	87	87	83	77	73	73	82	83	87
1041	28360	94	88	88	87	83	88	88	85	84	97
1042	28361	109	89	89	97	76	87	87	92	86	101
1043	28362	98	98	98	100	81	89	89	93	83	101
1044	28363	104	94	94	98	69	88	88	92	89	102
1045	28364	117	96	96	102	69	91	91	96	98	115
1046	28365	100	92	92	91	77	84	84	90	86	93
1047	28366	101	94	94	92	74	90	90	91	83	99
1048	28367	100	93	93	89	74	88	88	89	86	98
1049	28368	106	97	97	96	88	101	101	97	96	107
1050	28369	106	100	100	98	91	91	91	98	99	85
1051	28370	108	108	108	94	84	91	91	95	98	107
1052	28371	106	98	98	92	82	94	94	93		100
1053	28372	117	102	102	104	84	124	124	105	100	87
1054	28373	94	89	89	83	78	76	76	85	83	95
1055	28374	75	98	98	97	94	90	90	93	96	98
1056	28375	100	93	93	92	74	102	102	93	84	103
1057	28376	106	98	98	100	77	95	95	96	96	105
1058	28377	96	97	97	91	82	93	93	91	83	100
1059	28378	105	94	94	93	87	90	90	91	84	100
1060	28379	101	89	89	88	83	88	88	88	83	92
1061	28380	106	94	94	91	69	89	89	92		93
1062	28381	104	95	95	95	74	101	101	96	84	98
1063	28382	117	111	111	103	93	124	124	104	96	105
1064	Local Check	89	87	87	87	71	94	94	89	97	86
	Exp. Mean	102	95	95	94	81	91	91	92	89	97

Table 3.15 contd.: Days to 50% flowering of entries in IVT E TP, kharif 2019

Entry No.	IET No.	ZONE V						MA II		
		MP (1)	CH	MA1		MA1 (2)	Zone V(3)			
		REW	@JDP	SKL	SND	Mean	Mean	KJT	SHR	VDG
1001	28322	103	97	84	104	94	97	98	110	97
1002	28323	99	89	71	93	82	87	85	95	90
1003	28324	98	89	76	97	86	90	90	99	91
1004	28325	103	97	79	99	89	93	86	99	96
1005	28326	104	98	76	106	91	95	93	98	101
1006	28327	104	94	83	106	94	98	95	96	97
1007	28328	104	98	80	102	91	95	91	94	96
1008	28329	101	93	78	104	91	94	88	95	91
1009	28330	100	92	78	100	89	92	87	92	
1010	28331	100	103	82	99	90	93	87	97	92
1011	28332	96	89	81	98	89	91	91	99	86
1012	28333	100	98	79	104	91	94	101	99	97
1013	28334	101	94	81	93	87	92	88	97	87
1014	28335	101	92	75	98	86	91	89	97	94
1015	28336	88	83	70	92	81	83	87	89	
1016	28337	102	89	78	104	91	95	95	100	98
1017	28338	106	98	84	104	94	98	88	100	97
1018	28339	103	96	81	101	91	95	83	106	95
1019	28340	103	96	82	102	92	96	97	99	88
1020	28341	96	91	75	97	86	89	89	97	89
1021	28342	104	103	84	108	96	98	87	99	104
1022	28343	94	92	79	97	88	90	92	97	98
1023	28344	116	85	73	119	96	102	90	111	
1024	CO 51 (NC)	97	88	72	94	83	88	89	93	103
1025	28345	104	94	76	95	85	91	89	97	97
1026	28346	120	107	89	113	101	107	87	105	109
1027	28347	105	100	86	104	95	98	89	98	102
1028	28348	106	103	90	108	99	101	97	97	108
1029	28349	107	97	91	112	101	103	99	105	98
1030	28350	94	96	79	96	87	90	90	89	86
1031	28351	101	94	82	104	93	95	92	98	97
1032	28352	105	97	85	107	96	99	84	98	96
1033	28353	104	103	86	108	97	99	87	96	95
1034	28354	106	91	75		75	90	95		
1035	28355	102	101	85	106	95	97	100	100	113
1036	28356	92	89	78	94	86	88	86	93	96
1037	28357	100	93	82	104	93	95	86	106	99
1038	28358	96	94	80	100	90	92	86	99	98
1039	28359	89	83	70	87	78	82	85	88	88
1040	Zonal Check (ZC)	92	91	81	98	89	90	89	99	83
1041	28360	95	95	73	95	84	88	89	99	93
1042	28361	101	91	82	101	91	94	99	100	98
1043	28362	99	94	71	102	86	90	90	90	112
1044	28363	99	94	82	104	93	95	90	99	113
1045	28364	122	107	92	112	102	109	95	105	115
1046	28365	96	91	80	99	89	91	89	95	103
1047	28366	101	95	81	97	89	93	86	97	99
1048	28367	99	91	77	99	88	91	83	95	100
1049	28368	115	101	92	105	99	104	88	109	108
1050	28369	107	100	89	109	99	101	89	107	99
1051	28370	104	103	85	105	95	98	98	109	111
1052	28371	97	90	82	104	93	94	92	97	99
1053	28372	115	103	93	112	102	106	89	110	116
1054	28373	90	81	74	94	84	86	88	84	90
1055	28374	101	95	85	105	95	97	99	97	105
1056	28375	102	99	84	101	93	96	86	95	96
1057	28376	107	100	87	107	97	100	100	109	105
1058	28377	101	96	80	94	87	91	88	85	92
1059	28378	99	94	82	104	93	95	88	97	97
1060	28379	94	90	80	97	88	90	87	93	98
1061	28380	100	90	79	100	90	93	86	98	100
1062	28381	103	92	84	104	94	97	95	99	97
1063	28382	118	107	75	114	94	102	88	110	112
1064	Local Check	107	90	71	103	87	93	88	92	97
	Exp. Mean	102	95	80	102	91	94	90	98	98

Table 3.15 contd.: Days to 50% flowering of entries in IVT E TP, kharif 2019

Entry No.	IET No.	Zone VI					GU (1)	Zone VI(4)
		MA II (3)	MA (5)	GU				
		Mean	Mean	NWG	@DBI	@VYR	Mean	Mean
1001	28322	102	99	104	113	99	104	102
1002	28323	90	87	91	109	90	91	90
1003	28324	93	90	92	99	93	92	93
1004	28325	94	92	91	95	92	91	93
1005	28326	97	95	94	104	88	94	97
1006	28327	96	95	99	117	97	99	97
1007	28328	93	92	93	101	92	93	93
1008	28329	91	91	94	93	94	94	92
1009	28330	90	89	92	103	94	92	90
1010	28331	92	91	86	91	95	86	90
1011	28332	92	91	93	107	99	93	92
1012	28333	99	96	94	109	97	94	98
1013	28334	91	89	92	90	86	92	91
1014	28335	93	91		102	93		93
1015	28336	88	84	78	89	82	78	85
1016	28337	98	95	95	113	93	95	97
1017	28338	95	94	93	120	94	93	94
1018	28339	95	93	100	121	97	100	96
1019	28340	95	93	95	111	100	95	95
1020	28341	92	89	93	105	90	93	92
1021	28342	97	96	99	110	98	99	97
1022	28343	95	92	89	101	91	89	94
1023	28344	101	98	110	105	111	110	104
1024	CO 51 (NC)	95	90	91	107	81	91	94
1025	28345	94	91	94	111	85	94	94
1026	28346	100	100	105	112	110	105	101
1027	28347	96	96	96	109	97	96	96
1028	28348	101	100	95	102	99	95	99
1029	28349	101	101	103	116	107	103	101
1030	28350	88	88	86	93	85	86	88
1031	28351	96	94	96	114	96	96	96
1032	28352	93	94	100	117	99	100	94
1033	28353	92	94	94	100	98	94	93
1034	28354	95	85		96	89		95
1035	28355	104	101	97	115	98	97	102
1036	28356	92	89	91	98	89	91	91
1037	28357	97	95	92	107	97	92	96
1038	28358	94	92	97	113	90	97	95
1039	28359	87	83	82	113	86	82	85
1040	Zonal Check (ZC)	90	90	93	101	92	93	91
1041	28360	93	90	86	111	102	86	92
1042	28361	99	96	100	110	98	100	99
1043	28362	97	93	93	103	97	93	96
1044	28363	100	97	93	109	95	93	98
1045	28364	105	104	100	101	107	100	104
1046	28365	96	93	90	100	99	90	94
1047	28366	94	92	91	107	87	91	93
1048	28367	93	91	91	107	90	91	92
1049	28368	102	100	101	119	81	101	101
1050	28369	98	99	98	120	106	98	98
1051	28370	106	101	94	107	97	94	103
1052	28371	96	95	94	111	94	94	95
1053	28372	105	104	99	120	112	99	103
1054	28373	87	86	78	92	87	78	85
1055	28374	100	98	100	108	103	100	100
1056	28375	92	92	87	97	96	87	91
1057	28376	104	101	98	109	97	98	103
1058	28377	88	88	88	94	89	88	88
1059	28378	94	93	97	108	99	97	95
1060	28379	93	91	90	100	91	90	92
1061	28380	94	92	90	106	103	90	93
1062	28381	97	96	99	110	98	99	97
1063	28382	103	100	102	121	108	102	103
1064	Local Check	92	90	89	90	93	89	91
	Exp. Mean	95	93	94	106	95	94	95

Table 3.15 contd.: Days to 50% flowering of entries in IVT E TP, kharif 2019

Entry No.	IET No.	Zone VII								
		AP(1)	TE (1)	TA		TA(2)	KE		KE (1)	
		MTU	WGL	ADT	CBT	Mean	@MNC	PTB	Means	MND
1001	28322	94	90	86	91	88	81	94	94	92
1002	28323	85	87	73	85	79	76	90	90	87
1003	28324	83	85	88	90	89	77	87	87	87
1004	28325	92	89	86	100	93	87	92	92	94
1005	28326	94	92	82	91	86	82	100	100	94
1006	28327	93	93	79	87	83	83	81	81	93
1007	28328	89	91	88	93	90	92	97	97	98
1008	28329	92	89	78	85	81		94	94	92
1009	28330	84	86	75	85	80	74	94	94	88
1010	28331	83	84	85	103	94	83	84	84	96
1011	28332	84	85	89	95	92	75	85	85	87
1012	28333	85	89	77	83	80	78	98	98	95
1013	28334			75	94	84	86			91
1014	28335	83	81	76	87	81	73	85	85	77
1015	28336	77	105	72	83	77	73	82	82	84
1016	28337	87	91	80	89	84	76	85	85	87
1017	28338	93	95	89	110	99	82	94	94	94
1018	28339	94	95	86	88	87	80	93	93	92
1019	28340	93	94	83	88	85	87	77	77	91
1020	28341	89	91	77	83	80	80	100	100	87
1021	28342	92	94	81	104	92	87	81	81	103
1022	28343	85	89	78	89	83	76	86	86	94
1023	28344	111	111	91	107	99	88	98	98	103
1024	CO 51 (NC)	83	81	73	82	78	75	103	103	95
1025	28345	87	89	77	105	91	80	99	99	94
1026	28346	100	99	92	110	101	96	96	96	106
1027	28347	92	95	82	107	94	87	101	101	87
1028	28348	92	91	86	108	97	93	102	102	105
1029	28349	101	95	88	109	98	87	94	94	93
1030	28350	83	82	84	86	85	76	105	105	91
1031	28351	97	95	82	85	83	75	93	93	93
1032	28352	94	92	84	103	93	79	94	94	96
1033	28353	85	89	89	91	90	88	105	105	102
1034	28354			74	91	82		81	81	87
1035	28355	94	95	88	90	89	89	107	107	101
1036	28356	85	84	75	83	79	73	94	94	87
1037	28357	87	91	82	84	83	77	100	100	92
1038	28358	90	89	80	88	84	75	86	86	93
1039	28359	82	103	74	78	76	75	80	80	87
1040	Zonal Check (ZC)	91	92	82	106	94	77	93	93	94
1041	28360	83	104	74	85	79	76	87	87	85
1042	28361	95	93	91	106	98	80	93	93	92
1043	28362	94	90	81	82	82	86	100	100	95
1044	28363	92	93	85	90	87	82	95	95	94
1045	28364	100	99	97	103	100	92	103	103	104
1046	28365	83	86	74	83	78	76	93	93	92
1047	28366	85	87	82	89	85	76	92	92	91
1048	28367	85	88	74	87	80	75	95	95	94
1049	28368	95	95	89	110	99	89	107	107	102
1050	28369	99	97	86	89	87	89	81	81	97
1051	28370	93	93	87	108	98	84	96	96	104
1052	28371	89	91	82	104	93	75	94	94	98
1053	28372	101	108	87	86	86	93	96	96	96
1054	28373	82	81	73	82	77	77	84	84	88
1055	28374	94	97	84	86	85	78	100	100	94
1056	28375	85	88	83	91	87	82	86	86	92
1057	28376	98	105	91	110	100	87	104	104	102
1058	28377	84	86	73	87	80	81	85	85	98
1059	28378	93	92	76	84	80	83	97	97	93
1060	28379	85	89	73	82	77	75	92	92	88
1061	28380	87	90	82	89	85	76	89	89	86
1062	28381	92	88	82	96	89	81	93	93	95
1063	28382	101	107	90	108	99	87	110	110	98
1064	Local Check	85	91	82	85	83	80	87	87	86
	Exp. Mean	90	92	82	92	87	81	93	93	93

Table 3.15 contd.: Days to 50% flowering of entries in IVT E TP, kharif 2019

Entry No.	IET No.							Overall (23)
		KA			KA (2)	PUD	Zone VII(7)	
		@BRM	@MGD	GNV	Mean	@KBP	Mean	
1001	28322	100	94	91	92	75	91	97
1002	28323	89	88	110	99	74	88	90
1003	28324	91	93	77	82	73	85	89
1004	28325	93	96	88	91	75	91	92
1005	28326	91	95	86	90	75	91	93
1006	28327	93	93	88	90	84	88	94
1007	28328	94	101	89	93	87	92	93
1008	28329	89	92	81	87	73	87	91
1009	28330	86	90	87	88	73	85	89
1010	28331	94	97	91	94	72	89	91
1011	28332	86	85	82	85	78	86	90
1012	28333	90	95	86	91	82	87	92
1013	28334		99		91		86	90
1014	28335	88	89	89	83	71	82	90
1015	28336	80	86	77	81	73	83	83
1016	28337	88	85	93	90	72	87	92
1017	28338	100	100	92	93	88	95	96
1018	28339	100	95	91	91	81	91	94
1019	28340	97	95	96	93	74	89	93
1020	28341	85	88	92	89	73	88	90
1021	28342	95	106	94	98	81	93	96
1022	28343	88	94	92	93	72	87	90
1023	28344	108	113	100	101	88	103	102
1024	CO 51 (NC)	88	74	88	92	75	86	88
1025	28345	88	93	94	94	75	92	93
1026	28346	107	102	107	107	88	101	102
1027	28347	100	101	94	91	85	94	96
1028	28348	97	104	94	99	78	97	97
1029	28349	97	98	91	92	80	96	100
1030	28350	88	95	112	101	73	92	89
1031	28351	86	93	87	90	79	90	94
1032	28352	97	99	92	94	75	93	95
1033	28353	97	102	96	99	75	94	95
1034	28354				87		83	88
1035	28355	97	107	106	104	85	97	98
1036	28356	86	95	112	100	73	89	89
1037	28357	89	100	94	93	74	90	92
1038	28358	89	95	87	90	70	87	91
1039	28359	81	77	84	86	0	84	83
1040	Zonal Check (ZC)	86	95	96	95	74	93	88
1041	28360	88	97	82	84	0	85	87
1042	28361	101	102	94	93	76	95	95
1043	28362	97	95	96	96	78	91	93
1044	28363	95	94	96	95	74	92	94
1045	28364	104	106	96	100	106	100	101
1046	28365	89	90	83	88	72	85	89
1047	28366	89	91	87	89	72	87	91
1048	28367	88	93	113	104	73	91	91
1049	28368	104	103	96	99	88	99	100
1050	28369	104	105	95	96	85	92	96
1051	28370	100	103	96	100	82	97	97
1052	28371	88	96	92	95	74	93	94
1053	28372	104	106	105	100	88	97	102
1054	28373	88	72	88	88	76	83	84
1055	28374	100	75	86	90	73	91	95
1056	28375	100	95	96	94	74	89	92
1057	28376	102	100	96	99	87	101	99
1058	28377	100	97	95	97	74	87	89
1059	28378	100	74	83	88	77	88	92
1060	28379	86	72	85	87	72	85	88
1061	28380	86	77	99	93	72	89	92
1062	28381	91	72	94	95	73	91	96
1063	28382	100	104	96	97	80	101	102
1064	Local Check							
		90	93	89	88	71	86	89
	Exp. Mean	93	94	93	93	75	91	93

Table 3.16: Plant Height of entries in IVT E TP, kharif 2019

Entry No.	IET No.	Zone II								
		UT	PU (1)	HA (1)	Zone II (2)	OD		OD (2)	BI	
		@PNT	LDN	KUL	Mean	CTK	JYP	Mean	BKG	PTN
1001	28322	105.00	118.50	107.00	112.75	79.00	94.50	86.75	112.00	88.17
1002	28323	124.00	120.50	123.00	121.75	82.00	99.90	90.95	121.00	97.07
1003	28324	106.00	107.50	119.00	113.25	78.00	91.30	84.65	105.00	86.33
1004	28325	124.00	115.00	114.00	114.50	85.00	110.00	97.50	130.00	92.73
1005	28326	120.00	110.50	118.00	114.25	79.00	103.00	91.00	114.00	91.50
1006	28327	108.00	103.50	97.00	100.25	69.00	85.60	77.30	110.00	85.50
1007	28328	120.00	112.00	109.00	110.50	85.00	101.60	93.30	121.00	86.22
1008	28329	115.00	105.50	118.00	111.75	73.00	112.30	92.65	112.00	95.38
1009	28330	118.00	115.00	129.00	122.00	85.00	106.80	95.90	116.00	93.40
1010	28331	126.00	114.50	117.00	115.75	81.00	103.90	92.45	117.00	92.90
1011	28332	121.00	114.50	118.00	116.25	71.00	103.30	87.15	122.00	96.38
1012	28333	121.00	107.00	109.00	108.00	75.00	96.20	85.60	115.00	104.02
1013	28334	126.00	116.50		116.50	82.00	96.95	89.48		
1014	28335	101.00	97.50	97.00	97.25	66.00	81.00	73.50	108.00	89.22
1015	28336	97.00	94.00	111.00	102.50	64.00	92.00	78.00	99.00	82.12
1016	28337	131.00	125.50	127.00	126.25	84.00	115.20	99.60	118.00	109.97
1017	28338	141.00	124.50	122.00	123.25	107.00	105.05	106.03	131.00	108.25
1018	28339	131.00	137.50	122.00	129.75	98.00	107.40	102.70	131.00	105.08
1019	28340	118.00	127.50	116.00	121.75	97.00	107.55	102.28	121.00	88.68
1020	28341	124.00	127.50	134.00	130.75	87.00	98.20	92.60	125.00	115.02
1021	28342	119.00	114.50	107.00	110.75	77.00	101.80	89.40	109.00	99.93
1022	28343	109.00	109.50	115.00	112.25	80.00	122.20	101.10	110.00	103.23
1023	28344	115.00	120.50	111.00	115.75	93.00	120.80	106.90	123.00	109.00
1024	CO 51 (NC)	105.00	104.50	111.00	107.75	80.00	103.65	91.83	109.00	97.48
1025	28345	118.00	106.50	109.00	107.75	80.00	101.40	90.70	122.00	92.37
1026	28346	136.00	124.50	134.00	129.25	89.00	120.40	104.70	148.00	106.50
1027	28347	110.00	105.50	110.00	107.75	77.00	88.80	82.90	109.00	76.63
1028	28348	112.00	109.50	113.00	111.25	96.00	99.40	97.70	107.00	101.83
1029	28349	129.00	122.50	113.00	117.75	89.00	112.80	100.90	125.00	105.47
1030	28350	96.00	86.00	96.00	91.00	64.00	83.90	73.95	102.00	86.28
1031	28351	106.00	99.50	108.00	103.75		94.80	94.80	105.00	82.00
1032	28352	128.00	133.50	123.00	128.25	102.00	107.40	104.70	131.00	105.33
1033	28353	120.00	110.50	105.00	107.75	77.00	96.40	86.70	118.00	88.42
1034	28354						105.90	105.90		
1035	28355	140.00	118.00	119.00	118.50	91.00	105.40	98.20	120.00	100.83
1036	28356	106.00	112.50	113.00	112.75	81.00	117.30	99.15	128.00	99.20
1037	28357	124.00	107.50		107.50	92.00	101.80	96.90	117.00	105.28
1038	28358	125.00	117.50	121.00	119.25	79.00	116.10	97.55	116.00	110.00
1039	28359	105.00	100.00	102.00	101.00	65.00	104.15	84.58	105.00	91.68
1040	Zonal Check (ZC)	103.00	97.50	101.00	99.25	59.00	86.60	72.80	108.00	77.62
1041	28360	102.00	105.00	97.00	101.00	68.00	90.00	79.00	104.00	90.07
1042	28361	125.00	133.00	134.00	133.50	94.00	110.30	102.15	124.00	100.17
1043	28362	118.00	109.50	120.00	114.75	107.00	105.60	106.30	112.00	100.30
1044	28363	110.00	100.00	114.00	107.00	75.00	100.10	87.55	109.00	83.13
1045	28364	121.00	119.00	110.00	114.50	93.00	111.80	102.40	125.00	110.60
1046	28365	111.00	110.00	114.00	112.00	82.00	104.90	93.45	110.00	84.05
1047	28366	109.00	106.50	117.00	111.75	79.00	107.70	93.35	104.00	92.85
1048	28367	114.00	110.00	123.00	116.50	76.00	105.90	90.95	121.00	98.43
1049	28368	117.00	114.00	108.00	111.00	98.00	110.10	104.05	124.00	96.35
1050	28369	122.00	117.50	127.00	122.25	99.00	104.60	101.80	123.00	101.78
1051	28370	117.00	119.50	132.00	125.75	100.00	118.05	109.03	108.00	103.08
1052	28371	120.00	112.00	132.00	122.00	94.00	116.30	105.15	129.00	105.18
1053	28372	145.00	135.00	133.00	134.00	109.00	124.25	116.63	144.00	106.83
1054	28373	96.00	99.50	114.00	106.75	70.00	98.60	84.30	98.00	93.37
1055	28374	113.00	104.00	127.00	115.50	83.00	97.30	90.15	139.00	85.08
1056	28375	130.00	122.50	126.00	124.25	85.00	106.10	95.55	125.00	95.65
1057	28376	124.00	121.00	123.00	122.00	106.00	97.20	101.60	130.00	95.88
1058	28377	120.00	112.00	129.00	120.50	78.00	108.50	93.25	107.00	92.47
1059	28378	113.00	111.00	137.00	124.00	92.00	117.00	104.50	121.00	101.73
1060	28379	119.00	117.50	133.00	125.25	96.00	110.60	103.30	114.00	94.38
1061	28380	115.00	112.50	125.00	118.75	87.00	104.70	95.85	111.00	95.58
1062	28381	118.00	108.50	118.00	113.25		105.10	105.10	112.00	84.97
1063	28382	113.00	99.50	108.00	103.75	84.00	98.30	91.15	107.00	106.73
1064	Local Check	90.00	98.00	116.00	107.00	66.00	114.30	90.15	127.00	113.53
	Exp. Mean	116.90	112.56	116.97	114.69	83.92	104.22	94.49	117.23	96.44

Table 3.16 contd.: Plant Height of entries in IVT E TP, kharif 2019

Entry No.	IET No.	BI (2)	JH		JH (1)	WB (1)	UP		UP (1)	Zone III (7)
		Mean	@RCI	HZB	Mean	CHN	@MSD	VRN	Mean	Mean
1001	28322	100.08	79.00	95.00	95.00	103.67	109.00	113.60	113.60	97.99
1002	28323	109.03	86.00	105.70	105.70	104.33	109.00	111.60	111.60	103.09
1003	28324	95.67	80.00	93.00	93.00	98.67	82.00	96.40	96.40	92.67
1004	28325	111.37	87.00	88.00	88.00	107.00	95.00	119.30	119.30	104.58
1005	28326	102.75	85.00	104.20	104.20	101.33	98.00	104.40	104.40	99.63
1006	28327	97.75	76.00	87.80	87.80	103.67	80.00	115.20	115.20	93.82
1007	28328	103.61	81.00	100.30	100.30	111.00	112.00	99.20	99.20	100.62
1008	28329	103.69	84.00	96.30	96.30	105.33	110.00	99.50	99.50	99.12
1009	28330	104.70	87.00	90.50	90.50	103.00	77.00	112.70	112.70	101.06
1010	28331	104.95	83.00	108.40	108.40	109.33	89.00	118.70	118.70	104.46
1011	28332	109.19	96.00	102.20	102.20	102.67	98.00	99.70	99.70	99.61
1012	28333	109.51	79.00	87.60	87.60	104.00	103.00	106.70	106.70	98.36
1013	28334		110.00	111.40	111.40		89.00			96.78
1014	28335	98.61	72.00	85.70	85.70	97.67	106.00	111.20	111.20	91.25
1015	28336	90.56	71.00	92.10	92.10	86.67	103.00	99.00	99.00	87.84
1016	28337	113.98	104.00	107.10	107.10	114.00	92.00	122.10	122.10	110.05
1017	28338	119.63	103.00	102.90	102.90	137.00	112.00	143.30	143.30	119.21
1018	28339	118.04	109.00	109.30	109.30	151.33	108.00	130.00	130.00	118.87
1019	28340	104.84	97.00	92.50	92.50	128.67	100.00	116.60	116.60	107.43
1020	28341	120.01	95.00	109.40	109.40	113.67	87.00	126.70	126.70	110.71
1021	28342	104.47	85.00	89.80	89.80	109.00	68.00	120.10	120.10	100.95
1022	28343	106.62	91.00	87.50	87.50		90.00	108.30	108.30	101.87
1023	28344	116.00	92.00	81.90	81.90	112.00	100.00	124.60	124.60	109.19
1024	CO 51 (NC)	103.24	84.00	98.50	98.50	103.67	95.00	106.70	106.70	99.86
1025	28345	107.18	77.00	90.20	90.20	102.00	119.00	102.10	102.10	98.58
1026	28346	127.25	101.00	107.00	107.00	96.67	94.00	143.40	143.40	115.85
1027	28347	92.82	73.00	89.30	89.30	110.67	99.00	107.10	107.10	94.07
1028	28348	104.42	89.00	86.00	86.00	114.33	107.00	114.10	114.10	102.67
1029	28349	115.23	96.00	97.90	97.90	115.00	108.00	127.70	127.70	110.41
1030	28350	94.14	79.00	82.30	82.30	90.67	102.00	95.00	95.00	86.31
1031	28351	93.50	85.00	90.60	90.60	98.67	85.00	103.70	103.70	95.79
1032	28352	118.17	99.00	95.30	95.30	127.33	103.00	143.90	143.90	116.04
1033	28353	103.21	82.00	97.70	97.70	103.33	86.00	113.10	113.10	99.14
1034	28354		88.00	101.40	101.40		92.00			103.65
1035	28355	110.42	98.00	106.40	106.40	106.33	85.00	114.20	114.20	106.31
1036	28356	113.60	93.00	106.70	106.70	94.67	104.00	112.70	112.70	105.65
1037	28357	111.14	98.00	97.90	97.90	103.00	95.00	108.30	108.30	103.61
1038	28358	113.00	92.00	98.50	98.50	105.67	120.00	113.90	113.90	105.60
1039	28359	98.34	82.00	99.00	99.00	91.67	85.00	114.00	114.00	95.79
1040	Zonal Check (ZC)	92.81	68.00	83.00	83.00	79.00	105.00	95.20	95.20	84.06
1041	28360	97.03	76.00	101.50	101.50	92.00		115.90	115.90	94.50
1042	28361	112.08	89.00	109.70	109.70	120.67	87.00	123.30	123.30	111.73
1043	28362	106.15	83.00	97.70	97.70	133.00	90.00	109.30	109.30	109.27
1044	28363	96.07	85.00	94.80	94.80	109.67	87.00	99.80	99.80	95.93
1045	28364	117.80	90.00	90.20	90.20	112.33	94.00	117.10	117.10	108.58
1046	28365	97.03	92.00	111.20	111.20	115.33	104.00	107.30	107.30	102.11
1047	28366	98.43	86.00	96.80	96.80	104.67	84.00	109.40	109.40	99.20
1048	28367	109.72	85.00	103.80	103.80	106.67	108.00	106.40	106.40	102.60
1049	28368	110.18	93.00	94.40	94.40	101.67	100.00	117.80	117.80	106.05
1050	28369	112.39	93.00	91.60	91.60	106.33	98.00	118.90	118.90	106.46
1051	28370	105.54	96.00	103.40	103.40	113.33	100.00	112.00	112.00	108.27
1052	28371	117.09	95.00	95.60	95.60	122.67	87.00	120.20	120.20	111.85
1053	28372	125.42	110.00	108.90	108.90	114.00	99.00	119.30	119.30	118.04
1054	28373	95.68	113.00	90.20	90.20	123.00	82.00	97.30	97.30	95.78
1055	28374	112.04	85.00	96.30	96.30	79.33	82.00	100.80	100.80	97.26
1056	28375	110.33	87.00	97.40	97.40	102.00	110.00	115.80	115.80	103.85
1057	28376	112.94	95.00	100.00	100.00	105.33	108.00	122.70	122.70	108.16
1058	28377	99.73	86.00	93.90	93.90	118.00	88.00	110.10	110.10	101.14
1059	28378	111.37	93.00	100.10	100.10	102.33	96.00	111.60	111.60	106.54
1060	28379	104.19	90.00	95.00	95.00	112.33	94.00	117.80	117.80	105.73
1061	28380	103.29	89.00	96.20	96.20	99.00	101.00	102.30	102.30	99.40
1062	28381	98.48	80.00	89.20	89.20	104.33	95.00	113.70	113.70	101.55
1063	28382	106.87	76.00	86.40	86.40	97.33	123.00	111.70	111.70	98.78
1064	Local Check	120.27	98.00	108.00	108.00	126.00	110.00	101.10	101.10	107.99
	Exp. Mean	106.83	88.77	97.01	97.01	107.67	97.27	112.83	112.83	102.71

Table 3.16 contd.: Plant Height of entries in IVT E TP, kharif 2019

Entry No.	IET No.	Zone IV			ZONE V					
		TR			MP (1)	CH	MA1		MA1 (2)	Zone V(3)
		@ARD	@LMB	@WBL	REW	@JDP	SKL	SND	Mean	Mean
1001	28322	81.00	103.83	62.50	91.50	100.60	109.00	95.20	102.10	98.57
1002	28323	80.00	106.33	62.00	96.00	94.20	119.00	92.85	105.93	102.62
1003	28324		102.00	67.00	97.50	87.20	103.00	93.55	98.28	98.02
1004	28325	82.00	99.50	93.00	106.50	110.10	132.00	110.45	121.23	116.32
1005	28326	69.00	104.70	76.00	103.50	94.50	106.00	112.45	109.23	107.32
1006	28327	63.00	96.83	68.00	79.50	76.20	94.00	82.40	88.20	85.30
1007	28328	82.00	117.50	86.00	102.50	109.60	114.00	94.25	104.13	103.58
1008	28329	71.00	106.83	98.00	99.00	100.90	121.00	98.10	109.55	106.03
1009	28330	77.00	95.83	67.00	90.00	100.30	113.00	95.55	104.28	99.52
1010	28331	74.00	104.17	72.00	95.50	102.20	117.00	93.95	105.48	102.15
1011	28332	75.00	96.83	87.00	106.50	101.10	123.00	113.40	118.20	114.30
1012	28333	76.00	96.83	71.00	100.00	83.00	108.00	97.65	102.83	101.88
1013	28334		113.83	83.00	43.00	103.40	126.00	104.20	115.10	91.07
1014	28335	60.00	89.83	67.00	87.50	85.50	92.00	83.15	87.58	87.55
1015	28336	62.00	100.50	73.00	93.00	77.20	108.00	68.65	88.33	89.88
1016	28337	81.00	113.75	94.00	103.50	104.40	124.00	115.45	119.73	114.32
1017	28338	101.00	107.17	104.00	108.50	130.40	156.00	131.00	143.50	131.83
1018	28339	77.00	112.83	87.00	108.50	112.90	131.00	119.00	125.00	119.50
1019	28340	85.00	119.52	99.00	113.00	108.80	120.00	116.60	118.30	116.53
1020	28341		109.77	67.00	113.50	120.60	132.00	121.20	126.60	122.23
1021	28342	87.00	107.88	83.00	91.00	99.90	117.00	105.30	111.15	104.43
1022	28343	77.00	100.67	93.00	101.00	113.80	122.00	101.80	111.90	108.27
1023	28344	89.00	109.33	67.00	91.50	108.30	123.00	115.80	119.40	110.10
1024	CO 51 (NC)	78.00	99.33	83.00	94.50	82.20	112.00	88.15	100.08	98.22
1025	28345	74.00	99.67	80.00	94.50	96.60	110.00	100.30	105.15	101.60
1026	28346	106.00	105.50	78.00	120.00	118.80	139.00	142.50	140.75	133.83
1027	28347	84.00	90.67	79.00	79.50	91.30	95.00	89.75	92.38	88.08
1028	28348	81.00	113.67	63.50	110.50	103.90	109.00	108.65	108.83	109.38
1029	28349	87.00	115.50		107.00	105.70	111.00	116.00	113.50	111.33
1030	28350	68.00	89.50	54.00	73.00	81.80	98.00	92.30	95.15	87.77
1031	28351	75.00	111.00	68.00	96.00	90.50	107.00	92.55	99.78	98.52
1032	28352	87.00	114.33	86.00	105.00	116.40	119.00	125.80	122.40	116.60
1033	28353	91.00	95.33	68.00	99.00	93.40	111.00	88.55	99.78	99.52
1034	28354		123.00	62.00	97.00	108.20	96.00		96.00	96.50
1035	28355	76.00	103.50	92.00	94.50	99.40	119.00	94.60	106.80	102.70
1036	28356	70.00	98.67	90.00	108.50	92.20	118.00	99.30	108.65	108.60
1037	28357		101.17	78.00	103.00	104.60	130.00	111.05	120.53	114.68
1038	28358	87.00	104.33	82.00	100.00	101.60	123.00	114.25	118.63	112.42
1039	28359	80.00	102.17	76.00	106.00	86.70	98.00	86.00	92.00	96.67
1040	Zonal Check (ZC)	77.00	86.17	59.00	106.50	101.50	117.00	104.60	110.80	109.37
1041	28360	68.00	97.17	60.00	84.00	83.90	84.00	81.20	82.60	83.07
1042	28361	91.00	113.17	94.00	114.50	112.20	120.00	116.85	118.43	117.12
1043	28362	80.00	105.67	82.00	121.50	99.80	111.00	111.05	111.03	114.52
1044	28363	88.00	101.57	83.00	94.50	94.60	107.00	107.45	107.23	102.98
1045	28364	84.00	109.83	71.00	87.50	104.10	113.00	111.60	112.30	104.03
1046	28365	84.00	106.67	86.00	107.50	101.50	126.00	108.90	117.45	114.13
1047	28366	87.00	111.50	74.00	94.00	102.50	114.00	91.70	102.85	99.90
1048	28367	84.00	98.47	72.00	82.50	105.10	119.00	106.90	112.95	102.80
1049	28368	104.00	112.67	88.00	92.50	106.70	106.00	106.70	106.35	101.73
1050	28369	91.00	110.77	84.00	105.50	100.00	114.00	116.60	115.30	112.03
1051	28370	96.00	114.17	99.00	126.00	114.90	130.00	114.45	122.23	123.48
1052	28371		109.42	94.00	105.00	104.30	124.00	108.65	116.33	112.55
1053	28372	112.00	130.37	116.00	118.00	122.90	144.00	121.20	132.60	127.73
1054	28373	74.00	99.00	62.00	95.00	87.50	97.00	83.40	90.20	91.80
1055	28374	88.00	100.92	78.00	101.00	85.80	107.00	91.15	99.08	99.72
1056	28375	88.00	105.03	75.00	108.00	104.20	115.00	108.80	111.90	110.60
1057	28376	94.00	111.83	96.00	127.50	114.00	133.00	117.60	125.30	126.03
1058	28377	84.00	106.67	91.00	102.00	106.30	118.00	91.70	104.85	103.90
1059	28378	85.00	97.00	95.00	114.00	103.90	131.00	115.05	123.03	120.02
1060	28379	89.00	102.83	94.00	115.50	98.90	128.00	106.30	117.15	116.60
1061	28380		93.83	74.00	95.00	101.50	119.00	98.40	108.70	104.13
1062	28381	84.00	98.18	84.00	103.00	81.30	103.00	98.00	100.50	101.33
1063	28382	78.00	98.17	76.00	111.50	106.20	109.00	96.10	102.55	105.53
1064	Local Check	85.00	96.33	67.00						
	Exp. Mean	82.25	104.70	79.68	101.02	100.62	115.44	103.49	109.40	106.61

Table 3.16 contd.: Plant Height of entries in IVT E TP, kharif 2019

Entry No.	IET No.	Zone VI									
		MA II			MA II (3)	MA (5)	GU			GU (1)	Zone VI(4)
		KJT	SHR	VDG	Mean	Mean	NWG	@DBI	@VYR	Mean	Mean
1001	28322	115.00	100.70	62.55	92.75	96.49	106.80	115.40	107.50	106.80	96.26
1002	28323	122.00	98.30	64.55	94.95	99.34	113.80	120.20	109.90	113.80	99.66
1003	28324	118.50	92.00	57.80	89.43	92.97	105.60	111.00	105.50	105.60	93.48
1004	28325	124.50	113.20	71.35	103.02	110.30	116.00	116.80	125.50	116.00	106.26
1005	28326	110.00	108.70	72.80	97.17	101.99	114.80	114.80	118.60	114.80	101.58
1006	28327	107.00	93.40	55.95	85.45	86.55	115.60	109.60	96.00	115.60	92.99
1007	28328	106.00	103.70	67.80	92.50	97.15	117.20	97.70	103.00	117.20	98.68
1008	28329	99.50	98.50	63.90	87.30	96.20	123.40	121.00	104.50	123.40	96.33
1009	28330	118.50	107.80		113.15	108.71	116.00	121.00	120.00	116.00	114.10
1010	28331	118.00	81.60	57.65	85.75	93.64	118.40	114.40	118.90	118.40	93.91
1011	28332	128.00	83.10	60.95	90.68	101.69	124.40	125.40	117.20	124.40	99.11
1012	28333	114.00	97.80	66.90	92.90	96.87		121.60	114.60		92.90
1013	28334	124.50	99.70	64.35	96.18	103.75	107.00	115.70	123.40	107.00	98.89
1014	28335	99.50	85.60	47.50	77.53	81.55		97.50	95.90		77.53
1015	28336	116.00	83.90		99.95	94.14	120.20	92.40	91.80	120.20	106.70
1016	28337	132.00	119.40	83.55	111.65	114.88	130.40	118.40	113.70	130.40	116.34
1017	28338	141.50	120.20	84.90	115.53	126.72	131.20	146.00	144.60	131.20	119.45
1018	28339	132.00	125.80	79.40	112.40	117.44	142.40	143.00	146.70	142.40	119.90
1019	28340	102.50	107.70	72.30	94.17	103.82	107.80	129.50	117.50	107.80	97.58
1020	28341	122.00	110.00	67.30	99.77	110.50	131.00	120.00	110.10	131.00	107.58
1021	28342	116.00	98.40	69.15	94.52	101.17	116.60	122.00	101.40	116.60	100.04
1022	28343	110.50	105.90	63.65	93.35	100.77	120.60	124.00	103.50	120.60	100.16
1023	28344	139.00	113.90		126.45	122.93	131.60	122.00	119.70	131.60	128.17
1024	CO 51 (NC)	110.00	104.00	59.35	91.12	94.70	120.00	117.00	99.10	120.00	98.34
1025	28345	116.50	86.80	58.05	87.12	94.33	119.40	150.00	98.10	119.40	95.19
1026	28346	137.50	119.80	86.40	114.57	125.04	140.80	150.00	138.50	140.80	121.13
1027	28347	100.00	90.10	54.60	81.57	85.89	107.40	113.00	106.60	107.40	88.03
1028	28348	110.50	103.50	69.00	94.33	100.13	122.80	120.00	105.70	122.80	101.45
1029	28349	130.00	110.50	72.95	104.48	108.09	130.00	107.00	131.10	130.00	110.86
1030	28350	99.00	85.80	46.40	77.07	84.30	107.00	122.00	93.00	107.00	84.55
1031	28351	108.00	91.10	66.65	88.58	93.06	111.00	123.00	111.10	111.00	94.19
1032	28352	126.50	112.20	72.10	103.60	111.12	129.60	134.00	132.60	129.60	110.10
1033	28353	116.00	98.00	61.75	91.92	95.06	123.40	124.00	100.80	123.40	99.79
1034	28354	107.00			107.00	101.50		121.00	122.20		107.00
1035	28355	135.00	105.80	74.10	104.97	105.70	135.80	114.00	127.80	135.80	112.68
1036	28356	113.50	109.30	77.25	100.02	103.47	119.00	117.00	105.70	119.00	104.76
1037	28357	129.00	107.20	70.90	102.37	109.63	126.60	120.00	130.10	126.60	108.43
1038	28358	128.50	95.90	78.25	100.88	107.98	129.00	107.00	116.30	129.00	107.91
1039	28359	110.50	79.50	66.85	85.62	88.17	112.80	112.00	100.70	112.80	92.41
1040	Zonal Check (ZC)	117.00	99.90	69.35	95.42	101.57	125.60	115.00	121.20	125.60	102.96
1041	28360	103.50	85.20	56.30	81.67	82.04	117.40	104.00	96.40	117.40	90.60
1042	28361	132.50	117.30	81.05	110.28	113.54	150.80	134.00	125.30	150.80	120.41
1043	28362	125.00	103.90	76.90	101.93	105.57	119.60	117.00	100.10	119.60	106.35
1044	28363	119.00	99.50	66.15	94.88	99.82	118.80	104.00	122.70	118.80	100.86
1045	28364	124.50	117.40	68.85	103.58	107.07	126.20	139.00	135.40	126.20	109.24
1046	28365	124.50	104.60	70.55	99.88	106.91	107.00	119.00	117.10	107.00	101.66
1047	28366	114.50	102.00	65.20	93.90	97.48	106.40	123.00	116.60	106.40	97.03
1048	28367	123.00	95.60	67.50	95.37	102.40	112.60	112.00	117.10	112.60	99.68
1049	28368	124.00	106.40	79.25	93.22	104.47	106.20	123.00	128.50	106.20	103.96
1050	28369	108.00	117.00	72.60	109.20	105.64	120.20	126.00	111.10	120.20	104.45
1051	28370	129.00	114.90	78.40	107.43	113.35	140.00	136.00	131.60	140.00	115.58
1052	28371	127.50	106.90	74.60	103.00	108.33	118.80	121.00	120.60	118.80	106.95
1053	28372	162.50	116.70	92.00	123.73	127.28	141.00	120.00	125.80	141.00	128.05
1054	28373	101.50	88.80	58.95	83.08	85.93	112.00	92.00	91.70	112.00	90.31
1055	28374	106.00	100.30	59.55	88.62	92.80	116.40	113.00	103.40	116.40	95.56
1056	28375	116.50	99.40	67.75	94.55	101.49	123.60	103.00	102.50	123.60	101.81
1057	28376	134.00	120.50	79.80	111.43	116.98	119.60	126.00	130.50	119.60	113.48
1058	28377	118.50	91.90	61.30	90.57	96.28	114.20	109.00	108.30	114.20	96.48
1059	28378	115.00	115.20	78.05	102.75	110.86	120.40	135.00	114.80	120.40	107.16
1060	28379	127.00	105.70	76.40	103.03	108.68	103.20	123.00	110.30	103.20	103.08
1061	28380	130.50	104.00	67.80	100.77	103.94	115.00	119.00	127.00	115.00	104.33
1062	28381	115.50	84.20	72.40	90.70	94.62	107.80	115.00	108.40	107.80	94.98
1063	28382	125.50	95.30	67.75	96.18	98.73	116.20	116.00	107.90	116.20	101.19
1064	Local Check	113.00	93.60	70.10	92.23	92.88	112.80	105.00	102.30	112.80	97.38
	Exp. Mean	119.24	102.14	68.79	97.64	102.29	119.95	119.05	114.15	119.95	102.94

Table 3.16 contd.: Plant Height of entries in IVT E TP, kharif 2019

Entry No.	IET No.	Zone VII									
		AP(1)	TE (1)	TA		TA(2)	KE		KE (1)		
		MTU	WGL	ADT	CBT	Mean	@MNC	PTB	Means	MND	@BRM
1001	28322	134.20	119.10	107.00	69.40	88.20	97.20	112.60	112.60	68.80	76.50
1002	28323	130.00	122.50	88.60	80.50	84.55	93.40	99.40	99.40	77.50	78.50
1003	28324	117.50	107.90	87.80	79.00	83.40	82.50	84.00	84.00	69.20	75.50
1004	28325	137.20	119.00	111.80	97.70	104.75	105.40	97.80	97.80	84.00	86.50
1005	28326	124.80	116.30	94.20	90.20	92.20	94.10	92.20	92.20	79.00	74.00
1006	28327	114.10	107.20	96.20	74.60	85.40	90.40	89.00	89.00	62.30	68.50
1007	28328	126.90	113.90	98.00	82.10	90.05	109.20	92.60	92.60	82.50	67.50
1008	28329	123.80	116.20	87.00	72.00	79.50		96.30	96.30	78.30	80.50
1009	28330	122.70	121.50	94.80	80.10	87.45	95.70	118.50	118.50	75.90	76.00
1010	28331	118.40	123.10	94.60	81.50	88.05	107.80	93.90	93.90	81.60	84.50
1011	28332	122.80	124.60	94.60	78.00	86.30	88.00	88.25	88.25	85.90	81.00
1012	28333	134.00	119.40	86.20	84.20	85.20	93.90	98.60	98.60	88.10	75.50
1013	28334			99.00	95.00	97.00	104.10			93.30	
1014	28335	113.50	96.50	78.00	60.20	69.10	86.70	91.90	91.90	60.80	56.00
1015	28336	93.20	103.50	84.40	73.90	79.15	93.10	84.40	84.40	82.40	67.00
1016	28337	133.20	134.00	104.20	96.30	100.25	103.20	79.10	79.10	86.90	94.00
1017	28338	158.20	153.20	120.00	116.90	118.45	114.30	109.10	109.10	109.40	97.00
1018	28339	164.30	135.50	132.20	100.80	116.50	103.50	121.40	121.40	91.70	94.50
1019	28340	152.80	125.90	95.60	84.60	90.10	103.20	128.40	128.40	94.30	84.50
1020	28341	139.70	131.50	109.40	90.50	99.95	102.30	114.30	114.30	99.50	77.00
1021	28342	144.90	121.00	95.00	94.20	94.60	97.40	102.70	102.70	89.30	71.00
1022	28343	124.30	131.30	90.80	75.00	82.90	93.05	94.50	94.50	87.40	79.50
1023	28344	136.50	133.20	117.20	106.00	111.60	98.60	114.30	114.30	94.40	90.50
1024	CO 51 (NC)	111.60	113.20	92.60	71.50	82.05	89.20	114.30	114.30	86.10	74.50
1025	28345	117.10	114.80	99.00	73.60	86.30	102.30	89.90	89.90	78.20	61.50
1026	28346	152.50	153.90	134.40	97.30	115.85	116.30	98.70	98.70	113.70	84.50
1027	28347	120.40	117.80	86.80	74.40	80.60	89.10	125.10	125.10	74.10	66.00
1028	28348	119.50	113.80	112.40	84.30	98.35	113.90	93.00	93.00	93.40	80.50
1029	28349	147.40	129.00	125.40	99.60	112.50	98.20	112.00	112.00	84.00	81.50
1030	28350	106.00	99.40	62.40	64.70	63.55	87.60	104.30	104.30	77.60	60.50
1031	28351	131.00	118.50	89.20	80.60	84.90	89.90	82.70	82.70	80.50	66.00
1032	28352	149.60	124.10	117.60	99.50	108.55	104.80	93.10	93.10	99.00	78.00
1033	28353	129.70	116.90	86.20	78.80	82.50	90.70	115.10	115.10	83.10	74.00
1034	28354			92.60	92.00	92.30		92.00	92.00	71.30	
1035	28355	137.50	122.80	95.40	94.70	95.05	97.30	98.90	98.90	81.70	78.50
1036	28356	121.70	123.60	92.40	82.50	87.45	98.10	96.90	96.90	79.20	87.00
1037	28357	141.00	119.70	101.80	92.50	97.15	98.80	94.50	94.50	79.00	73.00
1038	28358	136.10	133.80	88.00	80.30	84.15	93.80	104.70	104.70	80.90	76.00
1039	28359	99.60	116.00	80.40	70.30	75.35	98.00	76.50	76.50	81.50	77.50
1040	Zonal Check (ZC)	125.20	122.90	95.80	90.00	92.90	101.40	96.80	96.80	81.10	72.00
1041	28360	101.30	96.90	89.60	68.80	79.20	88.00	85.90	85.90	63.70	63.00
1042	28361	146.50	133.30	105.00	98.40	101.70	107.10	119.20	119.20	83.20	80.50
1043	28362	136.80	114.80	104.20	82.70	93.45	116.10	112.90	112.90	88.70	72.50
1044	28363	123.70	114.00	90.20	81.90	86.05	90.80	95.70	95.70	83.40	68.50
1045	28364	138.70	127.60	116.00	97.50	106.75	101.90	103.70	103.70	76.40	71.50
1046	28365	118.20	125.40	86.60	91.10	88.85	90.70	98.30	98.30	80.50	73.50
1047	28366	128.20	124.00	99.00	82.80	90.90	91.70	99.50	99.50	84.60	73.50
1048	28367	125.10	128.70	92.40	79.40	85.90	93.10	94.30	94.30	92.40	70.50
1049	28368	141.30	124.40	111.40	91.40	101.40	104.90	101.10	101.10	99.20	74.50
1050	28369	149.20	132.90	95.20	105.10	100.15	113.60	112.40	112.40	96.60	83.50
1051	28370	158.20	126.10	106.00	103.10	104.55	118.40	103.60	103.60	99.60	88.00
1052	28371	142.50	121.60	107.40	99.20	103.30	91.20	118.40	118.40	92.30	76.50
1053	28372	127.50	156.20	140.80	111.50	126.15	114.00	114.60	114.60	107.80	99.00
1054	28373	110.00	111.90	83.20	71.00	77.10	94.90	80.20	80.20	82.20	68.50
1055	28374	127.30	111.80	93.40	77.30	85.35	98.00	98.10	98.10	76.90	72.00
1056	28375	122.00	133.40	107.60	90.90	99.25	110.60	102.40	102.40	82.40	78.50
1057	28376	150.60	137.60	111.00	102.40	106.70	116.30	109.70	109.70	89.30	75.00
1058	28377	116.70	123.90	96.00	84.20	90.10	106.50	93.90	93.90	86.50	74.00
1059	28378	140.90	122.50	102.80	89.40	96.10	98.90	113.00	113.00	86.50	81.50
1060	28379	130.30	125.10	95.60	92.50	94.05	95.00	106.30	106.30	95.20	81.00
1061	28380	127.80	116.80	91.00	78.00	84.50	95.30	99.00	99.00	80.10	73.50
1062	28381	132.50	112.50	92.60	89.70	91.15	86.40	87.50	87.50	73.40	79.50
1063	28382	137.10	114.00	89.00	85.50	87.25	91.90	87.60	87.60	78.60	71.00
1064	Local Check										
		130.30	129.60	94.80	73.80	84.30	102.90	85.90	85.90	85.90	65.00
	Exp. Mean	130.25	122.28	98.75	86.20	92.47	99.11	100.24	100.24	84.57	76.47

Table 3.16 contd.: Plant Height of entries in IVT E TP, kharif 2019

Entry No.	IET No.	Zone VII					Overall (23)
			KA	KA (2)	PUD	Zone VII(7)	
		@MGD	GNV	Mean	@KBP	Mean	
1001	28322	77.60	110.60	89.70	105.00	103.10	100.60
1002	28323	81.80	115.40	96.45	106.00	101.99	103.72
1003	28324	85.70	104.90	87.05	100.00	92.90	95.37
1004	28325	91.90	123.80	103.90	111.00	110.19	108.97
1005	28326	83.10	116.00	97.50	114.00	101.81	102.91
1006	28327	73.20	104.70	83.50	91.00	92.59	92.75
1007	28328	85.10	117.55	100.03	104.00	101.94	101.93
1008	28329	90.30	115.20	96.75	99.00	98.40	100.41
1009	28330	88.70	112.60	94.25	103.00	103.73	105.38
1010	28331	94.90	119.10	100.35	103.00	101.74	102.48
1011	28332	83.10	124.30	105.10	99.00	102.64	103.81
1012	28333	89.80	119.20	103.65	112.00	104.24	100.84
1013	28334	93.10		93.30		95.77	97.35
1014	28335	67.20	84.70	72.75	81.00	83.66	87.01
1015	28336	89.60	104.50	93.45	75.00	89.47	92.54
1016	28337	98.40	131.00	108.95	108.00	109.24	112.86
1017	28338	87.60	149.40	129.40	134.00	130.89	124.80
1018	28339	91.50	125.10	108.40	125.00	124.43	121.77
1019	28340	84.50	128.70	111.50	115.00	115.76	110.68
1020	28341	92.80	130.50	115.00	112.00	116.49	115.17
1021	28342	93.60	114.60	101.95	108.00	108.81	104.49
1022	28343	93.60	117.80	102.60	97.00	103.01	103.74
1023	28344	84.90	124.50	109.45	105.00	118.01	115.30
1024	CO 51 (NC)	95.40	113.90	100.00	101.00	100.46	100.25
1025	28345	91.40	103.80	91.00	93.00	96.63	98.59
1026	28346	112.70	135.90	124.80	137.00	126.63	123.56
1027	28347	89.90	93.10	83.60	101.00	98.81	94.87
1028	28348	96.50	103.20	98.30	109.00	102.80	104.12
1029	28349	95.50	114.00	99.00	119.00	115.91	112.92
1030	28350	85.30	91.60	84.60	93.00	86.57	86.68
1031	28351	88.70	111.90	96.20	102.00	99.20	97.68
1032	28352	89.00	125.20	112.10	121.00	115.44	115.96
1033	28353	85.80	109.20	96.15		102.71	101.14
1034	28354			71.30		86.98	95.02
1035	28355	99.00	115.80	98.75	123.00	106.69	108.12
1036	28356	86.30	111.10	95.15	97.00	101.06	105.10
1037	28357	90.90	110.20	94.60	102.00	105.53	106.78
1038	28358	102.00	121.40	101.15	99.00	106.46	108.34
1039	28359	86.00	107.00	94.25		90.19	94.06
1040	Zonal Check (ZC)	91.80	119.40	100.25	113.00	104.46	98.18
1041	28360	91.10	82.90	73.30		84.16	89.75
1042	28361	86.30	113.20	98.20	119.00	114.11	116.56
1043	28362	189.20	105.20	96.95	112.00	106.47	109.07
1044	28363	95.10	103.50	93.45	103.00	98.91	99.58
1045	28364	98.60	121.50	98.95	121.00	111.63	109.54
1046	28365	95.40	116.20	98.35	102.00	102.33	104.53
1047	28366	94.50	123.30	103.95	106.00	105.91	102.05
1048	28367	97.20	123.50	107.95	103.00	105.11	104.09
1049	28368	99.20	117.50	108.35	116.00	112.33	107.46
1050	28369	107.00	133.90	115.25	118.00	117.90	111.69
1051	28370	103.50	130.50	115.05	119.00	118.16	116.05
1052	28371	102.10	121.50	106.90	122.00	114.70	112.84
1053	28372	111.00	144.50	126.15	139.00	128.99	125.76
1054	28373	88.20	98.20	90.20	97.00	90.96	93.80
1055	28374	94.70	110.00	93.45	95.00	99.26	99.48
1056	28375	99.60	120.10	101.25	106.00	108.40	107.53
1057	28376	99.60	129.80	109.55	127.00	118.63	115.81
1058	28377	96.40	121.20	103.85	108.00	103.20	103.00
1059	28378	96.20	123.10	104.80		111.17	111.33
1060	28379	99.50	118.90	107.05	97.00	109.13	109.42
1061	28380	88.00	111.00	95.55	111.00	100.53	102.90
1062	28381	86.20	105.00	89.20	101.00	99.03	100.59
1063	28382	89.70	105.40	92.00	99.00	99.60	100.76
1064	Local Check	95.60	116.90	101.40	105.00	102.46	104.67
	Exp. Mean	93.53	115.77	99.64	107.64	105.01	104.91

Table 3.17: No. of Panicle/m² of entries in IVT E TP, kharif 2019

Entry No.	IET No.	Zone II									
		UT	PU (1)	HA (1)	Zone II (2)	OD		OD (2)	BI		BI (2)
		@PNT	LDN	KUL	Mean	CTK	JYP	Mean	BKG	PTN	Mean
1001	28322	353	205	310	257	510	343	426	320	226	273
1002	28323	174	257	318	288	539	428	483	238	217	227
1003	28324	293	244	280	262	386	343	364	178	194	186
1004	28325	396	215	252	233	465	346	405	359	216	287
1005	28326	412	218	268	243	357	323	340	245	228	236
1006	28327	335	257	379	318	368	263	316	285	240	262
1007	28328	237	248	280	264	402	332	367	255	180	218
1008	28329	452	267	309	288	476	359	417	290	191	240
1009	28330	327	228	284	256	454	253	353	178	224	201
1010	28331	404	231	278	254	363	340	351	240	232	236
1011	28332	341	274	291	282	369	226	297	248	244	246
1012	28333	416	248	310	279	342	346	344	253	197	225
1013	28334	225	224		224	522	256	389			
1014	28335	330	224	289	257	612	353	482	178	203	190
1015	28336	241	281	284	282	660	286	473	248	187	217
1016	28337	322	271	269	270	448	413	430	390	278	334
1017	28338	230	208	266	237	301	446	373	253	164	208
1018	28339	278	244	278	261	478	276	377	243	195	219
1019	28340	252	261	286	273	366	246	306	215	155	185
1020	28341	363	307	247	277	475	346	411	318	206	262
1021	28342	326	304	294	299	719	323	521	423	238	330
1022	28343	335	297	289	293	504	513	508	248	208	228
1023	28344	222	251	318	284	460	523	491	218	195	206
1024	CO 51 (NC)	310	307	283	295	645	403	524	253	263	258
1025	28345	359	277	290	283	448	326	387	178	214	196
1026	28346	305	261	313	287	371	296	333	276	197	237
1027	28347	366	248	268	258	464	313	389	358	224	291
1028	28348	294	251	240	245	373	213	293	288	143	215
1029	28349	346	307	314	310	571	335	453	278	231	254
1030	28350	388	323	416	369	601	303	452	210	256	233
1031	28351	414	300	270	285		350	350	214	277	246
1032	28352	331	231	323	277	596	301	448	248	181	214
1033	28353	344	248	356	302	555	363	459	214	222	218
1034	28354						345	345			
1035	28355	240	251	318	284	550	340	445	185	209	197
1036	28356	445	257	374	315	553	406	480	248	179	213
1037	28357	287	231		231	369	266	317	245	183	214
1038	28358	257	228	266	247	491	303	397	247	282	264
1039	28359	283	307	241	274	510	346	428	284	285	284
1040	Zonal Check (ZC)	411	330	238	284	563	330	446	320	235	278
1041	28360	252	254	331	293	356	290	323	179	217	198
1042	28361	294	290	338	314	504	269	386	285	224	254
1043	28362	290	234	311	272	289	273	281	252	150	201
1044	28363	317	274	317	295	486	303	395	183	164	173
1045	28364	280	198	238	218	413	293	353	213	209	211
1046	28365	294	317	271	294	392	283	338	279	216	247
1047	28366	303	277	292	285	374	353	363	313	197	255
1048	28367	299	307	309	308	482	373	427	205	231	218
1049	28368	374	241	308	274	494	360	427	214	283	249
1050	28369	189	274	260	267	628	306	467	173	212	192
1051	28370	416	277	282	279	469	484	476	278	211	244
1052	28371	402	314	289	301	669	350	509	255	216	236
1053	28372	311	267	343	305	521	340	430	289	235	262
1054	28373	382	281	274	277	667	313	490	462	223	342
1055	28374	344	360	271	315	532	400	466	278	263	270
1056	28375	373	234	269	251	560	296	428	247	224	235
1057	28376	308	271	316	293	447	280	363	288	187	237
1058	28377	311	254	279	267	499	284	391	279	213	246
1059	28378	340	248	308	278	647	470	559	252	177	214
1060	28379	374	221	269	245	318	293	305	205	170	187
1061	28380	331	264	385	324	578	230	404	289	211	250
1062	28381	304	290	266	278		277	277	211	220	216
1063	28382	115	267	318	292	461	424	442	252	216	234
1064	Local Check	256	287	289	288	538	410	474	247	216	231
	Exp. Mean	319	264	295	278	484	334	405	258	214	236

Table 3.17 contd.: No. of Panicle/m2 of entries in IVT E TP, kharif 2019

Entry No.	IET No.									Zone IV		
		JH		JH (1)	WB (1)	UP		UP (1)	Zone III (7)	TR		
		@RCI	HZB	Mean	CHN	@MSD	VRN	Mean	Mean	@ARD	@LMB	@WBL
1001	28322	225	462	462	248	267	218	218	332	323	325	252
1002	28323	235	444	444	215	253	218	218	328	308	363	270
1003	28324	163	354	354	215	262	221	221	270		229	252
1004	28325	215	395	395	281	276	236	236	328	302	313	254
1005	28326	238	378	378	248	256	223	223	286	313	371	236
1006	28327	209	419	419	281	251	260	260	302	320	400	357
1007	28328	228	395	395	314	260	250	250	304	491	342	270
1008	28329	284	314	314	330	259	234	234	313	340	404	378
1009	28330	216	288	288	248	274	221	221	266	316	279	252
1010	28331	209	371	371	314	270	244	244	300	299	371	189
1011	28332	204	311	311	281	275	257	257	276	283	242	220
1012	28333	238	323	323	314	264	246	246	288	296	313	287
1013	28334	300	343	343		273			373		258	231
1014	28335	306	338	338	248	279	219	219	307	324	346	184
1015	28336	176	260	260	231	252	222	222	299	310	408	357
1016	28337	195	296	296	215	260	238	238	325	310	254	287
1017	28338	223	295	295	264	259	187	187	273	301	229	252
1018	28339	256	329	329	231	264	214	214	281	312	317	321
1019	28340	184	391	391	347	272	218	218	277	311	238	246
1020	28341	221	391	391	363	306	235	235	333		221	252
1021	28342	256	286	286	281	266	264	264	362	327	342	300
1022	28343	246	416	416		251	254	254	357	310	317	286
1023	28344	278	400	400	314	274	219	219	332	314	308	252
1024	CO 51 (NC)	295	468	468	281	271	213	213	361	318	379	298
1025	28345	198	393	393	248	253	215	215	289	267	367	363
1026	28346	218	276	276	297	243	220	220	276	322	396	244
1027	28347	210	320	320	314	270	262	262	322	312	342	239
1028	28348	161	279	279	330	295	173	173	257	315	292	198
1029	28349	260	256	256	314	257	262	262	321	302	383	255
1030	28350	235	212	212	281	280	270	270	305	298	363	252
1031	28351	271	320	320	330	296	257	257	291	283	358	329
1032	28352	232	302	302	330	267	246	246	315	286	321	252
1033	28353	270	285	285	281	270	226	226	306	257	254	275
1034	28354	176	360	360		281			353		350	270
1035	28355	245	315	315	248	255	215	215	294	292	413	223
1036	28356	305	330	330	215	265	252	252	312	310	283	412
1037	28357	204	315	315	314	249	223	223	273		358	294
1038	28358	230	303	303	281	269	238	238	306	237	204	191
1039	28359	246	376	376	231	253	205	205	319	219	292	246
1040	Zonal Check (ZC)	293	289	289	248	260	265	265	321	271	254	263
1041	28360	232	483	483	231	299	207	207	280	272	308	311
1042	28361	309	286	286	248	295	253	253	295	322	246	294
1043	28362	148	391	391	215	272	254	254	260	271	271	359
1044	28363	181	325	325	314	253	233	233	287	340	271	245
1045	28364	163	320	320	248	254	164	164	265	308	304	180
1046	28365	182	340	340	330	260	238	238	297	283	363	216
1047	28366	183	342	342	248	263	229	229	293	328	267	173
1048	28367	224	316	316	215	265	234	234	293	334	333	231
1049	28368	272	380	380	264	257	258	258	322	342	392	275
1050	28369	223	268	268	314	261	218	218	303	326	375	218
1051	28370	259	310	310	248	264	166	166	309	305	363	294
1052	28371	213	472	472	264	275	219	219	349		363	330
1053	28372	223	408	408	281	296	158	158	319	328	333	378
1054	28373	240	275	275	330	277	246	246	359	291	358	218
1055	28374	243	370	370	347	265	225	225	345	282	321	375
1056	28375	259	333	333	347	267	127	127	305	297	304	252
1057	28376	218	283	283	248	280	192	192	275	304	246	278
1058	28377	248	301	301	281	295	196	196	293	328	283	317
1059	28378	218	439	439	297	292	240	240	360	317	267	441
1060	28379	168	261	261	297	296	175	175	245	299	192	214
1061	28380	208	320	320	314	254	214	214	308		379	223
1062	28381	216	321	321	281	279	248	248	259	317	329	262
1063	28382	222	343	343	248	305	163	163	301	341	288	318
1064	Local Check	236	320	320	281	270	218	218	318	314	479	252
	Exp. Mean	229	340	340	279	269	224	224	306	308	319	273

Table 3.17 contd.: No. of Panicle/m2 of entries in IVT E TP, kharif 2019

Entry No.	IET No.	ZONE V						Zone VI				
		MP (1)	CH	MA1		MA1 (2)	Zone V(3)	MA II			MA II (3)	MA (5)
		REW	@JDP	SKL	SND	Mean	Mean	KJT	SHR	VDG	Mean	Mean
1001	28322	234	208	238	284	261	252	259	147	281	229	241
1002	28323	210	216	302	233	268	248	359	198	234	263	265
1003	28324	176	241	261	272	266	236	251	160	178	196	224
1004	28325	206	242	255	303	279	254	307	240	230	259	267
1005	28326	195	245	280	256	268	244	278	241	241	253	259
1006	28327	212	305	235	290	263	246	355	195	271	273	269
1007	28328	191	190	243	280	261	238	283	197	234	238	247
1008	28329	196	207	282	312	297	263	384	196	251	277	285
1009	28330	199	280	239	219	229	219	307	198		252	241
1010	28331	195	246	208	223	215	208	269	198	233	233	226
1011	28332	212	195	337	254	296	268	261	123	238	207	243
1012	28333	222	219	297	275	286	264	338	161	235	244	261
1013	28334	143	207	283	307	295	244	339	246	248	277	284
1014	28335	186	283	236	270	253	231	305	116	168	196	219
1015	28336	190	256	340	369	355	300	355	175		265	310
1016	28337	208	223	313	279	296	266	300	165	287	250	268
1017	28338	228	182	239	229	234	232	254	153	254	220	226
1018	28339	229	270	258	271	265	253	309	135	182	208	231
1019	28340	173	179	210	245	228	209	314	159	224	232	230
1020	28341	184	254	255	254	254	231	372	167	222	254	254
1021	28342	232	273	292	304	298	276	333	166	243	247	267
1022	28343	225	215	233	265	249	241	320	173	236	243	245
1023	28344	240	215	245	244	244	243	343	206		274	259
1024	CO 51 (NC)	222	189	256	220	238	233	341	141	167	216	225
1025	28345	213	232	279	275	277	256	318	177	176	224	245
1026	28346	234	293	304	222	263	253	359	191	239	263	263
1027	28347	242	285	273	344	308	286	330	197	222	250	273
1028	28348	165	205	200	219	209	194	283	238	222	248	232
1029	28349	233	280	233	352	293	273	382	191	199	257	271
1030	28350	238	222	186	328	257	251	307	216	126	216	232
1031	28351	269	243	257	303	280	276	283	257	221	254	264
1032	28352	213	222	206	222	214	214	345	239	172	252	237
1033	28353	226	228	268	326	297	273	347	157	223	242	264
1034	28354	210	235	293		293	251	302			302	297
1035	28355	228	197	298	283	291	270	342	193	227	254	269
1036	28356	173	210	272	291	281	245	294	132	193	206	236
1037	28357	223	203	235	268	252	242	344	211	200	252	252
1038	28358	189	167	235	350	292	258	301	251	235	262	274
1039	28359	158	195	233	309	271	233	254	150	191	198	227
1040	Zonal Check (ZC)	206	249	287	251	269	248	306	134	214	218	238
1041	28360	206	251	197	303	250	235	316	151	221	229	237
1042	28361	209	254	258	207	233	225	401	154	239	264	252
1043	28362	224	256	211	232	222	222	253	135	300	229	226
1044	28363	208	262	190	294	242	231	342	236	218	265	256
1045	28364	175	245	208	230	219	204	322	137	296	251	238
1046	28365	202	219	244	327	286	258	319	146	209	224	249
1047	28366	218	197	249	311	280	259	316	228	188	244	258
1048	28367	168	317	310	361	335	279	339	205	231	258	289
1049	28368	280	266	269	348	308	299	381	228	170	260	279
1050	28369	200	255	258	228	243	228	309	198	237	248	246
1051	28370	241	231	311	259	285	270	319	238	301	286	285
1052	28371	231	179	284	331	307	282	354	308	230	297	301
1053	28372	238	264	262	254	258	251	365	289	245	300	283
1054	28373	201	248	273	289	281	254	289	190	211	230	250
1055	28374	239	254	248	329	289	272	351	263	229	281	284
1056	28375	234	247	217	252	235	234	283	206	210	233	234
1057	28376	259	250	251	208	230	239	340	262	271	291	266
1058	28377	206	263	286	250	268	247	283	188	213	228	244
1059	28378	233	251	235	301	268	256	267	191	313	257	261
1060	28379	154	229	196	238	217	196	316	170	239	241	232
1061	28380	192	248	277	255	266	241	284	167	230	227	243
1062	28381	249	171	323	262	292	278	309	190	200	233	257
1063	28382	188	265	265	284	274	245	353	238	206	266	269
1064	Local Check	210	181	251	274	263	245	320	291	317	309	290
	Exp. Mean	211	234	257	276	267	248	318	193	227	248	255

Table 3.17 contd.: No. of Panicle/m² of entries in IVT E TP, kharif 2019

Entry No.	IET No.						Zone VII					
		GU			GU (1)	Zone VI(4)	AP(1)	TE (1)	TA		TA(2)	KE
		NWG	@DBI	@VYR	Mean	Mean	MTU	WGL	ADT	CBT	Mean	@MNC
1001	28322	273	223	238	273	240	307	401	311	328	319	213
1002	28323	267	251	242	267	264	307	391	200	255	228	240
1003	28324	267	248	271	267	214	323	431	186	238	212	130
1004	28325	266	244	222	266	260	333	375	222	248	235	207
1005	28326	267	159	229	267	257	327	421	236	228	232	213
1006	28327	276	189	293	276	274	323	378	234	318	276	277
1007	28328	271	113	232	271	246	317	404	187	215	201	243
1008	28329	263	264	290	263	273	310	376	305	303	304	
1009	28330	272	173	267	272	259	307	378	289	263	276	153
1010	28331	271	246	252	271	243	317	386	243	323	283	237
1011	28332	275	189	293	275	224	353	375	195	265	230	200
1012	28333	271	243	243	271	251	333	394	195	238	216	210
1013	28334	273	254	285	273	276			173	338	255	317
1014	28335		210	227		196	320	389	210	200	205	350
1015	28336	139	168	220	139	223	274	398	134	300	217	227
1016	28337	269	242	289	269	255	297	396	237	260	248	203
1017	28338	271	201	276	271	233	323	394	269	240	254	223
1018	28339	267	200	222	267	223	310	386	201	265	233	170
1019	28340	265	188	261	265	240	317	383	216	238	227	207
1020	28341	268	223	241	268	257	347	366	302	225	263	253
1021	28342	279	211	262	279	255	347	398	282	288	285	183
1022	28343	283	220	217	283	253	320	373	252	238	245	223
1023	28344	284	194	271	284	278	330	389	352	320	336	193
1024	CO 51 (NC)	272	205	179	272	230	330	370	347	298	322	333
1025	28345	268	220	261	268	235	327	401	281	258	269	233
1026	28346	284	244	278	284	268	330	401	205	418	311	187
1027	28347	277	217	282	277	256	360	376	251	313	282	183
1028	28348	271	185	237	271	253	304	381	341	193	267	210
1029	28349	274	189	247	274	261	356	383	321	298	309	200
1030	28350	267	218	279	267	229	297	373	180	223	201	190
1031	28351	275	261	284	275	259	340	388	302	315	309	300
1032	28352	269	189	219	269	256	314	408	283	238	260	167
1033	28353	270	215	303	270	249	314	414	232	205	218	200
1034	28354		242	217		302			316	245	280	
1035	28355	267	250	272	267	257	304	396	265	278	271	187
1036	28356	269	236	240	269	222	294	391	370	258	314	233
1037	28357	267	204	209	267	255	307	386	255	268	261	210
1038	28358	266	195	264	266	263	330	376	141	283	212	223
1039	28359	142	118	201	142	184	287	393	134	270	202	200
1040	Zonal Check (ZC)	265	177	238	265	230	333	399	226	288	257	190
1041	28360	131	186	228	131	205	287	383	178	220	199	263
1042	28361	269	189	196	269	265	356	376	241	225	233	267
1043	28362	263	222	180	263	238	320	421	285	168	226	150
1044	28363	267	211	197	267	265	343	399	218	250	234	200
1045	28364	276	208	256	276	258	327	406	231	245	238	190
1046	28365	275	240	214	275	237	294	406	235	293	264	200
1047	28366	275	242	279	275	252	330	401	273	310	292	247
1048	28367	272	249	279	272	261	320	391	248	298	273	143
1049	28368	262	193	250	262	260	353	417	278	300	289	263
1050	28369	251	227	335	251	249	343	360	289	235	262	267
1051	28370	274	241	201	274	283	370	404	307	233	270	170
1052	28371	271	241	264	271	291	343	393	245	280	263	357
1053	28372	273	259	276	273	293	330	404	254	435	344	267
1054	28373	142	204	290	142	208	314	393	211	238	224	267
1055	28374	280	264	319	280	281	340	411	296	288	292	263
1056	28375	269	210	187	269	242	330	394	275	233	254	210
1057	28376	266	253	222	266	285	337	378	219	245	232	263
1058	28377	268	205	263	268	238	307	394	289	233	261	203
1059	28378	274	272	190	274	261	337	360	334	235	285	300
1060	28379	269	288	225	269	248	310	393	204	170	187	143
1061	28380	263	196	226	263	236	356	406	199	195	197	210
1062	28381	276	240	237	276	243	343	403	221	263	242	173
1063	28382	274	228	263	274	268	340	393	302	250	276	197
1064	Local Check	280	214	255	280	302	316	416	281	305	293	230
	Exp. Mean	262	217	248	262	251	324	392	250	264	257	222

Table 3.17: No. of Panicle/m2 of entries in IVT E TP, kharif 2019

Entry No.	IET No.	Zone VII										Overall (23)
		KE	KE (1)	KA				KA (2)	PUD	Zone VII(7)		
		PTB	Means	MND	@BRM	@MGD	GNV	Mean	@KBP	Mean	Mean	
1001	28322	532	532	380	344	265	467	423	483	389	316	
1002	28323	441	441	410	411	248	477	443	467	354	311	
1003	28324	368	368	380	371	228	485	433	383	344	278	
1004	28325	319	319	430	392	295	508	469	517	348	304	
1005	28326	266	266	460	208	258	373	416	450	330	285	
1006	28327	448	448	430	180	313	406	418	517	362	310	
1007	28328	291	291	390	279	245	386	388	400	313	284	
1008	28329	494	494	430	299	350	354	392	417	367	314	
1009	28330	252	252	375	304	198	477	426	433	334	279	
1010	28331	473	473	425	320	293	408	416	433	368	295	
1011	28332	333	333	380	375	260	418	399	433	331	283	
1012	28333	382	382	415	220	270	456	435	433	345	295	
1013	28334			430		388		430		313	294	
1014	28335	438	438	440	177	238	419	430	383	345	289	
1015	28336	389	389	380	220	305	472	426	433	335	299	
1016	28337	329	329	390	325	293	352	371	450	323	300	
1017	28338	263	263	420	274	250	399	409	417	330	275	
1018	28339	427	427	430	194	265	345	388	467	338	283	
1019	28340	333	333	380	299	190	343	362	417	315	273	
1020	28341	371	371	350	184	315	523	436	467	355	308	
1021	28342	490	490	405	318	160	540	473	517	393	336	
1022	28343	431	431	410	227	280	472	441	433	356	316	
1023	28344	340	340	450	328	310	404	427	500	369	320	
1024	CO 51 (NC)										319	
		340	340	510	210	330	408	459	517	372		
1025	28345	588	588	460	248	353	430	445	433	392	306	
1026	28346	308	308	440	233	418	453	447	467	365	300	
1027	28347	543	543	410	315	300	455	433	483	387	320	
1028	28348	487	487	390	278	293	380	385	433	354	277	
1029	28349	368	368	410	274	415	509	459	533	378	320	
1030	28350	243	243	450	334	215	573	512	550	334	299	
1031	28351	277	277	445	205	250	507	476	467	368	307	
1032	28352	363	363	390	180	285	450	420	450	349	299	
1033	28353	303	303	445	230	260	386	416	467	328	298	
1034	28354	488	488	425				425		368	331	
1035	28355	354	354	430	301	293	498	464	467	360	304	
1036	28356	367	367	435	306	223	477	456	467	370	305	
1037	28357	294	294	415	271	278	386	401	467	330	282	
1038	28358	536	536	355	269	275	483	419	517	358	303	
1039	28359	277	277	390	263	305	438	414		313	279	
1040	Zonal Check (ZC)										299	
		403	403	370	282	233	370	370	467	341		
1041	28360	257	257	370	280	248	444	407		305	270	
1042	28361	277	277	395	275	375	349	372	450	317	289	
1043	28362	264	264	400	300	325	400	400	467	322	271	
1044	28363	254	254	395	197	283	423	409	500	326	288	
1045	28364	312	312	410	245	228	434	422	483	338	274	
1046	28365	474	474	390	299	200	472	431	450	366	302	
1047	28366	315	315	410	263	213	498	454	433	362	302	
1048	28367	339	339	430	235	245	396	413	467	346	303	
1049	28368	371	371	425	293	358	443	434	450	370	318	
1050	28369	571	571	405	298	300	627	516	450	404	311	
1051	28370	434	434	460	412	265	358	409	417	366	314	
1052	28371	375	375	370	275	318	321	346	500	332	321	
1053	28372	319	319	430	284	248	425	427	450	371	320	
1054	28373	257	257	440	273	225	492	466	450	335	305	
1055	28374	413	413	400	289	363	464	432	467	373	330	
1056	28375	448	448	415	320	293	374	395	400	353	295	
1057	28376	396	396	375	330	438	434	405	400	340	293	
1058	28377	599	599	405	291	265	334	370	517	366	297	
1059	28378	313	313	425	294	310	346	385	417	336	315	
1060	28379	485	485	375	319	363	462	418	417	343	269	
1061	28380	337	337	385	326	413	473	429	433	336	297	
1062	28381	280	280	390	297	310	431	410	450	333	284	
1063	28382	301	301	390	310	390	465	428	533	349	302	
1064	Local Check	371	371	415	263	283	467	441	433	367	318	
	Exp. Mean	376	376	410	281	289	436	423	458	350	300	

ADVANCE VARIETY TRIAL 1-IRRIGATED MID EARLY (AVT 1-IME)

Locations: 41

Test Entries: 52

Checks: Gontra Bidhan-3 (National); PR 113 (Northern), Table:3.18
Lalat (Eastern & North Eastern), Karjat-7
(Western), MTU 1010 (Central and Southern)-
(Zonal); US 312 (Hybrid) and Local Check

Advance Variety Trial 1-Irrigated Mid Early (AVT 1-IME) consisted of 52 test entries including 4 checks: Gontra Bidhan 3 (National check), PR 113 in Northern, Lalat in Eastern, Karjat in Western and MTU 1010 in Central and Southern Zones as Zonal checks, US 312 (Hybrid check) and a local check. Among the test entries IET 24692 is in 3rd year and the remaining entries are in 2nd year of testing. There are 5 NILs in the genetic background of MTU 1010 and 2 NILs in IR 64 *Sub1* background. Trial was sent to 41 locations covering 6 zones (II, III, IV, V, VI and VII). However, data was not received from 7 centres viz., Gharkhatanga, Varanasi, Titabar, Gerua ICAR, Waraseoni, Jabalpur and Dabhoi. The data pertaining to yield, days to 50% flowering, plant height, panicles/m² and quality are presented in tables 3.19, 3.20, 3.21, 3.22 and 3.23 respectively. Zone wise performance of the entries are mentioned below.

Northern Zone (Z II)

Eleven varietal and seven hybrid entries were tested at five locations viz., Pantnagar (Uttarkhand), Ludhiana (Punjab), Kaul (Haryana), Chatha (Jammu & Kashmir) and Kota (Rajasthan) representing five states of Northern Zone. Data from Ludhiana (3545 kg/ha) and Chatha (3628 kg/ha) was not included in the analysis due to low experimental mean yield (<4000 kg/ha). Experimental mean yield at the locations ranged from 3545 kg/ha (Ludhiana) to 7919 kg/ha (Kaul) and CV% from 7.18 (Kota) to 18.79 (Pantnagar). Zonal mean yield of the entries varied from 5683 kg/ha (IET 27739) to 7153 kg/ha (IET 27362) and days to 50% flowering ranged from 86 days (IET 27739) to 98 days (PR 113-Zonal Check and IET 27746). Plant height ranged from 93.3 cm (PR113) to 113.4 cm (IET 27755) whereas panicles/m² ranged from 244 (IET 27746 and IET 27748) to 308 (IET 27747). The national check, Gontra Bidhan 3 outperformed (6597 kg/ha) the remaining varietal checks. None of the varietal test entries were found superior to the best check (National check). ***Although IET 27362, the hybrid entry recorded 11% yield improvement over the hybrid check (US 312), it exhibited 8.4% yield gain only as against the recommended yield gain of >10% over the best varietal check (Gontra Bidhan 3). Hence it is not promoted to AVT-2-IME. Therefore, none of the entries (inbreds and hybrids) are promoted to AVT-2-IME.***

Eastern Zone (III)

In the Eastern Zone, nine varietal and two hybrid entries were tested across ten locations (Cuttack, Jeypore, Bhubaneswar, Chiplima, Sabour, Ranchi, Gharkhatanga, Chinsurah, Masodha and Varanasi) in five states (Odisha, Bihar, Jharkhand, West Bengal and Uttar Pradesh). However, data was not received from Gharkhatanga and Varanasi. Experimental mean yield across locations varied from 3463 kg/ha (Ranchi) to 7067 kg/ha (Chiplima) and CV% from 6.21 (Jeypore) to 16.24 (Ranchi). Zonal mean ranged from 4735 kg/ha (IET 27267) to 6478 kg/ha (IET 27358); mean flowering duration ranged from 94 days (IET 27739 and IET 27770) to 104 days (IET 27267); plant height ranged from 96.13 cm (IET 27739) to 110.94 cm (IET 27267) and panicles per square metre ranged from 224 (IET 27267) to 335 (Lalat-Zonal check). Among the varietal checks, Gontra Bidhan 3 (national check) was top performing check

(6130 Kg/ha) followed by local check (4843 Kg/ha) and zonal check, Lalat (4783 Kg/ha). ***None of the inbreds outperform the best check (NC).***

Although two hybrid entries namely ***IET 27358 and IET 27362 recorded > 5% yield gain ie., 11% and 8.5% over the hybrid check (US 312) respectively, they failed to show the required yield superiority of >10% over the best varietal check (Gontra Bidhan 3) ie., IET 27358 exhibited yield gain of 6% while IET 27362 recorded 4% and so not found eligible for promotion to 3rd year of testing. Therefore, none of the varietal and hybrid entries are promoted in Eastern zone to AVT-2-IME.***

North Eastern Zone (IV)

Two varietal (IET Nos. 27739 and 27747) and two hybrid entries (IET Nos. 27358 and 27362) were evaluated at three locations namely Titabar and Gerua ICAR (Assam) and Lembucherra (Tripura) in zone IV. However, data was not received from Titabar and Gerua ICAR. Due to high CV (2327%) the data from Lembucherra was not included in analysis.

Central Zone (V)

Twenty varietal and six hybrid entries were tested in Central Zone at 7 locations (Waraseoni, Jabalpur, Raipur, Jagdalpur, Bilaspur, Sakoli and Sindewahi) covering two states (Chhattisgarh and Maharashtra). But data was not received from Waraseoni and Jabalpur. Experimental mean yield ranged from 4029.94 kg/ha (Sakoli) to 6417.74 kg/ha (Bilaspur) and CV% ranged from 10.8 (Raipur) to 13.25 (Jagdalpur). Zonal mean yield ranged from 4033 kg/ha (MTU 1010-zonal check) to 5988 kg/ha (IET 27362). Days to 50% flowering ranged from 88 days (IET 28033 and 28032) to 105 days (IET 27772). The plant height ranged from 87.80 cm (IET 27790) to 139.24 cm (IET 27781) while panicles per square metre ranged from 226 (IET 27748) to 294 (IET 27790).

Among the varietal checks, Gontra Bidhan 3, the national check is the superior check (5628 kg/ha) followed by local check (5124 kg/ha) and MTU 1010, the zonal check (4033 Kg/ha). ***None of the inbred entries out yielded the best check (NC).***

Five hybrid entries (four in 2nd year of testing and one in 3rd year of testing) surpassed the hybrid check (US 312) with the required 5% yield advantage ie., IET 27358 (6.7%), IET 27356 (14%), IET 27362 (17%) IET 27360 (13%) in 2nd year and 24967 (9%) in 3rd year in the trial. But they failed to outperform the best varietal check (Gontra Bidhan 3) by >10% yield gain. Therefore, none of the varietal and hybrid entries are promoted to 3rd year of testing.

Western Zone (VI)

Five varietal and four hybrid entries were tested in the Western Zone (Zone VI) across five locations (Karjat, Nawagam, Navsari, Dabhoi and Vyara) of two states Maharashtra and Gujarat. But data was not received from Dabhoi. Experimental mean yield at the locations ranged from 4005 kg/ha (Nawagam) to 5845 kg/ha (Navsari) and CV % ranged from 10.09% (Navsari) to 14.98 (Nawagam). Zonal mean ranged from 3981 kg/ha (Karjat 7, zonal check) to 5927 kg/ha (IET 27360). Days to 50% flowering ranged from 86 days (Gontra Bidhan 3-National Check) to 97 days (IET 27772). Plant height ranged from 99.96 cm (IET 27739) to 127.7 cm (Local check) while panicles per square metre from 227 (IET 27362) to 275 (IET 27747).

None of the varietal entries outperformed the best check (local check) with >5% yield improvement. Among the hybrids ***IET 27360 and IET 27358 were found superior to the hybrid check (US 312) as well as the best varietal check (Local check) with the required yield gain of > 5% and 10% respectively and promoted to 3rd year of testing (AVT-2-IME) in Zone VI.***

IET 27360 (PHI-18106), a hybrid entry ranked 1st in Western Zone (5927 kg/ha) with 91 days to 50% flowering and long bold grains. It exhibited yield superiority of 32 % over best varietal check (Local check) and 23% over hybrid check. (Quality data is yet to be provided).

Another hybrid entry IET 27358 (PHI-18105) ranked 2nd (5324 kg/ha). It showed 91 days to 50% flowering and long slender grains. It recorded yield advantage of 18 % over best varietal check (Local check) and 11% over hybrid check. (Quality data is yet to be provided).

Performance of the entries in AVT 1-IME during Kharif 2019- Zone VI (Western)

Performance of the entries in IV-VI T zone during Kharif 2018 Zone VI (Western)							
Rank	IET No/ Designation/ Cross Combination	GY/ DFF/GT	% NC/ ZC/ LC/ HC	Performance across states			
				State/ Rank	Yield	%BVC	%HC
Promising in Zone-VI (Western)							
1	IET 27360 (PHI-18106) (Hybrid)	5927	32	MH-1	6291	41.18	18.16
		91	49	GU-1	5806	14.11	25.48
		LB	26				
		23					
2	IET 27358 (PHI-18105) (Hybrid)	5324	18	MH-2	5577	25.15	4.75
		91	34				
		LS	13				
		11					
	Gontrabidhan 3 (NC)	4500					
		86					
	Karjat-7 (ZC)	3981					
		93					
	Local Check (LC)- Best check	4697					
		87					
	US 312 (HC)	4801					
		89					

Bold Italics: Best check & over the best check; GY: Grain Yield; DFF: Days to 50% flowering, GT: Grain Type; NC-National Check; ZC-Zonal Check; LC-Local Check; BVC-Best Varietal Check

Southern Zone (Zone VII)

Nine varietal and two hybrid entries were tested in the Southern Zone (Zone VII) across ten locations (Maruteru, Rajendranagar, Warangal, Jagitil, Aduturai, Coimbatore, Pattambi, Mandya, Brahmavar and Kurumbapet) across six states (Andhra Pradesh, Telangana, Tamil Nadu, Kerala, Karnataka and Puducherry). Due to high CV (26.94 %) and low experimental mean yield (3304.8 kg/ha) the data from Pattambi was not included in analysis. Brahmavar data was not considered due to low experimental mean yield (3209 kg/ha). Across locations the mean yield ranged from 3209 kg/ha (Brahmavar) to 7254 kg/ha (Rajendranagar) and CV% from 5.24 (Coimbatore) to 26.94 (Pattambi). Zonal mean yield ranged from 5019 kg/ha (IET 28033) to 7273 kg/ha (Gontra Bidhan 3-National check). Days to 50% flowering ranged from 85 days (IET 28011, IET 28010 and MTU 1010-Zonal check) to 97 days (IET 27747); plant height ranged from 95.7 cm (IET 28033) to 118.8 cm (IET 27358) and panicles per square metre from 430 (IET 27747) to 361 (IET 27358).

Among the test entries, Gontra Bidhan 3, the national check ranked first (7273 Kg/ha) and hence none of the entries showed required superior yield performance (>5%) over the best varietal check (Gontra Bidhan 3-NC) in Zone VII.

Among the hybrid entries two test entries namely IET 27358 and IETV 27362 recorded > 5% yield improvement over the hybrid check ie., 8.3% and 9.5% respectively. However, they could not outyield the best varietal check (NC). Therefore, none of the hybrid test entries were promoted to AVT-2 IME in Zone VII.

Near isogenic lines in the genetic background of IR 64 possessing qDTY 2.2 for drought tolerance

(a) Confirmation of drought tolerant NILs under normal conditions (AVT-1-IME):

There are two NIL entries developed for drought tolerance namely IET 28032 and 28033 which are sister lines derived from the cross IR 87728-367-B-B/IR64*3// IR64*3/IR 40931 with qDTY 2.2. The recurrent parent (IR 64) of the NILs was notified originally in the states of Maharashtra & Madhyapradesh (Z V) and TN (Z VII). The two NILs (IET 28032 and 28033) as well as the recurrent parent (IR 64) are evaluated for confirmation in AVT-1-IME for yield performance under normal irrigated conditions of Zone V & VII. In zone V they are evaluated in the states of Madhyapradesh (Waraseoni and Jabalpur), Maharashtra (Sakoli & Sindewahi) and Chattisgarh (Raipur, Bilaspur & Jagadapur). Data was not received from Madhya Pradesh. In Zone VII the experiment was conducted in the states of TN (Aduthurai & Coimbatore), AP (Maruteru and Rajendranagar), Telangana (Warangal and Jagityal) Karnataka (Mandya & Brahmavar), Kerala (Moncompu and Pattambi) and Puducherry (Kurumbapet). Due to high CV (26.94 %) and low experimental mean yield (3304.8 kg/ha) at Pattambi; and low experimental mean yield (3209 kg/ha) at Brahmavar, the data was not included in analysis.

Performance of NIL entries possessing qDTY 2.2 QTL, AVT-1-IME, Kharif, 2019- Normal, Zone-V

S.No.	IET No/ Designation / Cross combination	Yield (Kg/ha) / DFF/PH/GT		Yield (Kg/ha)/ DFF/ PH/GT		Zonal mean Yield (Kg/ha)/ DFF/PH/GT	
		Chhattisgarh*	% RP	Maharashtra*	%RP	Zonal mean (Z-V) *	% RP
1	28032 CRR 751-1-7-B-B IR87728-367-B-B/ IR64*3// IR64*3/IR 40931	4434	1.7	3871	-	4209	-
		89		87		88	
		90		96		92	
		LS		LS		LS	
2	28033 CRR 751-1-12-B-B IR87728-367-B-B/ IR64*3// IR64*3/IR 40931	4134	-	4159	-6.2	4144	-
		89		87		88	
		90		96		92	
		LS		LS		LS	
	IR 64 (Recurrent parent)	4359		4432		4388	
		89		88		88	
		92		108		99	
		LS		LS		LS	

* Data from AVT-1-IME, 2019; DFF: Days to 50% flowering; PH: Plant Height; GT: Grain Type; RP: Recurrent Parent

The details about the confirmation of NILs (IET 28032 and IET 28033) on the basis of similarity with the recurrent parent (IR 64) has been tabulated hereunder.

Confirmation of NILs based on similarity with recurrent parent in AVT-1-IME- Normal

S.No.	IET No.	States*	%RP	Similarity with RP	Remarks
1	28032 CRR 751-1-7-B-B IR87728-367-B-B/ IR64*3// IR64*3/IR 40931	Zone- V Chhattisgarh and Maharashtra (RP: IR 64)	CH: 1.7 MH: -12.7 Mean: -4.1	Inferior to RP in yield, and similar in grain type and flowering duration	Not considered as NIL due to yield inferiority compared to RP
2	28033 CRR 751-1-12-B-B IR87728-367-B-B/ IR64*3// IR64*3/IR 40931	Zone-V Chhattisgarh and Maharashtra (RP: IR 64)	CH: -5.2 MH: -6.2 Mean: -5.7	Inferior to RP in yield, Shorter than RP in height by 7 cm and similar in flowering duration and grain type	Not considered as NIL due to yield inferiority compared to RP

* Data from AVT-1-IME, 2019

(b) Trait verification under stress (Drought)

The NIL entries (IET 28032 and 28033) are tested under drought conditions for trait verification in Advance Variety Trial 1- Near Isogenic Lines-Drought (AVT 1-NIL-DRT) at eight locations along with recurrent parent (IR 64), Gangavati Ageti (sensitive check) and drought tolerant yield checks (DRR Dhan 42 and 44). They are evaluated at 8 locations in the states of Chattisgarh (Raipur and Jagadelpur) and Madhya Pradesh (Rewa) in Zone V; Bihar (Patna), Jharkhand (Hazaribagh) and UP (Varanasi) in zone III; Warangal (Telangana) and Coimbatore (Tamil Nadu) in zone VII under drought. Due to low experimental mean (704 Kg/ha) at Hazaribagh and low CV % (4.92) at Varanasi mean data under drought is not considered for analysis. Similarly, in Zone V the material was evaluated at a single location (Rewa) under drought and data is excluded from analysis on account of low mean yield (1472 Kg/ha). The performance of the NILs under drought in AVT-1-NIL- DRT has been tabulated as mentioned below.

Performance of NIL entries in AVT-1-NIL (Drought), Kharif, 2019

S. No.	IET No	Yield kg/ha	% RP	Remarks
1	28032 CRR 751-1-7-B-B IR 87728-367-B-B/IR64*3// IR64*3/IR 40931	4383	-12.4	Dropped as it failed in NIL confirmation test and is inferior to RP in yield performance under drought
2	28033 CRR 751-1-12-B-B IR 87728-367-B-B/ IR64*3// IR64*3/IR 40931	4508	-9.9	Dropped as it failed in NIL confirmation test and is inferior to RP in yield performance under drought
	IR 64 (Recurrent parent)	5008		
	Gangavati Ageti (Sensitive check)	4383		
	DRR Dhan 42 (Tolerant check)	5075		
	DRR Dhan 44 (Tolerant check)	4883		

Entries promoted under drought stress: None

Near isogenic lines in the genetic background of MTU 1010 possessing saltol conferring tolerance to salinity

(a) Confirmation of salt tolerant NILs under normal conditions (AVT-1-IME): There are 5 NILs of MTU 1010 derived from the cross MTU 1010/FL 478//*3 MTU 1010 possessing *saltol* QTL introgressed from FL 478. These NILs namely IET 28011, IET 28008, IET 28007, IET 28010 and IET 28036 along with recurrent parent (MTU 1010) are evaluated for assessing yield performance under normal conditions for confirmation in AVT-1-IME. They are tested in 11 locations in Zone VII: Maruteru (AP), Rajendra Nagar, Warangal and Jagityal (Telangana), Aduthurai and Coimbatore (Tami Nadu), Moncompu and Pattambi (Kerala), Mandya and Brahmavar (Karnataka); Kurumbapet (Puducherry). Due to high CV (26.94%) at Pattanbi and low mean yield at Brahmavar (3209 Kg/ha) the data is not considered for analysis.

Performance of NIL entries possessing *saltol* QTL in AVT-1-IME (Zone VII), Kharif, 2019- Normal

S No	IET No/ Designation/ Cross combination	GY/DFP/ PH/GT		GY/DFP/ PH/GT		GY/DFP/ PH/GT		GY/DFP/ PH/GT		GY/DFP/ PH/GT		GY/DFP/ PH/GT		GY/DFP/ PH/GT	
		AP *	% RP	TE *	% RP	TN *	% RP	KE	% RP	KA *	% RP	PU *	% RP	Zonal mean * (Z VII)	% RP
1	28011 MTU 1294 MTU 1010 / FL 478 // *3 MTU 1010	5262 88 121 LS	4.7	6914 88 112 LS	3.2	5591 85 101 LS	-1.9.	4605 83 103 LS	13.7	6323 86 100 LS	3.9	5426 77 118/ LS	-25.9	5949 85 109 LS	-0.8
2	28008 MTU 1291 MTU 1010 / FL 478 // *3 MTU 1010	5099 122 76 LS	1.4	7277 89 107 LS	8.6	5976 87 103 LS	4.8	3528 79 91 LS	-12.8	6593 88 100 LS	8.3	7071 80 121 LS	-3.5	6230 86 107 LS	3.85
3	28007 MTU 1290 MTU 1010 / FL 478 // *3 MTU 1010	5342 86 121 LB	6.2	7924 89 111 LB	18.2	6732 85 97 LB	18	4617 77 98 LB	14	6852 91 97 LB	12.6	5339 80 116	-27.1	6599 86 107	10
4	28010 MTU 1293 MTU 1010 / FL 478 // *3 MTU 1010	5248 121 83 LS	4.3	7273 89 111 LS	8.5	5892 85 98 LS	3.3	4912 77 98 LS	21.2	6478 88 102 LS	6.4	5714 79 120 LS	-22	6217 85 108 LS	3.6
3	28036 MTU 1292 MTU 1010 / FL 478 // *3 MTU 1010	5755 115 77 LB	14.4	8014 88 111 LB	19.6	5627 87 99 LB	-1.3	5290 79 100 LB	30.6	6516 86 100 LB	6.9	6349 78 119 LB	-13.3	6578 86 107 LB	9.6
	MTU 1010 (Recurrent parent)	5027 112 76 LS		6699 107 76 LS		5702 93 76 LS		4050 78 92 LS		6084 95 76 LS		7330 79 115 LS		5999 85 102 LS	

* Data from AVT-1-IME, 2019; GY: Grain Yield (kg/ha); DFP: Days to 50% flowering; PH: Plant Height; GT: Grain Type

The NILs are compared with recurrent parent with respect to morphological traits for ascertaining similarities and the information is tabulated as below.

Confirmation of NILs based on similarity with Recurrent parent in AVT-1-IME, Zone VII, Kharif 2019

S.No	IET No	States	%RP	Similarity with RP	Remarks
1	28011 MTU 1294 MTU 1010 / FL 478 // *3 MTU 1010	Andhra Pradesh, Telangana, Tamil Nadu, Kerala, Karnataka and Puducherry (RP: MTU 1010)	AP: 4.7 TE: 3.2 TN: -1.9 KE: 13.7 KA: 3.9 PU: -25.9 Overall mean: -0.8	Inferior to RP in yield, Similar to RP in flowering duration, taller than RP by 7 cm	Not considered as NIL due to yield inferiority compared to RP
2	28008 MTU 1291 MTU 1010 / FL 478 // *3 MTU 1010	Andhra Pradesh, Telangana, Tamil Nadu, Kerala, Karnataka and Puducherry (RP: MTU 1010)	AP: 1.4 TE: 8.6 TN: 4.8 KE: -12.8 KA: 8.3 PU: - 3.5 Overall mean: 3.85	Similar in flowering duration and taller than RP by 5 cm.	NIL is confirmed.
3	28007 MTU 1290 MTU 1010 / FL 478//*3 MTU 1010	Andhra Pradesh, Telangana, Tamil Nadu, Kerala, Karnataka and Puducherry (RP: MTU 1010)	AP: 6.2 TE: 18.2 TN: 18 KE: 14 KA: 12.6 PU: -27.1 Overall mean: 10	Similar in flowering duration, taller than RP by 5 cm and differ in grain type (LB) with RP	Not considered as NIL due to grain type difference with RP
4	28010 MTU 1293 MTU 1010 / FL 478 // *3 MTU 1010	Andhra Pradesh, Telangana, Tamil Nadu, Kerala, Karnataka and Puducherry (RP: MTU 1010)	AP: 4.3 TE: 8.5 TN: 3.3 KE: 21.2 KA: 6.4 PU: -22 Overall mean: 3.6	Similar in grain type and flowering duration, tall in height by 6 cm compared to RP	NIL is confirmed.
5	28036 MTU 1292 MTU 1010 / FL 478 // *3 MTU 1010	Andhra Pradesh, Telangana, Tamil Nadu, Kerala, Karnataka and Puducherry (RP: MTU 1010)	AP: 14.4 TE: 19.6 TN: -1.3 KE: 30.6 KA: 6.9 PU: -13.3 Overall mean: 9.6	Similar in flowering duration, taller than RP by 5 cm but differ in grain type (LB) with RP	Not considered as NIL due to grain type difference with RP

* Data from AVT-1-IME, 2019

(b) Trait verification under stress (Coastal salinity)

The NIL entries viz., IET 28011, IET 28008, IET 28007, IET 28010 and IET 28036 are tested for trait verification along with recurrent parent (MTU 1010), salt tolerant check (FL 478) and salt sensitive check (Pusa 44) under coastal salinity in Advance Variety Trial 1- Near Isogenic Lines-Coastal salinity (AVT 1-NIL-CS) at 5 locations under coastal salinity stress In Zone III- Cuttack in Odisha; Chinsura& Canning in West Bengal ; Zone 5 - Panvel in Maharashtra and Zone VII-: Machilipatnam in AP. The sensitive check (Pusa 44) recorded higher yield than the tolerant check (FL 478) at Cuttack and Chinsura (Zone III) while in Panvel (Maharashtra- Zone V) the location mean yield is low (875.9 Kg/ha). At Machilipatnam stress is not apparent as > 65% of the test entries showed high yield ranging from 5 to 8 t/ha which is not possible under stress. Hence the data from these four locations is not considered for analysis. The performance of the confirmed NIL entries in AVT-1-NIL- CS under coastal saline stress has been discussed as mentioned below.

Performance of NIL entries in AVT-1-NIL (CS), Kharif, 2019

S.No	IET NO	Yield*	% RP	Remarks
1	IET 28011 MTU 1294 MTU 1010 / FL 478 // *3 MTU 1010	2422	-0.6	Dropped as it could not succeed in NIL confirmation test and is inferior to RP under drought
2	IET 28008 MTU 1291 MTU 1010 / FL 478 // *3 MTU 1010	2727	11.8	Promoted as it satisfied the NIL confirmation and superiority over RP in yield performance under coastal salinity
3	IET 28007 MTU 1290 MTU 1010 / FL 478 // *3 MTU 1010	2262	-7.2	Dropped as NIL showed yield inferiority over RP under coastal salinity as well as failed in NIL confirmation test .
4	IET 28010 MTU 1293 MTU 1010 / FL 478 // *3 MTU 1010	3057	25.3	Promoted as it satisfied the NIL confirmation and superiority over RP in yield performance under coastal salinity
5	IET 28036 MTU 1292 MTU 1010 / FL 478 // *3 MTU 1010	2878	18	Dropped as NIL is not confirmed
	MTU 1010 (Recurrent parent)	2439		
	Pusa 44 (Sensitive parent)	1594		
	FL 478 (Tolerant parent)	2237		

* Data from AVT-1-IME, 2019

Entries promoted under coastal salinity: IET 28008 and IET 28010

Three years performance of the hybrid entry (IET 24967)

IET 24967 (Bio-680), a hybrid entry has completed 3 years of testing (2015 to 2017). But due to inconsistent performance across the years in IME trial in multilocation testing, it was discontinued. But based on the request of the concerned breeder, it was retested for another

year in 2018. At the end of 2018, it was found that it was almost superior in first 2 years (2015: 37.9% & 24.7%; 2016: 47.1% & 22.2% yield improvement over varietal and hybrid checks respectively) in zone V (Maharashtra) but in the retested year (2018), it was promising in altogether new state in the same zone V (Chhattisgarh). Hence again a request was put forward for its retesting for another year (2019). Finally, by the end of 2019 it was recorded that it could excell in Maharashtra state of Zone V in the first 2 years (2015: 37.9% & 24.7%; 2016: 47.1% & 22.2% yield improvement over varietal and hybrid checks respectively). But in the last year (2019), it could not show yield improvement over varietal check but recorded 9% over hybrid check in the same Zone V. State wise in Maharashtra it was found promising over hybrid check only by 16% and failed to outperform the varietal check. Hence due to its inconsistent performance across the years it is discontinued.

Three years performance of IET 24967, the hybrid entry in IME (2015-2019)

Entry	Year	Zonal performance				Performance across the states			
		Zone/ Rank	Yield	% BVC	% HC	State/ Rank	Yield	%BVC	% HC
IET 24967 (BIO-680) (Hybrid)	2015 IHRT-M	Z - V	6457	12.3	-	MH*	4378	37.9	24.7
		Z - VII	5812	14	9	KA	5804	25.8	46.9
		Z - III	6049	18	5	UP	6539	23	16
	2016 AVT-1-IME	Z- V	6104	33.0 (LC)	13.0	MH-7*	6455	47 (IR64)	22
	2017 AVT-2-IME	-	-	-	-	-	-	-	-
	2018 AVT-2-IME (Repeated)	Z- V	6850	34.5 (ZC)	-	CH-3	7135	45 (LC)	4.8
	2019 AVT-2-IME (Repeated)	Z- V	5575	-	9	MH-4	5025	1 (LC)	16

*Single location

- **Entries promoted to 3rd year of testing (AVT-2-IME)**

Zone VI: IET 27360 and IET 27358

- **Entries promoted to AVT-2-NIL -CS**

IET 28008 and IET 28010

INITIAL VARIETY TRIAL-IRRIGATED MID EARLY (IVT-IME)

Locations: 34

Test Entries: 61

**Checks: Gontra Bidhan-3 (National); PR 113 (Northern), Table: 3.24
Lalat (Eastern & North Eastern), Karjat-7
(Western), MTU 1010 (Central and Southern)-
(Zonal) and Local Check**

Initial Variety Trial-Irrigate Mid Early (IVT-IME) was constituted with 61 test entries and 3 checks. Gontra Bidhan-3 as National check, PR113 in Northern, Lalat in Eastern and North Eastern, MTU 1010 in Central and Southern and Karjat-7 in Western as Zonal checks and a local check were included. The trial was sent to 34 locations however data was not received from seven locations namely Bhubaneswar, Titabar, Gharkhatanga, Gerua ICAR, Lembucherra, Bilaspur and Jagtiyal. Data from another seven centres was excluded from analysis namely Pantnagar, Ludhiana, Ranchi, Dabhoi, Vyara, Moncompu and Brahmavar due to either high CV (> 20%) or low experimental yield (< 4000 Kg/ha). Across the locations the mean yield ranged from 4132 kg/ha at Sakoli to 6896 kg/ha at Chiplima while CV ranged from 6.29 % at Jabalpur to 23.34% at Lembucherra. Overall mean yield of the entries ranged from 4606 kg/ha (IET 28384) to 6154 kg/ha (IET 28383); days to 50% flowering from 90 days (IET 28413) to 109 days (IET 28422). Among the checks, Gontra Bidhan-3 (National check) was the highest yielder (5711 Kg/ha) followed by local check (5385 Kg/ha) and Zonal check (5092 kg/ha). The data pertaining to yield, days to 50% flowering, plant height and panicles/m² are presented in tables 3.25, 3.26, 3.27 and 3.28 respectively. The performance of the top 5 entries in overall mean and zonal mean is tabulated and described in detail as below.

Performance of the entries on overall mean basis

Gontra Bidhan 3 (NC) was the best check (5711 kg/ha) on overall mean basis and two entries (IETs 28383 and IET 27908) recorded required yield advantage of more than 5% over the BC.

IET 28383 (OR 2573-11), a derivative of Birupa / IR 76561-AC-8-8 ranked first on overall basis with 6154 kg/ha mean yield, 104 days to 50% flowering and LS grain type. It recorded 8%, 21% and 15% yield advantage over NC, ZC and LC respectively.

IET 27908 (MTU 2385-123-1-2-3) from the cross of MTU 1075 / MTU 1081 / MTU 1121 ranked 2nd on overall basis with an overall mean yield of 6042kg/ha, 104 days flowering duration and LS grain type. It was found to show yield advantage of 6, 19 and 12 % over NC, ZC and LC respectively.

Based on duration both the entries IET 28383 and IET 27908 are shifted to IVT-IM as their flowering duration exceeded 91 to 100 days

Overall Performance of promising entries in IVT-IME, Kharif 2019

Rank	IET No/ Designation/ Cross Combination	GY/DFP /GT	% Yield advantage over NC/ ZC/ LC	Remarks
1	IET 28383 OR 2573-11 Birupa / IR 76561-AC-8-8	6154 104 LS	8 21 15	Shifted to IVT-IM
2	IET 27908 MTU 2385-123-1-2-3 MTU 1075 / MTU 1081 / MTU 1121	6042 104 LS	6 19 12	Shifted to IVT-IM
	National Check (Gontra Bidhan-3) - Best check	5711 94		
	Zonal Check	5092 94		
	Local Check	5382 98		

Zonal performance of the entries**Northern Zone (Zone II)**

The trial was evaluated at five locations viz., Pantnagar (Uttarkhand), Ludhiana (Punjab), Kaul (Haryana), Chatha (Jammu & Kashmir) and Kota (Rajasthan) covering five states of Northern Zone. Data from Pantnagar and Ludhiana was not considered for analysis due to high CV (23.3%) and low mean (3497 kg/ha) respectively. Experimental mean yield at the locations ranged from 4335 kg/ha (Chatha) to 5666 kg/ha (Kota) and CV% from 9.31 % (Kaul) to 11.4 % (Chatha). Zonal mean yield of the entries varied from 6957 kg/ha (IET 27908) to 3961 kg/ha (IET 28438); days to 50% flowering ranged from 93 days (IET 28420) to 109 days (IET 28422); plant height ranged from 89.7 cm (IET 28407) to 125.5 cm (IET 28409) and panicles per square meter ranged from 207 (IET 28406) to 312 (IET 28431). In Zone II, four entries namely IET Nos. 27908, 28396, 28409, 28391 recorded superior yield performance over the best check, PR 113 (Zonal check) which yielded 5773 kg/ha.

IET 27908 (MTU 2385-123-1-2-3) derived from the cross MTU 1075 / MTU 1081 / MTU 1121 ranked 1st in this zone (6957 kg/ha) possessing 105 days to 50% flowering and LS grain type. It recorded 21% yield advantage over the best check (PR 113).

IET 28396 (Shuats Dhan 6) from the cross IRODA 117 / IR 72891-29-3-3-3 / IR73012-137-2-2-2 (70) ranked 2nd (6282 kg/ha) with 98 days flowering duration and LS grain type. It exhibited 9 % yield advantage over BC (PR 113).

IET 28409 (CR 3561-3-2-2-1-1-1) from Surendra / Annapurna cross ranked 3rd (6250 kg/ha) with 101 days to 50% flowering and MB grain type. It outperformed the best check by 8% yield advantage.

IET 28391 (PAU 8442-2K-14-3583-14-1(RYT 3795) derived from Pusa 44 / IL274(O.glaberrima) ranked 4th (6061 kg/ha) with 102 days to 50% flowering and LS grain type and showed 5 % yield advantage over BC.

Thus, four entries surpassed the best check (PR 113) with > 5% yield advantage namely IET 27908 (21%), IET 28396 (9%), IET 28409 (8%) and IET 28391 (5%) and promoted to 2nd year of testing in AVT-1-IME (Zone II).

Performance of the promising entries in Zone II (IVT-IME), Kharif 2019

Rank	IET No/ Designation/ Cross Combination	GY/ DFF/ GT	% Yield advantage over NC/ZC/ LC	Remarks
Zone-II (Northern)				
1	IET 27908 MTU 2385-123-1-2-3 MTU 1075 / MTU 1081 / MTU 1121	6957 105 LS	27 21 22	Promoted
2	IET 28396 Shuats Dhan 6 IRODA 117 / IR 72891-29-3-3-3 / IR73012-137-2-2-2 (70)	6282 98 LS	14 9 11	Promoted
3	IET 28409 CR 3561-3-2-2-1-1-1 Surendra / Annapurna	6250 101 MB	14 8 10	Promoted
4	IET 28391 PAU 8442-2K-14-3583-14-1 (RYT 3795) Pusa 44 / IL274 (O.glaberrima)	6061 102 LS	11 5 7	Promoted
	National Check (Gontra Bidhan 3)	5477 96		
	Zonal Check (PR 113)- Best check	5773 105		
	Local Check (LC)	5684 103		

Eastern Zone (Zone III)

The trial was evaluated at 8 locations viz., Cuttack, Jeypore and Chiplima (Odisha), Sabour (Bihar), Ranchi (Jharkhand), Chinsura (West Bengal), Masodha and Varanasi (UP) in Eastern Zone. Data from Ranchi was not considered for analysis due low mean (2525 kg/ha). Experimental mean yield at the locations ranged from 4224 kg/ha (Varanasi) to 6896 kg/ha (Chiplima) and CV% from 8.28 (Masodha) to 13.3 (Jeypore). Mean yield of the entries ranged from 4448 kg/ha (IET 28399) to 6752 kg/ha (IET 27908); days to 50% flowering ranged from 87 days (IET 28413) to 115 days (IET 284382); plant height ranged from 91.7 cm (IET 28391) to 122.3 cm (IET 28431) and panicles per square meter ranged from 212 (IET 28400) to 319 (IET 28407). Seven entries namely IET Nos. 27908, 28388, 28421, 28383, 28395, 27695 and 28401 recorded superior yield performance (>5%) over the best check, Gontra Bidhan 3 (5773 kg/ha). The performance of top 5 entries is discussed below.

IET 27908 (MTU 2385-123-1-2-3) derived from the cross MTU 1075 / MTU 1081 / MTU 1121 ranked first (6752 kg/ha) with 106 days to 50% flowering and LS grain type. It recorded 12% yield advantage over the best check (Gontra Bidhan 3).

IET 28388 (JR 81-01), a derivative of the cross MTU 1010 / NPT13-01 ranked second (6580 kg/ha) with 93 days to 50% flowering and SB grain type. It recorded 9% yield advantage over the best check (Gontra Bidhan 3).

IET 28421 (OR 2546-5) derived from the cross OR 2006-23 / PSBRC 68 stood 3rd rank (6565 kg/ha) with 103 days to 50% flowering and MB grain type. It outyielded the best check (Gontra Bidhan 3) by 8% yield advantage.

Performance of the promising entries in Zone III (IVT-IME), Kharif 2019

Rank	IET No/Designation/ Cross Combination	GY/ DFF/ GT	% Yield advantage over NC/ZC/ LC	Remarks
Zone-III (Eastern)				
1	IET 27908 MTU 2385-123-1-2-3 MTU 1075 / MTU 1081 / MTU 1121	6752 106 LS	12 13 31	Shifted to IVT-IM
2	IET 28388 JR 81-01 MTU 1010 / NPT13-01	6580 93 SB	9 10 28	Promoted
3	IET 28421 OR 2546-5 OR 2006-23 / PSBRC 68	6565 103 MB	8 10 28	Promoted
4	IET 28383 OR 2573-11 Birupa / IR 76561-AC-8-8	6439 106 LS	6 8 25	Shifted to IVT-IM
5	IET 28395 MTU 1332 (MTU 2644-38-2-1-2) N22 / MTU 1075	6411 103 MS	6 7 25	Promoted
	National Check (NC)- Best check	6052 89		
	Zonal Check (ZC)- Lalat	5985 98		
	Local Check (LC)	5138 97		

IET 28383 (OR 2573-11) derived from the cross Birupa / IR 76561-AC-8-8 stood 4th rank (6439 kg/ha) with 106 days to 50% flowering and LS grain type. It out yielded the best check (Gontra Bidhan 3) by 6% yield advantage

IET 28395 (MTU 1332) from the cross N22 / MTU 1075 stood 5th rank (6411 kg/ha) with 103 days to 50% flowering and MS grain type. It out yielded the best check (Gontra Bidhan 3) by 6% yield advantage.

Although the entries IET 27908 (DFF: 106 days) and IET 28383 (DFF: 106 days) recorded > 5% yield gain over the best check, Gontra Bidhan 3, they are shifted to IVT-IM on the basis of their long flowering duration.

Five entries namely IET 28388 (9%), IET 28421 (8%), IET 28395 (6%), IET 27695 (6%), IET 28401(6%) out yielded the best check (Gontra Bidhan 3) and are promoted to 2nd year of testing (AVT-1-IME) in zone III.

Central Zone (Zone V)

The trial was evaluated at six locations viz., Waraseoni and Jabalpur (MP), Raipur and Jagadapur (Chhattisgarh), Sakoli and Sindewahi (Maharashtra) in Central Zone. Experimental

mean yield at the locations ranged from 4132 kg/ha (Sakoli) to 5580 kg/ha (Jagadapur) and CV% ranged from 9.5 (Waraseoni) to 13.6 (Jagadapur). Mean yield of the entries ranged from 3467 kg/ha (IET 28414) to 6169 kg/ha (IET 28421); days to 50% flowering ranged from 92 days (IET 28420, zonal check and 28432) to 109 days (IET 28422); plant height ranged from 82 cm (IET 28391) to 118 cm (IET 28383) and panicles per square meter ranged from 182 (IET 28388) to 313 (IET 28407). Sixteen entries namely IET Nos. 28421, 28383, 28425, 27695, 28416, 28387, 28419, 28403, 28386, 28389, 27908, 28433, 28393, 28396, 28397 and 28415 recorded superior yield performance (>5%) over the best check, Gontra Bidhan 3.

Performance of the promising entries in Zone V (IVT-IME) , Kharif 2019

Rank	IET No/Designation/ Cross Combination	GY/ DFF/ GT	% Yield advantage over NC/ZC/ LC	Remarks
Zone-V (Central)				
1	IET 28421 OR 2546-5 OR 2006-23 / PSBRC 68	6169 106 MB	24 43 26	Shifted to IVT-IM
2	IET 28383 OR 2573-11 Birupa / IR 76561-AC-8-8	5889 107 LS	19 37 20	Shifted to IVT-IM
3	IET 28425 CR 4206 -4-11-2 (IR 1130 50-17-CR 4206 -4-11-2) MTU 1010 / IR 75870-8-1-2-B-6-1-1-B	5697 102 LS	15 32 16	Promoted
4	IET 27695 HKR 14-29 HKR 99-60 / CSR 27	5665 102 LS	14 32 16	Promoted
5	IET 28416 RNR 28361 Bhadrakali / NSN 20894	5571 106 LS	12 29 14	Shifted to IVT-M
	National Check (Gontra Bidhan-3) - Best check	4963 97		
	Zonal Check (ZC)- MTU 1010	4303 92		
	Local Check (LC)	4902 98		

However ten entries IET 28425 (15%), 27695 (14%), 28403 (11%), 28386 (10%), 28389 (5%), 28433 (5%), 28393 (7%), 28396 (6%), 28397 (6%), and 28415 (7%), are promoted to AVT-1-IME in Zone V as they are within the limits of 91 to 100 days flowering duration .

Western Zone (Zone VI)

The trial was evaluated at five locations viz., Karjat (Maharashtra), Navsari, Nawagam, Dabhoi and Vyara (Gujarat). The data from Dabhoi and Vyara are excluded from analysis as the location mean yield was noticed to be low (< 4000 kg/ha). Experimental mean yield at the locations ranged from 4513 kg/ha (Nawagam) to 5410 Kg/ha (Navsari) and CV% ranged from 10.38 (Karjat) to 14.5 (Nawagam). Mean yield of the entries ranged from 3181 kg/ha (IET

28432) to 6116 kg/ha (IET 28421); days to 50% flowering ranged from 86 days (IET 28420) to 103 days (IET 28430); plant height ranged from 101 cm (IET 28391 and 28414) to 134 cm (IET 28384) and panicles per square meter ranged from 199 (IET 28432) to 284 (IET 28390). Eight entries namely ***IET Nos. 28421, 28387, 28402, 28416, 28409, 28393, 28395 and 28415*** recorded superior yield performance (>5%) over the best check, *Gontra Bidhan 3*.

Performance of the promising entries in Zone VI (IVT-IME), Kharif 2019

Rank	IET No/ Designation/ Cross Combination	GY/ DFF/ GT	% Yield advantage over NC/ZC/ LC	Remarks
Zone-VI (Western):				
1	IET 28421 OR 2546-5 OR 2006-23 / PSBRC 68	6116 101 MB	14 57 12	Promoted
2	IET 28387 Pusa 5173-3-5-1-1-1-7 MR. 220 / ET 10-5	6001 99 LS	12 54 10	Promoted
3	IET 28402 R 1921-172-1-110-1 Shyamala / BPH 12	5987 93 LB	12 53 10	Promoted
4	IET 28416 RNR 28361 Bhadrakali / NSN 20894	5950 99 LS	11 52 9	Promoted
5	IET 28409 CR 3561-3-2-2-1-1-1 Surendra / Annapurna	5816 99 MB	9 49 7	Promoted
	National Check (NC)- Gontra Bidhan-3	5358 98		
	Zonal Check (ZC)-Karjat 7	3901 88		
	Local Check (LC)- Best check	5445 95		

IET 28421 (OR 2546-5), a derivative of OR 2006-23 / PSBRC 68 ranked first (6116 kg/ha) with 101 days to 50% flowering and MB grain type. It recorded 12% yield advantage over the best check (Gontra Bidhan 3).

IET 28387 (Pusa 5173-3-5-1-1-1-7) from the cross MR. 220 / ET 10 ranked second (6001 kg/ha), 99 days to 50% flowering and LS grain type. It recorded 10 % yield advantage over the best check (Gontra Bidhan 3).

IET 28402 (R 1921-172-1-110-1) derived from Shyamala / BPH 12 ranked third (5987 kg/ha), 93 days to 50% flowering and LB grain type. It showed yield superiority of 10% over the best check (Gontra Bidhan 3).

IET 28416 (RNR 28361) derived from Bhadrakali / NSN 20894 ranked fourth (5950 kg/ha), 83 days to 50% flowering and LS grain type. It showed yield superiority of 9 % over the best check (Gontra Bidhan 3).

IET 28409 (CR 3561-3-2-2-1-1-1) derived from RP-Bio-226 / IRGC 4059) / IET-8116 ranked fifth (5816 kg/ha), 99 days to 50% flowering and MB grain type. It outyielded the best check (Gontra Bidhan 3) by 7 %.

Southern Zone (Zone VII)

The trial was evaluated at ten locations viz., Maruteru (AP), Rajendranagar and Warangal (Telangana), Aduthurai and Coimbatore (TN), Moncompu and Pattambi (Kerala), Mandya and Brahmar (Karnataka) and Kurumbapet (Puducherry). The data from Moncompu and Brahmar are excluded from analysis as the location mean yield was found low (< 4000 kg/ha). Experimental mean yield at the locations ranged from 4528 kg/ha (Pattambi) to 5894Kg/ha (Coimbatore) and CV% ranged from 7.95 (Mandya) to 16.3 (Kurumbapet). Mean yield of the entries ranged from 4871 kg/ha (IET 28410) to 6419 kg/ha (IET 28383); days to 50% flowering ranged from 87 days (IET 27876) to 109 days (IET 28438); plant height ranged from 83 cm (IET 28402) to 114.3 cm (IET 27908) and panicles per square meter ranged from 323 (IET 27876) to 401 (IET 28407). Among the checks Gontra Bidhan 3 is the top yielder (6194 Kg/ha) followed by local check (5828 Kg/ha) and MTU 1010- Zonal check (5092 Kg/ha).

None of the entries out yielded the best check (NC) with > 5% yield gain and hence none are promoted in this zone to 2nd year of testing.

Yield advantage percentage of the promising entries on the basis of overall mean & zones and promotion/shift on the basis of flowering duration is summarized as below.

S.No.	IET No.	Zone II		Zone III		Zone V		Zone VI		Overall (27)		Remarks
		%BC	DF	%BC	DF	%BC	DF	%BC	DF	%BC	DF	
1	28383			6	106	19	107			8	104	Shifted to IVT-M
2	28386					10	96					Promoted to AVT-1-IME in Zone V
3	28387					12	103	10	99			Promoted to AVT-1-IME in Zone V & VI
4	28388			9	93							Promoted to AVT-1-IME in Zone III
5	28389					5	96					Promoted to AVT-1-IME in Zone V
6	28391	4.99	102									Promoted to AVT-1-IME in Zone II
7	28393					7	100	6	94			Promoted to AVT-1-IME in Zone V & VI
8	28395			6	103			6	97			Promoted to Zone III & VI
9	28396	9	98			6	99					Promoted to AVT-1-IME in Zone II & V
10	28397					6	102					Promoted to AVT-1-IME in Zone V
11	28401			6	93							Promoted to AVT-1-IME in Zone III
12	28402							10	93			Promoted to AVT-1-IME in Zone VI
13	28403					11	98					Promoted to AVT-1-IME in Zone V
14	28409	8	101					7	99			Promoted to AVT-1-IME in Zone II & VI
15	28415					7	99	5	97			Promoted to AVT-1-IME in Zone V & VI
16	28416					12	106	9	98			Promoted to AVT-1-IME in Zone VI
17	28419					12	106					Shifted to IVT-IM
18	28421			8	103	24	106	12	101			Promoted to AVT-1-IME in Zone III & VI
19	27695			6	97	14	102					Promoted to AVT-1-IME in Zone III & V
20	28425					15	102					Promoted to AVT-1-IME in Zone V
21	27908	21	105	12	106	10	107			5.7	104	shift to IVT-IM
22	28433					5	98					Promoted to AVT-1-IME in Zone V
Flowering duration of checks												
Gontra Bidhan 3 (NC)		96		89		97		91		94		
Zonal Check		105		98		92		88		94		
Local check		103		97		98		95		98		

Table 3.18: Composition of entries in Advance Variety Trial 1-Irrigated Mid Early (AVT 1-IME), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
2 nd Year of testing:				
1101	27736	OR 2552-1	Pratikshya / IR 62140	LS
1102	26936	NVSR 389	IET 19384 / Pawana	MS
1103	26861	WGL 1069	MTU-1075 / IR 71137-243-2-2-233	LS
1104	27739	IABR1-GSR IR1-DQ157-R6-D1	GSR IR1-12-D10-S1-D1 / GSR IR1-11-D10-S1-SU1	LS
1105	27746	KJT 4-14-9-12-20	IR 58025B / RTN Purple	SB
1106	27747	TRC 2018-2	Pyzum / Sambha Mahsuri	LS
1107	27750	NLR 3561	NLR 34449 / NLR 30491	MS
1108	27773	Safri 17 Mutant-2	Mutant of Safri-17	
1109	27772	BRR 0089	MTU 1010 / Shusk Samrat	LS
1110	27768	YNP 7201	GB 2 / 9534	SB
1111	27762	PAU 3991-29-3-1-3-3-1-2-1-1	TDCD 3815 / PAU 2963-17-3-1-3	LS
1112	27758	WGL 1181	RP 4092-115-08-5-3 / KMP 150	SS
1113	27743	RP 6304-GSR IR 1-DQ138-L11-Y29	GSR IR1-8-S6-S3-Y2 /GSR IR 1-8-Y7-D2-S1	LS
1114	27737	IR-12-C-147	IR 93328-46-B-7-1-3-3	LB
1115	Gontra Bidhan-3 (NC)			
1116	27782	RP 5587-B-B-B-B-2131	IR 64 * 3 / IR 75870-5-8-5-B-2-B	LS
1117	27752	R 2221-386-1-244-1	R 1723-1413-3-357-1 / Mahamaya	SB
1118	27775	OR 2525-3	RP 2525-14767 / IR 64	LS
1119	27346	JKRH-2609 (Hybrid)	-	LB
1120	27358	PHI-18105 (Hybrid)	-	LS
1121	27364	MEPH-148 (Hybrid)	-	LB
1122	27356	KPH-481 Plus (Hybrid)	-	LB
1123	27357	US-328 (Hybrid)	-	LS
1124	27369	LP-18301 (Hybrid)	-	LS
1125	27256	RP 6164-IR 118291-6-26-4-B	Parao / Habataki // Parao / ST12 /// Parao	LB
1126	27764	PAU 5567-32-3-1-5	PR 120 // PAU201 / UPR1561-6-3	LS
1127	27790	KJT 3	IR 36 / KJT 35-3	LB
1128	27785	RP 5507-B-32-15-6-2-1-1	Swarna / IRGC 63248 // Swarna Sub 1	LS
1129	27757	CR 3564-7-2-1-1-1-1	Vijetha / N 22	SB
1130	26961	CR 3561-5-1-1-1-1	Surendra / Annapurna	MS
1131	27267	CR 3856-44-22-2-1-9-1	IR 73963-86-1-5-2-2 / CR 2324-1-1	MS
1132	27353	US-321 (Hybrid)	-	LS
1133	27362	PH-18107 (Hybrid)	-	LS
3 rd Year of testing:				
1134	24967	Bio-680 (Hybrid)	-	LB
1135	US 312 (HC)			
2 nd Year of testing:				
1136	27781	RP 6112-MS-3-M-5-9-22-7-5-3-1	BPT 5204 Mutant	LS
1137	27360	PHI-18106 (Hybrid)	-	LB
1138	27763	HKR 14-30	HKR 99-60 / CSR 27	LS
1139	27755	HURS 18-1-IR 97046-39-2-1-2	IR 09L272 / IR10L165	LS
1140	27748	Mali-8	Gontra Bidhan Mutant	LS
1141	27788	RP 5594-313-64-1-1	MTU 1010 / RPHR 1005	LS

Entry No.	IET No.	Designation	Cross combination	Grain Type
1142	27770	NVSR 2251	Gurjari / (NAUR-1 / IET 22072)	LB
1143	28011	MTU 1294 (DST 8-4-4-1)	MTU 1010 / FL478 // * 3 MTU 1010	LS
1144	28008	MTU 1291 (DST36-108-1)	MTU 1010 / FL478 // *3 MTU 1010	LS
1145	28007	MTU 1290 (DST38-15-3-1)	MTU 1010 / FL478 // *3 MTU 1010	LB
1146	28010	MTU 1293 (DST 46-43-1)	MTU 1010 / FL478 // * 3 MTU 1010	LS
1147	28036	MTU 1292 (DST 35-4-3-1)	MTU 1010 / FL478 // *3 MTU 1010	LB
1148	PR 113 (Northern), Lalat (Eastern & North Eastern), Karjat-7 (Western), MTU 1010 (Central & Southern)—ZC			
1149	28033	CRR 751-1-12-B-B	IR 64 Sub1*4 / IR 88287-367-B-B	LS
1150	28032	CRR 751-1-7-B-B	IR 64 Sub1*4 / IR 88287-367-B-B	LS
1151	IR 64 (RP)			
1152	Local Check			

Table 3.19: Grain Yield (Kg/ha) of entries in AVT1 IME (Zone II), Kharif 2019

Entry No.	IET No.	Zone II					
		UK (1)		PU		HA (1)	
		PNT		@LDN		KUL	
1104	27739	3887		4977	3	7229	
1105	27746	4518		2670		7965	13%
1106	27747	6458	1 27%	3850	9	6819	
1107	27750	4706		2910		8565	6 # 22%
1108	27773	4119		5041	2	7229	
1112	27758	6202	3 22%	4198	7	8783	5 # 25%
1113	27743	4990		4127	8	6001	
1114	27737	4162		4356	6	8511	7 # 21%
1115	Gontra Vidhan -3 (NC)	4569		2425		7965	
1119	27346	5708	8 12%	3390		8183	8 # 16%
1120	27358	5810	7 14%	5108	1	7365	
1121	27364	5419	7 7%	4511	5	8865	4 # 26%
1122	27356	5561	9 9%	2272		7392	
1123	27357	5473	8 8%	4586	4	7501	
1124	27369	5305		2575		8047	9 14%
1133	27362	6376	2 25%	3012		9002	3 # 28%
1135	US 312 (HC)	6110	4	3044		7038	
1139	27755	5551	10 9%	3822	10	7965	10 13%
1140	27748	5969	5 17%	3095		7556	
1142	27770	5892	6 16%	1954		9138	2 # 30%
1148	Zonal Check (ZC)	5086		2455		7692	
1152	Local Check (LC)	4497		3612		9411	1
Exp. Mean		5289		3545		7919	
CD		1637.4		779.03		1072.07	
CV%		18.79		13.34		8.22	
D/S		17-07-2019		17-07-2019		08-07-2019	
D/P		05-08-2019		08-08-2019		06-08-2019	
Local Check Name		Pant Dhan 12		PR 124		HKR - 47	

Table 3.19 contd.: Grain Yield (Kg/ha) of entries in AVT1 IME (Zone II), Kharif 2019

Entry No.	IET No.	Zone II					
		JK		RA (1)		Zone II (3)	
		@CHT		KTA		Mean	
1104	27739	3356		5933		5683	
1105	27746	3533	10	5619		6034	
1106	27747	3911	6	6353	8	6543	8
1107	27750	3756	8	6001		6424	
1108	27773	3156		6929	2 # 12%	6092	
1112	27758			5731		6905	2
1113	27743	3911	5	6708	3	5900	
1114	27737			5333		6002	
1115	Gontra Vidhan -3	3244		7256	1	6597	6
1119	27346	4022	2	6519	6	6803	4
1120	27358	3244		6593	5	6589	7
1121	27364	3333		6356	7	6880	3
1122	27356	4800	1	6623	4	6525	9
1123	27357	2956		6026		6333	
1124	27369	3622	9	4883		6078	
1133	27362	3378		6080	10	7153	1 * 8% # 11%
1135	US 312 (HC)	3911	4	6178	9	6442	10
1139	27755	3422		5728		6415	
1140	27748			5502		6342	
1142	27770	3956	3	5333		6788	5
1148	Zonal Check (ZC)			5510		6096	
1152	Local Check (LC)	3800	7	4583		6164	
Exp. Mean		3628		5990		6399	
CD		558.03		708.98		718.6	
CV%		9.27		7.18		6.82	
D/S		07-11-2019		16-07-2019			
D/P		08-03-2019		13-08-2019			
Local Check Name		SJR-5		Pratap -1			

Table 3.19 contd.: Grain Yield (Kg/ha) of entries in AVT1 IME (Zone III), Kharif 2019

Entry No.	IET NO.	Zone III							
		OD						OD (4)	
		BBN		CTK		JYP		CHP	Mean
1102	26936	3770		5954	4	5518	10	7295	9
1103	26861	4597	8	5950	5	7701	3 *	8066	4
1104	27739	5192	4 #	3862		6287	8 *	6795	10
1106	27747	5093	5	5926	6	4193		5829	5
1115	Gontra Vidhan -3 (NC)	4960	7			5473		7721	6
1120	27358	5622	1 #	6637	2 *	7496	4 *	8198	3
1125	27256	3340		6884	1 * #	6056	9	6298	5
1128	27785	2811		4303		7323	5 *	7434	7
1129	27757	4563	9	4643		7042	6 *	7341	8
1131	27267	3704		5040	9	6479	7 *	4647	4
1133	27362	5456	2 * #	5982	3	8022	2 *	8543	1 *
1135	US 312 (HC)	4431	10	5827	7	8256	1	7899	5
1142	27770	5192	3 #	4357		5479		8388	2
1148	Zonal Check (ZC)	3108		5254	8	4586		5574	4
1152	Local Check (LC)	5060	6	4660	10	4737		5977	5
Exp. Mean		4460		5377		6310		7067	5
CD		703.6		836.4		655.54		813.6	3
CV%		9.43		9.27		6.21		6.88	3
D/S		11-07-2019		17-07-2019		10-07-2019		11-07-2019	
D/P		17-08-2019		19-08-2019		05-08-2019		09-08-2019	
Local Check Name		Pratibha		Naveen		Manaswini		Mandakini	

Table 3.19 contd.: Grain Yield (Kg/ha) of entries in AVT1 IME (Zone III), Kharif 2019

Entry No.	IET NO.						
		BI (1)		JH		WB (1)	
		SBR		@RCI		CHN	
1102	26936	4572	10	3212	9	5045	
1103	26861	4607	9	3096	10	6047	3 5.60%
1104	27739	3844		2922		5537	8
1106	27747	5309	4 # 25%	3443	7	5858	4
1115	Gontra Vidhan -3 (NC)	6296	1	2402		5726	6
1120	27358	4685	6 9.95%	4080	4	6481	1 # 13% 14.32%
1125	27256	5632	2 # 32%	4080	3	5045	
1128	27785	3733		3964	5	4781	
1129	27757	4395		2431		5348	9
1131	27267	3851		2720		4403	
1133	27362	5339	3 # 25%	5266	1	6160	2 7.58%
1135	US 312 (HC)	4261		4601	2	5669	7
1142	27770	4683	7	2749		5745	5
1148	Zonal Check (ZC)	4608	8	3328	8	5102	10
1152	Local Check (LC)	4727	5	3646	6	4308	
Exp. Mean		4703		3463		5417	
CD		557.64		940.35		821.78	
CV%		7.09		16.24		9.07	
D/S		15-07-2019		11-07-2019		11-07-2019	
D/P		13-08-2019		21-08-2019		14-08-2019	
Local Check Name		Rajendra Suwasini		BVD-203		Khitish	

Table 3.19 contd.: Grain Yield (Kg/ha) of entries in AVT1 IME (Zone III), Kharif 2019

Entry No.	IET NO.								
		UP		UP (2)		Zone III (8)			
		MSD	VRN	Mean		Mean			
1102	26936	5810	7 5130	6 #	5470	7 37%	5387		
1103	26861	5619	8 4087	8	4853	21%	5834	5	
1104	27739	6683	1 *		6683	1 # 67%	5457	10	
1106	27747	5346	10 6373	3 #	5860	5 # 46%	5491	7	
1115	Gontra Vidhan -3 (NC)		6603	1	6603	2	6130	3	
1120	27358	6519	2 6187	4 #	6353	4 # 59%	6478	1 * 6% # 11%	
1125	27256	5101			5101	27%	5479	9	
1128	27785	6219	5 4327	7	5273	8 32%	5116		
1129	27757	6492	3 4010		5251	9 31%	5479	8	
1131	27267	5019			5019	# 25%	4735		
1133	27362	5401	9 5787	5 #	5594	6 40%	6336	2 # 8.53%	
1135	US 312 (HC)	6356	4 4003		5180	10	5838	4	
1142	27770		6577	2 #	6577	3 # 64%	5774	6	
1148	Zonal Check (ZC)	6001	6 4027	9	5014		4783		
1152	Local Check (LC)	5265	4013	10	4639		4843		
Exp. Mean		5833	5094		5565		5544		
CD		673.2	667.1		559.5		236.3		
CV%		6.85	7.73		6.01		2.55		
D/S		15-07-2019		12-07-2019					
D/P		13-08-2019		27-07-2019					
Local Check Name		Sarjoo 52		HUR 4-3					

Table 3.19 contd.: Grain Yield (Kg/ha) of entries in AVT1 IME (Zone IV), Kharif 2019

Entry No.	IET NO	ZONE IV	
		TR	
		@LMB	
1104	27739	5794.05	4
1106	27747	5067.52	8
1115	Gontra Vidhan -3 (NC)	6671.45	2
1120	27358	6842.65	1
1133	27362	5692.40	5
1135	US 312 (HC)	6238.10	3
1148	Zonal Check—ZC	5232.30	7
1152	Local Check (LC)	5451.65	6
Exp Mean		5873.77	
CD		26.95	
CV%		2327.90	
D/S		28-07-2019	
D/P		13-08-2019	

Table 3.19 contd.: Grain Yield (Kg/ha) of entries in AVT1 IME (Zone V), Kharif 2019

Entry No.	IET No.	Zone V						
		CH					CH (3)	
		RPR		JDP		BLP		Mean
1101	27736	4613	7 #	6020		6300		5644
1102	26936	4870	4 #	5219		5933		5341
1103	26861	4540	9 #	6918	2	4500		5319
1104	27739	4311		4265		6733		5103
1106	27747	4616	6 #	6565	7	5833		5671
1109	27772	5079	3 #	5772		6300		5717
1110	27768	5171	2 #	6052		7367	5	6197
1111	27762	3944		5833		6733		5503
1115	Gontra Vidhan -3 (NC)	5375	1	6613	5	6833	10	6274
1116	27782	4587	8 #	5644		6400		5544
1117	27752	4029		5478		6633		5380
1118	27775	3786		6581	6	5567		5311
1119	27346	4054		6704	3	7000	6	5919
1120	27358	4732	5 #	5577		7633	4	5981
1122	27356	4315		6963	1	8867	1 * #	6715
1127	27790	3253		5903		5300		4819
1129	27757	3566		5844		6533		5314
1130	26961	3300		5112		5733		4715
1133	27362	4435		6261	8	8333	3 * #	6343
1134	24967	4206		6653	4	6967	8	5942
1135	US 312 (HC)	3767		6194	9	6967	7	5643
1136	27781	4010		5857		6933	9	5600
1137	27360	4530	10 #	6092	10	8500	2 * #	6374
1138	27763	3866		5016		6533		5138
1140	27748	4281		5783		6200		5421
1141	27788	4018		5478		5833		5110
1148	Zonal Check (ZC)	2873		4714		4667		4085
1149	28033	3148		3972		5283		4134
1150	28032	3567		4736		5000		4434
1151	IR 64 (RP)	3100		4543		5433		4359
1152	Local Check (LC)	3715		5847		6100		5221
Exp. Mean		4118		5748.72		6417.74		5428.15
CD		726.6		1243.78		1135.99		570.09
CV%		10.8		13.25		10.84		6.43
D/S		09-07-2019		12-07-2019		12-07-2019		
D/P		31-07-2019		05-08-2019		11-08-2019		
Local Check Name		IGKV R 2		IGKVR 1		Chandahasini		

Table 3.19 contd.: Grain Yield (Kg/ha) of entries in AVT1 IME (Zone V), Kharif 2019

Entry No.	IET No.	Zone V (5)							
		MA				MA (2)		Zone V (5)	
		SKL	SND	Mean		Mean		Mean	
1101	27736	4879	4 #	4799		4839	10	11%	5322
1102	26936	5272	1 #	3840		4556			5027
1103	26861	3735		4178		3957			4774
1104	27739	4475	9 #	5318		4897	8	13.30%	5020
1106	27747	3078		4531		3805			4925
1109	27772	4120		4347		4234			5124
1110	27768	3687		6160	2 #	4924	7	14%	5687
1111	27762	3613		5385	10	4499			5102
1115	Gontra Vidhan -3 (NC)	3612		5705	5	4659			5628
1116	27782	4319	10 #	5370		4845	9	12%	5264
1117	27752	5266	2 * #	5385	9	5326	3 #	7% 23%	5358
1118	27775	4261		3564		3913			4752
1119	27346	3660		4516		4088			5187
1120	27358	3617		5731	4	4674			5458
1122	27356	4088		4872		4480			5821
1127	27790	3190		5393	8	4292			4608
1129	27757	3993		4210		4102			4829
1130	26961	4788	5 #	3864		4326			4559
1133	27362	4656	8 #	6256	1 #	5456	1 #	10% 26%	5988
1134	24967	5032	3 * #	5017		5025	4 #	16%	5575
1135	US 312 (HC)	3472		5172		4322			5114
1136	27781	3186		2911		3049			4579
1137	27360	4236		5647	6	4942	6		5801
1138	27763	3233		4327		3780			4595
1140	27748	4157		5428	7	4793			5170
1141	27788	4776	6 #	6026	3	5401	2 #	8% 25%	5226
1148	Zonal Check (ZC)	3425		4487		3956			4033
1149	28033	3347		4971		4159			4144
1150	28032	3099		4642		3871			4209
1151	IR 64 (RP)	3921		4942		4432			4388
1152	Local Check (LC)	4735	7	5221		4978	5		5124
Exp. Mean		4029.94		4910.14		4470.04			5044.91
CD		855.64		917.91		630.07			410.72
CV%		13		11.45		8.63			4.98
D/S		11-07-2019		11-07-2019					
D/P		02-08-2019		07-08-2019					
Local Check Name		PKV Ganesh		SYE 1					

Table 3.19 contd.: Grain Yield (Kg/ha) of entries in AVT1 IME (Zone VI), Kharif 2019

Entry No.	IET No.	Zone VI					
		MA (1)			GU		
		KJT			NVS		NWG
1104	27739	4303	6		5706	10	2959
1106	27747	3463			5813	8	4640
1109	27772	3084			5719	9	3576
1110	27768	4541	4		6277	4 #	3615
1115	Gontra Vidhan -3 (NC)	4456	5		5966	6	3053
1120	27358	5577	2 *	25%	6838	1 #	4320
1126	27764	3748	9		4625		4628
1132	27353	3813	8		5825	7	4049
1133	27362	3940	7		6337	3 #	3063
1135	US 312 (HC)	5324	3		5163		4220
1137	27360	6291	1 *	41% # 18%	6677	2 #	5355
1148	Zonal Check (ZC)	3248			5004		3197
1152	Local Check (LC)	3522	10		6037	5	5390
Exp. Mean		4255			5845		4005
CD		791.33			993.7		1011.23
CV%		11.04			10.09		14.98
D/S		12-07-2019			16-07-2019		12-07-2019
D/P		10-08-2019			14-08-2019		03-09-2019
Local Check Name		Karjat 5			GNR-3		Mahisagar

Table 3.19 contd.: Grain Yield (Kg/ha) of entries in AVT1 IME (Zone VI), Kharif 2019

Entry No.	IET No.	Zone VI				Zone VI (4)	
		VYR		GU (3)		Mean	
1104	27739	4169		4278		4284	10
1106	27747	4802	3	5085	4 9.90%	4680	6
1109	27772	4430	10	4575	9	4202	
1110	27768	4523	7	4805	7	4739	4
1115	Gontra Vidhan -3 (NC)	4525	6	4515	10	4500	9
1120	27358	4560	5	5239	2 13%	5324	2 * 13% 11%
1126	27764	4108		4454		4277	
1132	27353	4723	4	4866	6	4603	8
1133	27362	5239	2	4880	5	4645	7
1135	US 312 (HC)	4498	8	4627	8	4801	3
1137	27360	5386	1 * #	5806	1 * # 14% 25%	5927	1 * 26% # 23%
1148	Zonal Check (ZC)	4474	9	4225		3981	
1152	Local Check (LC)	3837		5088	3	4697	5
Exp. Mean		4560		4919		4737	
CD		836		651		566	
CV%		10.88		7.85		7.09	
D/S		11-07-2019					
D/P		07-08-2019					
Local Check Name		GURJARI					

Table 3.19 contd.: Grain Yield (Kg/ha) of entries in AVT1 IME (Zone VII), Kharif 2019

Entry No.	IET No.	Zone VII												TN				TN (2)	
		AP (1)				TE				TE (3)									
		MTU				RNR		WGL		JGL		Mean				ADT		CBT	
1104	27739	6073	1 * #	12%	40%	7867	7	8077	3	8031	5	7992	5	5641	8	6803	8	6222	7
1106	27747	5697	3 #	4.82%	31%	5832		7128	10	6147		6369		5992	7	7444	4	6718	6
1115	Gontra Vidhan -3 (NC)	5435	5			8456	3	7431	8	8843	2	8243	2	7397	1	7778	3	7588	1
1120	27358	5091	#		17%	8520	2	7561	6	8400	3	8160	3	6964	2	7860	1 #	7412	2
1133	27362	4617				8666	1	8146	1	9656	1 #	8823	1 7% # 16%	6738	3	7847	2	7293	3
1135	US 312 (HC)	4336				8186	5	7089		7574	8	7616	7	6373	5	7274	7	6824	4
1143	28011	5262	7 #		21%	6521		7655	5	6565		6914	10	4736		6446	9	5591	
1144	28008	5099	10 #		18%	7105	9	7208	9	7518	9	7277	8	5510	10	6442	10	5976	9
1145	28007	5342	6 #		23%	8023	6	8128	2	7622	7	7924	6	6067	6	7397	5	6732	5
1146	28010	5248	8 #		21%	7672	8	6768		7378	10	7273	9	6726	4	5058		5892	10
1147	28036	5755	2 * 6% #		33%	8232	4	7670	4	8139	4	8014	4	4968		6285		5627	
1148	Zonal Check (ZC)	5027	#		16%	6304		7435	7	6358		6699		5619	9	5784		5702	
1149	28033	4450				6174		6789		4603		5855		4065		5009		4537	
1150	28032	4033				6836	10	6677		5288		6267		4839		6183		5511	
1151	IR 64 (RP)	5481	4 #		26%	5572		5960		5786		5773		4190		5783		4987	
1152	Local Check (LC)	5149	9			6107		6313		7768	6	6729		4964		7395	6	6180	8
Exp. Mean		5131.06				7254.66		7252.21		7229.64		7245.49		5674.48		6674.39		6174.44	
CD		774.41				1179.12		1195.51		1426.31		688.78		719.86		583.01		441.89	
CV%		9.05				9.75		9.89		11.83		5.7		7.61		5.24		4.29	
D/S		08-07-2019				19-07-2019		12-07-2019		08-07-2019				01-09-2019		19-07-2019			
D/P		09-08-2019				23-08-2019		13-08-2019		06-08-2019				26-09-2019		27-08-2019			
Local Check Name		MTU 1121				RNR 15048		048 (Telanga		JGL 18047				CO 52		CO 47			

Table 3.19 contd.: Grain Yield (Kg/ha) of entries in AVT1 IME (Zone VII), Kharif 2019

Entry No.	IET No.	Table S15 contn.: Grain Yield (kg/ha) of entries in IV TT ME (Zone VII), Kharif 2019																		
		KE			KE (1)			KA			KA (1)			PU (1)			Zone VII (9)			
		MNC	@PTB		Mean			MND	@BRM		Mean			KBP			Mean			
1104	27739	4827	5	4125	4	4827	5	20%	5370	3879	5	5370		5512			6467	7		
1106	27747	4347	9	3507	7	4347	9		4429	3879	4	4429		7532	2		6061			
1115	Gontra Vidhan -3 (NC)	6788	1	3429	8	6788	1		6030	3232	6	6030	10	7302	6		7273	1		
1120	27358	5548	2	# 1602		5548	2	#	37%	7550	1*	2606	7550	1*	24%	6782	8	7142	3 #	8.31%
1133	27362	4747	6	2930		4747	6		6250	8	4121	2	6250	8	8341	1* 11% # 11%	7223	2 #	9.53%	
1135	US 312 (HC)	4038		3346	10	4038			6971	2	2747	6971	2	7504	4		6594	5		
1143	28011	4605	8	4226	3	4605	8	14%	6323	7	2667	6323	7	5426			5949			
1144	28008	3528		3892	5	3528			6593	4	3071	8	6593	4	8%	7071	7	6230	8	
1145	28007	4617	7	2806		4617	7	14%	6852	3	4061	3	6852	3	13%	5339		6599	4	
1146	28010	4912	4	2325		4912	4	21%	6478	6	2566	6478	6	6%	5714		6217	9		
1147	28036	5290	3	3363	9	5290	3	31%	6516	5	3030	9	6516	5	7%	6349	9	6578	6	
1148	Zonal Check (ZC)	4050		3150		4050			6084	9	2444	6084	9	7330	5		5999			
1149	28033	3626		3545	6	3626			4252		3192	7	4252			6205		5019		
1150	28032	3886		4261	2	3886			5108		2768		5108			5657		5390		
1151	IR 64 (RP)	3913		4300	1	3913			5544		2848	10	5544			6320	10	5394		
1152	Local Check (LC)	4332	10	2072		4332	10		5756		4246	1	5756			7504	3	6143	10	
Exp. Mean		4565.97		3304.89		4565.97			6006.66		3209.85		6006.66			6617.97		6278.01		
CD		1466.83		1484.45		1466.83			1050.15		407.35		1050.15			1914.99		364.11		
CV%		19.27		26.94		19.27			10.48		7.61		10.48			17.35		3.48		
D/S		20-09-2019		19-08-2019						02-08-2019		12-07-2019				31-08-2019				
D/P		09-10-2019		05-09-2019						26-08-2019		27-07-2019				25-09-2019				
Local Check Name		Uma		Jyothi						Thanu		Mahaveera				TKM 13				

Table 3.20: Days to 50% flowering of entries in AVT1 IME (Zone II), Kharif 2019

Entry No.	IET NO	ZONE II						Zone II (3) Mean
		UT	PU	HA	JK	RA		
		PNT	@LDN	KUL	@CHT	KTA		
1104	27739	77	81	87	103	93	86	
1105	27746	92	90	102	101	101	98	
1106	27747	92	94	97	106	103	97	
1107	27750	92	91	94	106	103	97	
1108	27773	78	80	84	101	101	88	
1112	27758	86	89	93		103	94	
1113	27743	79	82	85	95	104	89	
1114	27737	81	83	87		100	89	
1115	Gontra Vidhan -3 (NC)	78	82	86	101	100	88	
1119	27346	81	85	89	101	101	90	
1120	27358	91	90	94	103	99	94	
1121	27364	89	90	94	102	101	95	
1122	27356	87	91	96	94	98	94	
1123	27357	89	89	97	103	101	95	
1124	27369	79	85	86	99	96	87	
1133	27362	87	90	93	103	100	93	
1135	US 312 (HC)	83	86	90	102	93	89	
1139	27755	85	86	88	102	92	88	
1140	27748	82	82	86		100	89	
1142	27770	86	87	92	102	96	91	
1148	Zonal Check (ZC)	93	90	100		101	98	
1152	Local Check (LC)	80	98	99	107	98	93	
	Exp Mean	85	87	92	102	99	92	

Table 3.20 contd.: Days to 50% flowering of entries in AVT1 IME (Zone III), Kharif 2019

Entry No.	IET NO	ZONE III											
		OD				OD (4)	BI (1)	JH	WB (1)	UP		UP (2)	Zone III (8)
		BBN	CTK	JYP	CHP	Mean	SBR	@RCI	CHN	MSD	VRN	Mean	Mean
1102	26936	99	107	105	110	105	92	105	100	103	95	99	101
1103	26861	107	104	107	116	109	95	106	100	104	94	99	103
1104	27739	91	96	93	100	95	89	95	93	96		96	94
1106	27747	101	98	109	115	106	98	108	104	103	82	93	101
1115	Gontra Vidhan -3 (NC)	95		99	109	101	95	91	93		101	101	99
1120	27358	98	106	100	115	105	97	106	96	100	98	99	101
1125	27256	94	100	98	109	100	90	93	93	94		94	97
1128	27785	99	99	104	107	102	91	101	92	97	98	97	98
1129	27757	98	106	102	111	104	96	107	101	92	88	90	99
1131	27267	104	109	109	120	110	89	106	99	99		99	104
1133	27362	100	99	99	109	102	98	98	98	103	84	94	99
1135	US 312 (HC)	98	101	99	110	102	97	102	93	102	97	100	100
1142	27770	94	98	93	99	96	99	93	91		82	82	94
1148	Zonal Check—ZC	98	104	101	113	104	93	94	97	97	94	95	100
1152	Local Check (LC)	100	95	103	103	100	94	91	91	92	95	93	97
	Exp Mean	98	101	102	110	103	94	100	96	98	92	95	99

Table 3.20 contd.: Days to 50% flowering of entries in AVT1 IME (Zone V), Kharif 2019

Entry No.	IET NO	ZONE-V							
		CH			CH (3)	MA		MA (2)	Zone V (5)
		RPR	JDP	BLP	Mean	SKL	SND	Mean	Mean
1101	27736	102	106	104	104	97	104	100	102
1102	26936	100	106	101	102	96	99	97	100
1103	26861	97	106	106	103	92	98	95	100
1104	27739	85	97	93	92	90	90	90	91
1106	27747	97	104	101	101	95	102	98	100
1109	27772	103	109	106	106	98	109	103	105
1110	27768	105	103	102	103	98	106	102	103
1111	27762	103	109	101	104	88	103	96	101
1115	Gontra Vidhan -3 (NC)	88	96	93	92	87	92	90	91
1116	27782	92	103	97	97	88	93	91	95
1117	27752	87	97	95	93	87	90	89	91
1118	27775	97	110	104	104	99	104	101	103
1119	27346	91	97	96	95	91	98	95	95
1120	27358	90	98	96	95	86	92	89	92
1122	27356	89	100	92	94	89	96	92	93
1127	27790	93	103	100	99	96	99	98	98
1129	27757	97	100	101	99	93	94	94	97
1130	26961	99	107	103	103	95	102	98	101
1133	27362	90	101	100	97	90	93	92	95
1134	24967	87	93	94	91	86	92	89	90
1135	US 312 (HC)	90	103	96	96	88	93	91	94
1136	27781	98	107	105	103	99	112	106	104
1137	27360	89	103	99	97	87	99	93	95
1138	27763	94	107	100	100	79	98	88	96
1140	27748	91	102	98	97	87	93	90	94
1141	27788	91	100	94	95	88	93	91	93
1148	Zonal Check—ZC	84	94	88	89	83	90	87	88
1149	28033	83	95	88	89	86	89	87	88
1150	28032	83	96	87	89	83	90	87	88
1151	IR 64 (RP)	85	93	88	89	84	92	88	88
1152	Local Check (LC)	91	100	96	96	85	92	89	93
	Exp Mean	93	101	98	97	90	97	93	96

Table 3.20 contd.: Days to 50% flowering of entries in AVT1 IME (Zone VI), Kharif 2019

Entry No.	IET NO	ZONE VI					
		MA (1)	GU			GU (3)	Zone VI (4)
		KJT	NVS	NWG	VYR	Mean	Mean
1104	27739	99	80	92	85	86	89
1106	27747	94	94	101	92	96	95
1109	27772	97	97	100	95	97	97
1110	27768	92	86	101	92	93	93
1115	Gontra Vidhan -3 (NC)	91	83	88	80	84	86
1120	27358	91	86	99	88	91	91
1126	27764	98	87	101	85	91	93
1132	27353	88	88	101	86	92	91
1133	27362	91	83	96	88	89	89
1135	US 312 (HC)	91	82	102	82	89	89
1137	27360	89	87	102	86	91	91
1148	Zonal Check—ZC	97	84	104	87	91	93
1152	Local Check (LC)	97	84	89	79	84	87
	Exp Mean	93	86	98	86	90	91

Table 3.20 contd.: Days to 50% flowering of entries in AVT1 IME (Zone VII), Kharif 2019

Entry No.	IET NO	ZONE VII															
		AP	TE			TE (3)	TN		TN (2)	KE		KE (1)	KA		KA (1)	PU	Zone VII (9)
		MTU	RNR	WGL	JGL	Mean	ADT	CBT	Mean	MNC	@PTB	Mean	MND	@BRM	Mean	KBP	Mean
1104	27739	88	92	86	86	88	81	104	92	91	84	91	96	93	96	80	89
1106	27747	95	100	100	97	99	89	108	99	90	87	90	103	93	103	93	97
1115	Gontra Vidhan -3 (NC)	91	95	88	87	90	83	108	96	90	87	90	102	91	102	86	92
1120	27358	94	98	100	92	96	84	106	95	83	84	83	91	90	91	82	92
1133	27362	92	97	91	92	93	89	106	98	86	87	86	105	95	105	83	93
1135	US 312 (HC)	92	95	90	89	92	87	108	97	86	82	86	97	93	97	82	92
1143	28011	88	93	87	84	88	76	93	85	83	84	83	86	89	86	77	85
1144	28008	89	93	89	85	89	78	95	87	79	84	79	88	90	88	80	86
1145	28007	86	93	89	85	89	75	94	85	77	84	77	91	91	91	80	86
1146	28010	87	93	88	85	89	75	95	85	77	85	77	88	90	88	79	85
1147	28036	87	93	87	85	88	80	94	87	79	82	79	86	93	86	78	86
1148	Zonal Check—ZC	87	93	89	84	89	77	97	87	78	86	78	87	95	87	77	85
1149	28033	89	93	88	83	88	75	92	84	82	83	82	92	91	92	77	86
1150	28032	92	93	87	83	87	75	93	84	80	85	80	91	90	91	87	87
1151	IR 64 (RP)	88	93	90	86	90	79	93	86	76	82	76	88	89	88	79	86
1152	Local Check (LC)	104	95	96	86	92	95	98	97	95	86	95	96	90	96	92	95
	Exp Mean	90	94	90	87	90	81	99	90	83	84	83	93	92	93	82	89

Table 3.21: Plant Height (cm) of entries in AVT1 IME (Zone II), Kharif 2019

Entry No.	IET NO	ZONE II					
		UT	PU	HA	JK	RA	Zone II (3)
		PNT	@LDN	KUL	@CHT	KTA	Mean
1104	27739	95.00	81.67	97.00	73.50	124.70	105.57
1105	27746	92.00	100.33	111.00	91.60	123.30	108.77
1106	27747	101.00	80.33	106.00	65.50	104.30	103.77
1107	27750	100.00	71.67	91.00	70.50	108.70	99.90
1108	27773	109.00	93.67	110.00	79.20	105.00	108.00
1112	27758	106.00	88.00	106.00		96.70	102.90
1113	27743	97.00	86.33	110.00	80.50	100.00	102.33
1114	27737	106.00	80.33	88.00		102.30	98.77
1115	Gontra Vidhan -3 (NC)	99.00	82.67	97.00	77.70	111.30	102.43
1119	27346	103.00	94.33	97.00	88.40	113.00	104.33
1120	27358	103.00	105.33	103.00	90.70	117.00	107.67
1121	27364	106.00	95.67	94.00	80.50	107.70	102.57
1122	27356	94.00	88.00	99.00	95.60	108.00	100.33
1123	27357	112.00	98.00	95.00	72.20	120.30	109.10
1124	27369	113.00	87.00	92.00	85.20	110.30	105.10
1133	27362	101.00	95.33	102.00	85.50	110.30	104.43
1135	US 312 (HC)	110.00	92.33	94.00	89.20	114.70	106.23
1139	27755	110.00	97.33	111.00	86.30	119.30	113.43
1140	27748	112.00	90.33	111.00		103.30	108.77
1142	27770	118.00	81.33	94.00	83.50	108.70	106.90
1148	Zonal Check (ZC)	81.00	71.00	97.00		102.00	93.33
1152	Local Check (LC)	106.00	86.67	106.00	104.33	111.00	107.67
	Exp Mean	103.36	88.53	100.50	83.33	110.09	104.65

Table 3.21 contd.: Plant Height (cm) of entries in AVT1 IME (Zone III), Kharif 2019

Entry No.	IET NO	ZONE III											
		OD				OD (4)	BI (1)	JH	WB (1)	UP		UP (2)	Zone III (8)
		BBN	CTK	JYP	CHP	Mean	SBR	@RCI	CHN	MSD	VRN	Mean	Mean
1102	26936	98.00	97.73	91.80	110.44	99.49	105.00	77.00	100.00	100.00	90.63	95.32	99.20
1103	26861	114.00	103.87	99.80	114.56	108.06	118.89	85.00	113.33	105.00	91.13	98.07	107.57
1104	27739	96.00	85.33	86.80	99.22	91.84	117.22	77.00	103.33	85.00		85.00	96.13
1106	27747	99.00	100.07	100.20	114.89	103.54	102.78	81.00	103.00	92.00	119.30	105.65	103.90
1115	Gontra Vidhan -3 (NC)	95.00		92.40	109.00	98.80	112.22	84.00	115.33		107.33	107.33	105.21
1120	27358	100.00	123.27	100.60	114.22	109.52	98.11	101.00	124.33	109.00	96.87	102.93	108.30
1125	27256	119.00	101.40	110.80	109.44	110.16	95.44	103.00	117.33	88.00		88.00	105.92
1128	27785	104.00	99.60	94.60	107.00	101.30	92.89	85.00	100.00	104.00	115.33	109.67	102.18
1129	27757	110.00	112.20	95.60	111.78	107.39	101.11	87.00	120.00	92.00	102.10	97.05	105.60
1131	27267	118.00	120.60	108.00	119.67	116.57	88.33	96.00	131.00	91.00		91.00	110.94
1133	27362	110.00	102.07	97.40	109.00	104.62	104.11	99.00	117.33	101.00	97.93	99.47	104.86
1135	US 312 (HC)	111.00	112.13	98.80	110.78	108.18	99.33	89.00	116.00	102.00	99.40	100.70	106.18
1142	27770	95.00	99.73	88.60	99.00	95.58	99.00	84.00	106.00		109.27	109.27	99.51
1148	Zonal Check—ZC	92.00	99.80	97.00	112.44	100.31	98.00	89.00	115.00	102.00	107.90	104.95	103.02
1152	Local Check (LC)	112.00	107.33	85.20	103.00	101.88	111.11	77.00	100.00	87.00	98.93	92.97	100.57
	Exp Mean	104.87	104.65	96.51	109.63	103.82	102.90	87.60	112.13	96.77	103.01	99.16	103.94

Table 3.21 contd.: Plant Height (cm) of entries in AVT1 IME (Zone IV), Kharif 2019

Entry NO.	IET NO	ZONE IV
		TR
		@LMB
1104	27739	92
1106	27747	102
1115	Gontra Vidhan -3 (NC)	103
1120	27358	126
1133	27362	118
1135	US 312 (HC)	113
1148	Zonal Check—ZC	105
1152	Local Check (LC)	114
	Exp Mean	109

Table 3.21 contd.: Plant Height (cm) of entries in AVT1 IME (Zone V), Kharif 2019

Entry No.	IET NO	ZONE-V							
		CH			CH (3)	MA		MA (2)	Zone V (5)
		RPR	JDP	BLP	Mean	SKL	SND	Mean	Mean
1101	27736	107.59	107.53	118.00	111.04	116.40	144.90	130.65	118.88
1102	26936	93.55	92.47	100.00	95.34	99.40	88.90	94.15	94.86
1103	26861	102.68	102.07	116.00	106.92	115.40	114.80	115.10	110.19
1104	27739	102.68	94.87	96.00	97.85	98.00	105.00	101.50	99.31
1106	27747	102.65	88.67	111.00	100.77	98.20	102.10	100.15	100.52
1109	27772	107.57	106.47	124.00	112.68	122.00	134.60	128.30	118.93
1110	27768	108.53	102.67	112.00	107.73	103.80	134.10	118.95	112.22
1111	27762	117.73	108.27	120.00	115.33	118.20	110.40	114.30	114.92
1115	Gontra Vidhan -3 (NC)	105.05	95.13	95.00	98.40	98.80	105.90	102.35	99.98
1116	27782	89.60	99.67	96.00	95.09	84.20	107.50	95.85	95.39
1117	27752	94.42	101.53	101.00	98.98	81.60	84.50	83.05	92.61
1118	27775	97.60	92.60	104.00	98.07	100.40	115.30	107.85	101.98
1119	27346	106.24	99.40	111.00	105.55	114.40	116.20	115.30	109.45
1120	27358	107.95	110.33	116.00	111.43	102.00	109.30	105.65	109.12
1122	27356	107.49	102.60	108.00	106.03	93.00	120.60	106.80	106.34
1127	27790	90.15	81.13	84.00	85.09	85.40	98.30	91.85	87.80
1129	27757	106.07	100.27	110.00	105.44	102.00	105.20	103.60	104.71
1130	26961	118.51	105.80	124.00	116.10	96.60	122.30	109.45	113.44
1133	27362	109.74	113.80	123.00	115.51	103.60	132.60	118.10	116.55
1134	24967	104.49	107.13	101.00	104.21	102.80	98.70	100.75	102.82
1135	US 312 (HC)	108.23	101.80	112.00	107.34	103.40	126.30	114.85	110.35
1136	27781	141.43	115.27	140.00	132.23	145.40	154.10	149.75	139.24
1137	27360	112.11	113.20	117.00	114.10	105.60	113.70	109.65	112.32
1138	27763	110.82	110.20	116.00	112.34	101.20	131.30	116.25	113.90
1140	27748	97.32	101.27	110.00	102.86	97.20	110.60	103.90	103.28
1141	27788	118.72	105.53	109.00	111.08	106.20	101.20	103.70	108.13
1148	Zonal Check (ZC)	97.13	91.40	93.00	93.84	101.20	107.10	104.15	97.97
1149	28033	93.31	86.93	90.00	90.08	97.20	96.10	96.65	92.71
1150	28032	93.56	88.87	88.00	90.14	108.60	84.50	96.55	92.71
1151	IR 64 (RP)	105.38	86.60	87.00	92.99	99.00	117.50	108.25	99.10
1152	Local Check (LC)	100.87	102.13	108.00	103.67	106.00	115.60	110.80	106.52
	Exp Mean	105.13	100.50	107.74	104.46	103.46	113.20	108.33	106.01

Table 3.21 contd.: Plant Height (cm) of entries in AVT1 IME (Zone VI), Kharif 2019

Entry No.	IET NO	ZONE VI					
		MA(1)	GU			GU (3)	Zone VI (4)
		KJT	NVS	NWG	VYR	Mean	Mean
1104	27739	100.33	115.10	83.20	101.20	99.83	99.96
1106	27747	111.67	106.50	105.60	105.13	105.74	107.23
1109	27772	124.67	118.50	114.60	108.47	113.86	116.56
1110	27768	112.67	120.10	106.20	111.33	112.54	112.58
1115	Gontra Vidhan -3 (NC)	101.00	117.70	106.60	112.00	112.10	109.33
1120	27358	125.33	118.50	109.40	121.80	116.57	118.76
1126	27764	119.33	123.30	104.00	108.87	112.06	113.88
1132	27353	122.67	117.20	103.00	121.53	113.91	116.10
1133	27362	119.67	117.10	105.40	118.27	113.59	115.11
1135	US 312 (HC)	114.33	119.60	95.40	115.60	110.20	111.23
1137	27360	118.33	119.70	114.60	125.33	119.88	119.49
1148	Zonal Check—ZC	110.67	124.90	96.80	109.67	110.46	110.51
1152	Local Check (LC)	112.00	118.80	112.00	168.00	132.93	127.70
	Exp Mean	114.82	118.23	104.37	117.48	113.36	113.72

Table 3.21 contd.: Plant Height (cm) of entries in AVT1 IME (Zone VII), Kharif 2019

Entry No.	IET NO	ZONE VII							
		AP	TE			TE (3)	TN		TN (2)
		MTU	RNR	WGL	JGL	Mean	ADT	CBT	Mean
1104	27739	106.30	82.20	118.67	102.20	101.02	96.67	95.40	96.03
1106	27747	128.60	94.40	122.53	114.30	110.41	114.67	103.70	109.18
1115	Gontra Vidhan -3 (NC)	115.90	92.00	108.13	100.50	100.21	107.33	101.10	104.22
1120	27358	133.80	101.20	138.60	119.80	119.87	121.67	112.80	117.23
1133	27362	130.30	102.60	131.00	128.70	120.77	117.00	114.00	115.50
1135	US 312 (HC)	128.20	97.80	130.67	119.20	115.89	114.00	107.70	110.85
1143	28011	121.50	100.60	126.33	111.60	112.84	103.00	99.40	101.20
1144	28008	122.00	95.00	119.07	107.60	107.22	106.00	101.10	103.55
1145	28007	121.70	102.00	122.87	109.80	111.56	98.33	96.90	97.62
1146	28010	121.40	101.40	124.13	109.30	111.61	102.33	93.90	98.12
1147	28036	115.10	100.40	122.20	110.40	111.00	97.00	101.80	99.40
1148	Zonal Check—ZC	112.70	100.40	121.47	102.10	107.99	94.33	93.20	93.77
1149	28033	112.40	90.80	110.60	99.30	100.23	85.33	88.50	86.92
1150	28032	109.60	93.60	112.73	98.60	101.64	88.00	90.00	89.00
1151	IR 64 (RP)	111.75	92.00	113.67	92.90	99.52	89.33	98.50	93.92
1152	Local Check (LC)	127.70	103.60	136.07	100.40	113.36	118.33	92.30	105.32
	Exp Mean	119.93	96.88	122.42	107.92	109.07	103.33	99.39	101.36

Table 3.21 contd.: Plant Height (cm) of entries in AVT1 IME (Zone VII), Kharif 2019

Entry No.	IET NO	ZONE VII							
		KE		KE (1)	KA		KA (1)	PU (1)	Zone VII (9)
		MNC	@PTB	Mean	MND	@BRM	Mean	KBP	Mean
1104	27739	98.03	100.60	98.03	87.20	69.00	87.20	110.00	99.63
1106	27747	94.67	100.80	94.67	95.47	79.00	95.47	127.00	110.59
1115	Gontra Vidhan -3 (NC)	111.53	108.40	111.53	89.87	84.50	89.87	120.00	105.15
1120	27358	103.60	104.80	103.60	95.27	74.50	95.27	143.00	118.86
1133	27362	106.90	109.20	106.90	107.20	76.50	107.20	130.00	118.63
1135	US 312 (HC)	101.07	110.20	101.07	93.87	87.50	93.87	128.00	113.39
1143	28011	103.20	102.20	103.20	100.00	68.00	100.00	118.00	109.29
1144	28008	91.40	108.80	91.40	100.73	73.00	100.73	121.00	107.10
1145	28007	98.80	86.60	98.80	97.13	83.00	97.13	116.00	107.06
1146	28010	98.80	103.20	98.80	102.00	83.50	102.00	120.00	108.14
1147	28036	100.80	94.40	100.80	100.00	68.00	100.00	119.00	107.41
1148	Zonal Check—ZC	92.27	92.00	92.27	95.20	77.00	95.20	115.00	102.96
1149	28033	87.47	80.60	87.47	86.27	69.00	86.27	101.00	95.74
1150	28032	86.93	87.20	86.93	88.33	81.50	88.33	101.00	96.53
1151	IR 64 (RP)	97.73	105.00	97.73	84.20	81.50	84.20	110.00	98.90
1152	Local Check (LC)	102.40	83.00	102.40	99.33	80.50	99.33	124.00	111.57
	Exp Mean	98.48	98.56	98.48	95.13	77.25	95.13	118.94	106.94

Table 3.22 : Panicles/m2 of entries in AVT1 IME (Zone II), Kharif 2019

Entry No.	IET NO	ZONE II					
		UT	PU	HA	JK	RA	Zone II (3)
		PNT	@LDN	KUL	@CHT	KTA	Mean
1104	27739	245	260	325	288	248	273
1105	27746	256	235	242	299	234	244
1106	27747	271	271	376	291	277	308
1107	27750	273	334	331	300	260	288
1108	27773	260	229	242	296	262	255
1112	27758	243	242	305		243	264
1113	27743	266	249	315	282	297	292
1114	27737	274	277	265		222	254
1115	Gontra Vidhan -3 (NC)	224	260	290	297	302	272
1119	27346	274	253	272	293	276	274
1120	27358	277	262	276	287	264	272
1121	27364	268	255	297	293	259	275
1122	27356	261	253	297	281	274	277
1123	27357	260	198	301	293	248	270
1124	27369	247	216	288	297	209	248
1133	27362	230	220	303	302	265	266
1135	US 312 (HC)	261	227	363	292	261	295
1139	27755	255	282	278	296	245	259
1140	27748	238	233	261		234	244
1142	27770	273	266	317	285	215	268
1148	Zonal Check (ZC)	253	282	317		219	263
1152	Local Check (LC)	256	240	335	293	218	270
	Exp Mean	258	252	300	293	251	270

Table 3.22 contd.: Panicles/m2 of entries in AVT1 IME (Zone III), Kharif 2019

Entry No.	IET NO	ZONE III											
		OD				OD (4)	BI (1)	JH	WB (1)	UP		UP (2)	Zone III (8)
		BBN	CTK	JYP	CHP	Mean	SBR	@RCI	CHN	MSD	VRN	Mean	Mean
1102	26936	247	271	294	294	276	214	216	220	248	287	267	259
1103	26861	231	260	317	244	263	170	179	187	286	243	265	242
1104	27739	219	216	313	225	243	181	146	220	342		342	245
1106	27747	283	228	346	264	280	233	229	253	273	224	249	263
1115	Gontra Vidhan -3 (NC)	246		354	300	300	252	184	264		262	262	280
1120	27358	235	227	335	294	273	267	181	275	337	301	319	284
1125	27256	245	237	326	226	258	179	181	231	265		265	244
1128	27785	255	260	364	358	309	230	216	242	283	217	250	276
1129	27757	247	274	371	270	290	224	228	231	218	272	245	263
1131	27267	227	252	242	232	238	218	142	176	223		223	224
1133	27362	255	261	325	341	295	244	183	198	261	197	229	260
1135	US 312 (HC)	258	275	299	300	283	235	201	220	332	265	299	273
1142	27770	219	260	262	294	259	279	225	264		215	215	256
1148	Zonal Check—ZC	913	258	302	232	426	228	215	220	290	233	261	335
1152	Local Check (LC)	257	280	322	220	270	223	267	198	333	288	311	265
	Exp Mean	289	254	318	273	284	225	199	227	284	250	267	265

Table 3.22 contd.: No. of Panicles/m2 of entries in AVT1 IME (Zone IV), Kharif 2019

Entry No.	IET NO	ZONE IV- NORTH EASTERN
		TRIPURA
		@LMB
1104	27739	258
1106	27747	310
1115	Gontra Vidhan -3 (NC)	258
1120	27358	292
1133	27362	254
1135	US 312 (HC)	281
1148	Zonal Check—ZC	267
1152	Local Check (LC)	352
	Exp Mean	284

Table 3.22 contd.: Panicles/m2 of entries in AVT1 IME (Zone V), Kharif 2019

Entry No.	IET NO	ZONE-V						
		CH		CH (2)	MA		MA (2)	Zone V (4)
		RPR	JDP	Mean	SKL	SND	Mean	Mean
1101	27736	270	304	287	297	283	290	289
1102	26936	274	290	282	285	310	298	290
1103	26861	275	326	300	212	281	246	273
1104	27739	268	261	265	207	306	257	261
1106	27747	305	333	319	171	280	226	272
1109	27772	282	266	274	189	307	248	261
1110	27768	257	251	254	151	293	222	238
1111	27762	266	245	255	157	285	221	238
1115	Gontra Vidhan -3 (NC)	274	273	273	207	312	259	266
1116	27782	276	271	274	267	247	257	265
1117	27752	239	239	239	200	274	237	238
1118	27775	289	326	308	208	300	254	281
1119	27346	282	259	270	157	290	223	247
1120	27358	246	241	243	205	235	220	232
1122	27356	251	227	239	191	252	221	230
1127	27790	233	394	313	222	327	274	294
1129	27757	267	288	278	203	292	248	263
1130	26961	253	212	233	212	284	248	240
1133	27362	252	268	260	198	232	215	238
1134	24967	246	272	259	265	268	266	263
1135	US 312 (HC)	226	312	269	202	280	241	255
1136	27781	241	248	245	213	253	233	239
1137	27360	224	293	258	270	239	255	256
1138	27763	246	279	263	176	293	234	249
1140	27748	240	232	236	175	259	217	226
1141	27788	253	248	251	170	295	232	242
1148	Zonal Check—ZC	266	274	270	218	281	250	260
1149	28033	238	262	250	201	252	226	238
1150	28032	245	295	270	198	310	254	262
1151	IR 64 (RP)	242	273	258	248	253	251	254
1152	Local Check (LC)	249	294	272	313	255	284	278
	Exp Mean	257	276	267	212	278	245	256

Table 3.22 contd.: Panicles/m2 of entries in AVT1 IME (Zone VI), Kharif 2019

Entry No.	IET NO	ZONE VI					
		MA (1)	GU			GU (3)	Zone VI (4)
		KJT	NVS	NWG	VYR	Mean	Mean
1104	27739	260	299	265	184	249	252
1106	27747	269	325	280	227	277	275
1109	27772	218	225	274	201	233	229
1110	27768	238	250	268	212	243	242
1115	Gontra Vidhan -3 (NC)	249	198	266	204	223	229
1120	27358	250	217	276	225	239	242
1126	27764	245	227	280	173	227	231
1132	27353	261	245	274	186	235	241
1133	27362	232	238	268	168	225	227
1135	US 312 (HC)	281	216	275	179	223	238
1137	27360	262	258	283	197	246	250
1148	Zonal Check—ZC	275	226	275	186	229	240
1152	Local Check (LC)	273	241	285	187	238	246
	Exp Mean	255	243	274	195	237	242

Table 3.22 contd.: Panicles/m² of entries in AVT1 IME (Zone VII), Kharif 2019

Entry No.	IET NO	ZONE VII															
		AP	TE			TE (3)	TN		TN (2)	KE		KE (1)	KA		KA (1)	PU (1)	Zone VII (9)
		MTU	RNR	WGL	JGL	Mean	ADT	CBT	Mean	MNC	@PTB	Mean	MND	@BRM	Mean	KBP	Mean
1104	27739	345	318	374	458	383	367	422	394	233	310	233	457	259	457	461	382
1106	27747	327	351	404	445	400	548	420	484	346	313	346	483	248	483	550	430
1115	Gontra Vidhan -3 (NC)	307	327	380	427	378	350	375	362	200	320	200	467	263	467	461	366
1120	27358	304	338	364	451	384	368	348	358	202	289	202	493	243	493	383	361
1133	27362	296	313	371	387	357	513	422	467	193	261	193	490	298	490	428	379
1135	US 312 (HC)	304	378	351	469	399	362	420	391	202	289	202	567	252	567	461	390
1143	28011	274	364	354	414	377	398	357	377	282	331	282	460	243	460	472	375
1144	28008	297	342	394	387	374	362	383	372	209	308	209	397	227	397	494	363
1145	28007	307	349	381	418	382	398	392	395	202	296	202	480	268	480	472	378
1146	28010	304	378	351	411	380	413	357	385	198	341	198	470	336	470	461	371
1147	28036	290	318	391	376	361	439	363	401	169	310	169	480	324	480	639	385
1148	Zonal Check (ZC)	287	378	369	425	390	365	410	387	197	429	197	490	274	490	450	374
1149	28033	294	436	425	438	433	449	375	412	182	336	182	487	275	487	528	401
1150	28032	297	431	424	438	431	398	417	407	340	411	340	500	225	500	493	415
1151	IR 64 (RP)	317	427	428	460	438	450	428	439	169	329	169	537	268	537	595	423
1152	Local Check (LC)	337	396	388	354	379	333	415	374	200	268	200	477	250	477	450	372
	Exp Mean	305	365	384	422	391	407	394	400	220	321	220	483	266	483	487	385

Table 3.24: Composition of entries in Initial Variety Trial–Irrigated Mid Early (IVT-IME), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
1st year of testing				
1201	28383	OR 2573-11	Birupa / IR 76561-AC-8-8	LS
1202	28384	CN 1646-5	IR 64 / Pusa Basmati 1	LS
1203	28385	AD 17130	IET 22075 / ADT 48	MS
1204	28386	RP 6327-B-171-3-2	IR79156B / Swarna	LS
1205	28387	Pusa 5173-3-5-1-1-1-7	MR. 220 / ET 10-5	LS
1206	28388	JR 81-01	MTU 1010 / NPT13-01	SB
1207	28389	KJT-1-2-20-9-11	KJT 35 / IR 64	LS
1208	28390	HKR 15-49	HKR 120 / IN 119-8-2-3	LS
1209	28391	PAU 8442-2K-14-3583-14-1 (RYT 3795)	Pusa 44 / IL274(O.glaberrima)	LS
1210	27668	TRC 2018-17	Pyzum / Samba Mahsuri	LB
1211	28392	ACK 15001	ADT 36 / ADT 42	MB
1212	28393	ORR 1805-OR 2634-1-1	TTB 680-2-35-2 Selection	LS
1213	28394	KMP 149-1	BPT 5204 KMP 148	MS
1214	28395	MTU 1332 (MTU 2644-38-2-1-2)	N22 / MTU 1075	MS
1215	28396	Shuats Dhan 6	IRODA 117 / IR 72891-29-3-3-3 / IR73012-137-2-2-2 (70)	LS
1216	28397	NWGR 14005	Kudrat 4 / Gurjari	LB
1217	28398	NWGR 13057	Gurjari / IET 17126	LS
1218	28399	NVSR 454	(Sampada / IRGC 30938) / Triguna	LS
1219	28400	CR 4204 -5-1 (IR 118290-4-78-1- CR 4204-5-1)	CT 5805 / Habataki // CT 5805 / ST 12 /// CT 5805	LS
1220	28401	UPR 4116-17-1-1-2	Govind / Pant Dhan 19	LB
1221	28402	R 1921-172-1-110-1	Shyamala / BPH 12	LB
1222	28403	Gontra Bidhan 7	IET 4786 / Jaya	MS
1223	28404	RNR 26113	Tellahamsa / Varalu	LS
1224	28405	BRR 0105 (IR 14L586)	IR05N173 / IR10L149	LS
1225	Gontra Bidhan-3 (NC)			
1226	28406	WGL 1246	Kavya /JGL 13595	LS
1227	28407	HUR 1904 (Malaviyadhan 1904)	HUR 105 / RP Bio 226-1-1-2-1-4	MS
1228	28408	RTN 1401-4-1-2-37	DRR Dhan 40 / HRTMS 44	LS
1229	28409	CR 3561-3-2-2-1-1-1	Surendra / Annapurna	MB
1230	28410	NVSR 474	(RP-Bio-226 / IRGC 4059) / IET-8116	LS
1231	28411	Safri-17-5	Safri	LS
1232	28412	YNP 7103	MTU 1010 / IR 64	LB
1233	28413	NVSR 2652	(Gurjari / IR 28) / IR 28	LB
1234	28414	CRAC 3995-27-1	Doubled haploid of BS 6444G	LS
1235	28415	AD 17044	WGL 14377 / MDU 5	MS
1236	28416	RNR 28361	Bhadrakali / NSN 20894	LS
1237	28417	RP 6357-RAF-29-GSR-IR1-DQ140 -R2-Y1	GSR IR1-8-S6-S3-Y2 / GSR IR1-12-Y4-Y1-D1	LS
1238	28418	IRRI 123		LS

Entry No.	IET No.	Designation	Cross combination	Grain Type
		(TP Code No. 21654)		
1239	28419	KJT 9-2-12-2-8	KJT 6 / Abhaya	LS
1240	28420	RP 5599-212-56-1	MTU 1010 / KMR 3	LS
1241	28421	OR 2546-5	OR 2006-23 / PSBRC 68	MB
1242	PR 113 (Northern), Lalat (Eastern & North Eastern), Karjat-7 (Western), MTU 1010 (Central & Southern)—ZC			
1243	28422	PAU 6165-6-1-3 (RYT 3788)	PAU 201 Mutant (MT 16) / HKR 127	LS
1244	28423	RP 6112-MS -M-51-2-5-5-7-9-6	BPT 5204-Mutant	LS
1245	27695	HKR 14-29	HKR 99-60 / CSR 27	LS
1246	28424	MTU 1331 (MTU 2503-29-1-2)	MTU 1075 / MTU 1081	MS
1247	28425	CR 4206 -4-11-2 (IR 1130 50-17-CR 4206 -4-11-2)	MTU 1010 / IR 75870-8-1-2-B-6-1-1-B	LS
1248	28426	RP 6167-R 44-1	Swarna / O.rufipogon	MB
1249	27896	AD 16075	ADT 47 / IR 50	SB
1250	28427	UPR 4151-5-1-1-2	Pant Dhan 16 / VL Dhan 81	MB
1251	28428	R 2270-500-1-282-1	R 1723-1413-3-351-1-1 / Samaleshwari	LB
1252	28429	WGL 1262	WGL-14 / JGL -3844	MS
1253	28430	HUR 1903 (Malviyadhan 1903)	HUR 4-3 / RP Bio 226-1-1-3-1-5	MS
1254	28431	CR 3505-7-2-1-1-2-1	IR 36 / Vijetha	MS
1255	28432	UPR 4107-5-1-1-1	Pant Dhan 19 / PAU 3870-86-2-1	LS
1256	27908	MTU 1275 (MTU 2385-123-1-2-3)	MTU 1075 / MTU 1081 / MTU 1121	LS
1257	28433	NVSR 2718	IR 68888 B / GAR 13	MS
1258	28434	BRR 0109 (IR 97034-21-2-1-3)	IR09L337 / IR09L154	LS
1259	28435	CR 3847-3-2-1-2-1	IR84852-B-12-2 / IET 25345	LS
1260	27876	NVSR 2117	Gurjari / Jaya	LB
1261	28436	KMP 224	Selection from Bevu Bella	MS
1262	28437	RP 5507-JBB 680-1	Swarna / IRGC 63248 // Swarna Sub1	LS
1263	28438	RP 6350-12-40-4-9	Swarna / Habataki // ST 12 /// Swarna	LB
1264	Local Check			

Table 3.25: Grain Yield (Kg/ha) of entries in IVT-IME, Kharif 2019

Entry No.	IET NO.	IVT IME											
		UK		PU		HA		HA (1)		JK (1)		RA	
		@PNT		@LDN		KUL		Mean		CHT		KTA	
1201	28383	3075		2300		5150		5150				6017	
1202	28384	3923		3051		5150		5150		4250		5186	
1203	28385	5285		2679		5100		5100		4650	10	7181	3
1204	28386	6013		3857		5250		5250		4500		6981	7
1205	28387	3081		3712		5750		5750		4400		6117	
1206	28388	7733	1	3382		4150		4150		4600		4422	
1207	28389	4915		4022		5500		5500		5000	2 11%	7015	5
1208	28390	6042	8	4380		6350		6350		5050	1 12%	5020	
1209	28391	5246		3244		6600		6600		4800	6 7%	6782	9
1210	27668	5535		4917	4	5050		5050		4300		5938	
1211	28392	3956		3010		5000		5000		4850	4 8%	6516	
1212	28393	2915		2156		3800		3800		4850	4 8%	4448	
1213	28394	5696		3099		6050		6050		5000	2 11%	6563	
1214	28395	5867		3092		6800	10	6800	8	4500		6130	
1215	28396	5583		4497		7350	5	7350	4	4500		6995	6
1216	28397	4225		2397		5800		5800		4500		6516	
1217	28398	4444		2307		6100		6100		4250		5519	
1218	28399	5071		3712		6500		6500		4050		4056	
1219	28400	4623		2245		4850		4850		4200		4654	
1220	28401	5481		4807	6	7350	4	7350	4	4150		4887	
1221	28402	4923		3194		3150		3150		4250		5166	
1222	28403	6390	6	4167		4500		4500		4000		4348	
1223	28404	5806		4421		5750		5750		4300		5984	
1224	28405	6023	10	4153		8400	1	8400	1 12%	4300		4355	
1225	Gontra Bidhan-3 (NC)	7065	4	4421		4900		4900		4150		7380	2
1226	28406	4160		2824		6250		6250				3923	
1227	28407	4685		1591		3500		3500				5725	
1228	28408	3433		888						4150		5924	
1229	28409	4971		1322		5950		5950				6549	
1230	28410	2908		2362		3750		3750		4400		3491	
1231	28411	3296		4132		4700		4700		4250		3324	
1232	28412	7363	3	4194		7850	2	7850	2	4500		5153	
1233	28413	5765		3616		3500		3500		4500		4528	
1234	28414	4502		3485		4500		4500		3800		3544	
1235	28415	5994		2555		4000		4000		4600		5878	
1236	28416	4021		2927		6150		6150		4600		4056	
1237	28417	4896		4566	8	5150		5150		4600		6749	10
1238	28418	6038	9	4532	9	6100		6100		4100		5738	
1239	28419	3867		2410		5600		5600				5785	
1240	28420	4913		4056		6800	9	6800	8	4450		5452	
1241	28421	4333		3994		3450		3450		3900		5492	
1242	Zonal Check (ZC)	5758		3981		7150	6	7150	6	3900		6270	
1243	28422	5277		3037		7100	7	7100	7	4700	7	5359	
1244	28423	3698		1315		5000		5000		4700	7	4621	
1245	27695	5263		4304		5600		5600		4400		5319	
1246	28424	7613	2	5241	2 *	5700		5700		4700	7	6715	
1247	28425	3969		2548		6000		6000		4200		6649	
1248	28426	6365	7	4373		4950		4950				5452	
1249	27896	5054		2748						3900		6263	
1250	28427	6598	5	3457		6800	8	6800	8	4550		6616	
1251	28428	5148		3533		6050		6050		4100		6802	8
1252	28429	4710		5530	1 *	6250		6250				5319	
1253	28430	3419		2500		5300		5300				5645	
1254	28431	3192		3085		5100		5100		3700		7148	4
1255	28432	4231		3237		5650		5650				4488	
1256	27908	5915		4029		6500		6500				7414	1
1257	28433	5056		3891		5150		5150		3700		6130	
1258	28434	5538		5138	3 *	5000		5000		3700		5851	
1259	28435	4954		4525	10	4000		4000		3900		6682	
1260	27876	5879		4098		5000		5000		4250		6483	
1261	28436	3658		3437		4750		4750		4000		5519	
1262	28437	3690		4862	5	4600		4600		3600		6649	
1263	28438	1073				3000		3000				4721	
1264	Local Check (LC)	4346		4787	7	7500	3	7500	3	4500		5053	
	Exp. Mean	4913		3497		5480		5480		4335		5666	
	CD	2292.1		917.62		1019.78		1019.78		996.89		1311.75	
	CV%	23.34		13.13		9.31		9.31		11.46		11.58	
		09-06-2019		19-06-2019		21-06-2019				17-06-2019		22-06-2019	
		08-07-2019		19-07-2019		27-07-2019				15-07-2019		20-07-2019	
		Pant Dhan 12		PR 124		HKR-47				SJR-5		Pratap -1	

Table 3.25 contd.: Grain Yield (Kg/ha) of entries in IVT-IME, Kharif 2019

Entry No.	IET NO.												
		RA (1)		Zone II (3)		OD						OD (3)	
		Mean		Mean		CTK		JYP		CHP		Mean	
1201	28383	6017		5584		5043	18%	8708	7	8370	7	7374	4
1202	28384	5186		4862		3845		5927		3690		4487	
1203	28385	7181	3	5644		5717	4 * 33%	9663	3	7720		7700	3 7%
1204	28386	6981	7	5577		4178		6799		8361	8	6446	
1205	28387	6117		5422		3279		5599		7573		5484	
1206	28388	4422		4391		5429	10 * 27%	8057		7573		7020	
1207	28389	7015	5	5838	7	6075	2 * 42%	5017		5778		5623	
1208	28390	5020		5473		5489	9 * 30%	9219	5	6621		7110	10
1209	28391	6782	9	6061	4	4383		6094		8544	6	6340	
1210	27668	5938		5096		5069	18%	6280		7372		6240	
1211	28392	6516		5455		3953		6931		6676		5853	
1212	28393	4448		4366		3861		7814		7125		6267	
1213	28394	6563		5871	6	4457		7509		5742		5903	
1214	28395	6130		5810	9	5710	5 * 33%	8385		7985		7360	5
1215	28396	6995	6	6282	2 9%	5559	8 * 30%	7512		7793		6955	
1216	28397	6516		5605		5208	21%	7536		7198		6647	
1217	28398	5519		5290		4166		6191		6163		5507	
1218	28399	4056		4869		4175		3472		5440		4362	
1219	28400	4654		4568		4329		7444		5650		5808	
1220	28401	4887		5462		4366		8842	6	8132		7113	9
1221	28402	5166		4189		4679	9%	3906		6914		5166	
1222	28403	4348		4283		5321	* 24%	7905		8553	5	7260	6
1223	28404	5984		5345		4176		7167		6392		5912	
1224	28405	4355		5685		4695	9%	6502		6813		6003	
1225	Gontra Bidhan-3 (NC)	7380	2	5477		4291		5856		8297	9	6148	
1226	28406	3923		5087		4964	16%	7531		6117		6204	
1227	28407	5725		4613		4688	9%	5984		5668		5447	
1228	28408	5924		5037		4806	12%	7644		5394		5948	
1229	28409	6549		6250	3 8%	4812	12%	8497	8	8242	10	7184	8
1230	28410	3491		3880		4845	13%	7378		5696		5973	
1231	28411	3324		4091		3674		7066		4542		5094	
1232	28412	5153		5834	8	5200	22%	7552		7839		6864	
1233	28413	4528		4176		3662		6632		6795		5696	
1234	28414	3544		3948		4948	15%	7715		4780		5814	
1235	28415	5878		4826		4651	8%	6427		8022		6367	
1236	28416	4056		4935		4467		8385	10	7619		6824	
1237	28417	6749	10	5500		3878		7300		7463		6214	
1238	28418	5738		5313		4925	15%	6832		7216		6324	
1239	28419	5785		5693		4304		8476	9	6841		6540	
1240	28420	5452		5567		3723		3125		6419		4422	
1241	28421	5492		4281		4705	10%	11408	1	9038	1 9%	8384	1 * 16%
1242	Zonal Check (ZC)	6270		5773		3986		11016	2	6630		7211	7
1243	28422	5359		5720		5127	19%	7752		6685		6521	
1244	28423	4621		4774		2570		6816		5467		4951	
1245	27695	5319		5106		4466		6875		7766		6369	
1246	28424	6715		5705		5060	18%	4924		7949		5978	
1247	28425	6649		5616		5633	6 * 31%	6849		8599	4	7027	
1248	28426	5452		5201		3003		5451		5046		4500	
1249	27896	6263		5082		5826	3 * 36%	6274		6877		6326	
1250	28427	6616		5989	5	4428		6806		6099		5778	
1251	28428	6802	8	5651		4131		5615		6832		5526	
1252	28429	5319		5785	10	4706	10%	5106		6813		5542	
1253	28430	5645		5473		4474		4184		6026		4895	
1254	28431	7148	4	5316		5297	23%	4245		8645	3	6062	
1255	28432	4488		5069		5606	7 * 31%	6181		7564		6450	
1256	27908	7414	1	6957	1 * 21%	6102	1 * 42%	9444	4	8819	2 7%	8122	2 * 13%
1257	28433	6130		4993		3653		5538		6960		5384	
1258	28434	5851		4850		3249		3194		6557		4333	
1259	28435	6682		4861		3821		6047		6209		5359	
1260	27876	6483		5244		3720		5844		6062		5209	
1261	28436	5519		4756		3215		5347		5678		4747	
1262	28437	6649		4950		4322		6806		7473		6200	
1263	28438	4721		3861		5196	21%	8080		6429		6568	
1264	Local Check (LC)	5053		5684		4044		7205		6007		5752	
	Exp. Mean	5666		5218		4552		6842		6896		6097	
	CD	1311.75		736.98		1013.02		1818.06		1508.6		907.16	
	CV%	11.58		7.07		11.14		13.3		10.95		7.45	
						26-06-2019		28-06-2019		09-07-2019			
						13-08-2019		18-07-2019		03-08-2019			
						Naveen		Manaswini		Mandakini			

Table 3.25 contd.: Grain Yield (Kg/ha) of entries in IVT-IME, Kharif 2019

Entry No.	IET NO.														
		BI		BI (1)		JH		WB		WB (1)		UP			
		SBR		Mean		@RCI		CHN		Mean		MSD			
1201	28383	5955		5955		3590	1	6891	5	6891	5	5918	7%		
1202	28384	4133		4133		3191	8	5417		5417		6350	1	15%	
1203	28385	5417		5417		2128		5385		5385		5818	5%		
1204	28386	4843		4843		2394		5449		5449		6084	10%		
1205	28387	5160		5160		3059	9	5449		5449		6217	3	13%	
1206	28388	6735	4	6735	4	2726		5513		5513		6350	1	15%	
1207	28389	4590		4590		2793		4808		4808		6077	10%		
1208	28390	5184		5184		2327		6250		6250		6184	5	12%	
1209	28391	5537		5537		2460		6410		6410		4854			
1210	27668	4071		4071		2327		6731	8	6731	8	5452			
1211	28392	5630		5630		1928		5833		5833		5618			
1212	28393	6059		6059		3524	2	5962		5962		5718			
1213	28394	5586		5586		2194		5064		5064		5253			
1214	28395	6197	8	6197	8	2793		6859	6	6859	6	5319			
1215	28396	5490		5490		3258	6	5737		5737		5253			
1216	28397	4448		4448		2061		4423		4423		5718			
1217	28398	4537		4537		3524	2	4744		4744		5844	6%		
1218	28399	4423		4423		2061		4679		4679		5785			
1219	28400	4190		4190		2261		4712		4712		5618			
1220	28401	5690		5690		2926		7372	3	7372	3	6184	5	12%	
1221	28402	5498		5498		3059	9	6763	7	6763	7	5844	6%		
1222	28403	5963		5963		2859		6314		6314		5053			
1223	28404	4653		4653		2660		6731	8	6731	8	5818	5%		
1224	28405	3858		3858		2460		8109	1	8109	1	5785			
1225	Contra Bidhan-	6650	5	6650	5	3391	5	7564	2	7564	2	4854			
1226	28406	4218		4218		2660		6058		6058		5951	8%		
1227	28407	5338		5338		2394		5929		5929		5785			
1228	28408	5830		5830		2527		5545		5545		6217	3	13%	
1229	28409	7648	1 *	7648	1 *	2859		6186		6186		4894			
1230	28410	4408		4408		1995		6442		6442		4688			
1231	28411	4628		4628		2793		5288		5288		5785			
1232	28412	6141	9	6141	9	1463		5032		5032		5286			
1233	28413	4732		4732		1330		5321		5321		5818	5%		
1234	28414	3618		3618		1396		5032		5032		5319			
1235	28415	6121	10	6121	10	2527		6186		6186		4721			
1236	28416	7006	2	7006	2	2726		5641		5641		5745			
1237	28417	4356		4356		1928		5833		5833		4787			
1238	28418	4392		4392		2793		5609		5609		6051	10%		
1239	28419	5129		5129		2793		5513		5513		6150	7	12%	
1240	28420	3810		3810		1463		4776		4776		5718			
1241	28421	6216	7	6216	7	2793		6571	10	6571	10	4754			
1242	Zonal Check (Z)	5500		5500		2527		5673		5673		5013			
1243	28422	5885		5885		2194		6314		6314		4588			
1244	28423	3987		3987		2859		5224		5224		6084	10%		
1245	27695	6969	3	6969	3	3258	6	7372	3	7372	3	5286			
1246	28424	4273		4273		2926		6250		6250		5678			
1247	28425	5122		5122		3391	4	6538		6538		5984	8%		
1248	28426	4101		4101		1596		5160		5160		6117	8	11%	
1249	27896	5583		5583		2261		5481		5481		6051	10%		
1250	28427	5975		5975		2660		5256		5256		5884	7%		
1251	28428	5866		5866		2793		5449		5449		4787			
1252	28429	4993		4993		2527		5641		5641		5352			
1253	28430	4916		4916		2527		5385		5385		5685			
1254	28431	5423		5423		2527		6314		6314		6051	10%		
1255	28432	4089		4089		2261		4904		4904		6051	10%		
1256	27908	6221	6	6221	6	2527		6506		6506		6117	8	11%	
1257	28433	4754		4754		2327		4872		4872		5818	5%		
1258	28434	3810		3810		2460		5481		5481		5652			
1259	28435	4030		4030		2460		6282		6282		6117	8	11%	
1260	27876	5726		5726		1596		5288		5288		5519			
1261	28436	3638		3638		1396		5353		5353		5851	6%		
1262	28437	4949		4949		2793		5417		5417		6084	10%		
1263	28438	4130		4130		2327		5160		5160		6017	9%		
1264	Local Check (L)	4960		4960		2992		4712		4712		5519			
	Exp. Mean	5140		5140		2525		5784		5784		5655			
	CD	940.55		940.55		985.5		852.31		852.31		935.68			
	CV%	9.16		9.16		19.53		7.37		7.37		8.28			
		04-07-2019				26-06-2019		27-06-2019				05-07-2019			
		30-07-2019				18-08-2019		24-07-2019				03-08-2019			
		Rajendra Suwasini				MTU 1010		Khitish				NDR-2065			

Table 3.25 contd.: Grain Yield (Kg/ha) of entries in IVT-IME, Kharif 2019

Entry No.	IET NO.			UP (2)		Zone III (7)		MP			
		VRN		Mean		Mean		WRS		JBP	
1201	28383	4185		5052		6439	4 6%	5456	* 45%	4455	
1202	28384	3475		4913		4691		3819		5587	
1203	28385	4510		5164	6%	6319	8	5356	* 43%	6322	5%
1204	28386	4940		5512	14%	5808		5925	5 * 58%	6949	3 * 16%
1205	28387	5055	10	5636	6 * 16%	5476		5144	* 37%	6521	8
1206	28388	6400	1 * 32%	6375	1 * 31%	6580	2 * 9%	4400	17%	5666	
1207	28389	2300		4189		4949		4713	* 25%	7228	2 * 21%
1208	28390	4080		5132	6%	6147		4981	* 33%	5018	
1209	28391	4170		4512		5713		5650	10 * 50%	5589	
1210	27668	4740		5096	5%	5674		5663	9 * 51%	5195	
1211	28392	5100	7 5%	5359	10%	5677		5063	* 35%	3416	
1212	28393	4160		4939		5814		5419	* 44%	5372	
1213	28394	2610		3932		5174		3394		4602	
1214	28395	4420		4870		6411	5 6%	4694	* 25%	5005	
1215	28396	4030		4642		5911		5469	* 45%	5594	
1216	28397	4085		4902		5517		4588	22%	7249	1 * 21%
1217	28398	2820		4332		4924		5181	* 38%	4610	
1218	28399	3160		4473		4448		3306		5389	
1219	28400	4120		4869		5152		3531		6019	
1220	28401	4120		5152	6%	6387	7 6%	4088	9%	6578	5 10%
1221	28402	3500		4672		5301		4756	* 27%	4179	
1222	28403	4110		4582		6174		4981	* 33%	6570	7 10%
1223	28404	3460		4639		5485		3994	6%	5397	
1224	28405	4190		4988		5707		3069		5479	
1225	Gontra Bidhan-3 (NC)	4850		4852		6052		2938		5358	
1226	28406	3270		4611		5444		4288	14%	4149	
1227	28407	4200		4993		5370		5713	8 * 52%	4058	
1228	28408	4080		5149	6%	5645		5456	* 45%	4185	
1229	28409	3230		4062		6216	9	4425	18%	5634	
1230	28410	4510		4599		5424		5188	* 38%	4249	
1231	28411	4310		5048		5042		4756	* 27%	4198	
1232	28412	4015		4651		5866		4944	* 32%	5301	
1233	28413	4035		4927		5285		2706		6054	
1234	28414	4875		5097	5%	5184		3281		4006	
1235	28415	4940		4831		5867		5613	* 49%	5928	
1236	28416	4500		5123	6%	6195	10	5813	7 * 55%	6574	6 10%
1237	28417	5080	9	4934		5528		3163		6215	
1238	28418	4080		5066		5586		5463	* 45%	6088	
1239	28419	4970		5560	10 * 15%	5912		5488	* 46%	6137	
1240	28420	4015		4867		4512		3994	6%	6244	
1241	28421	3260		4007		6565	3 * 8%	6381	4 * 70%	6061	
1242	Zonal Check (ZC)	4080		4547		5985		3169		5993	
1243	28422	5020		4804		5910		5569	* 48%	4850	
1244	28423	2420		4252		4653		5194	* 38%	5755	
1245	27695	5985	2 * 23%	5636	6 * 16%	6388	6 6%	6813	2 * 81%	6304	5%
1246	28424	5610	3 16%	5644	5 * 16%	5678		5288	* 41%	5473	
1247	28425	4045		5015		6110		6475	3 * 72%	6333	10 6%
1248	28426	5250	6 8%	5684	4 * 17%	4875		4894	* 30%	6033	
1249	27896	4115		5083		5744		3944	5%	6375	9 6%
1250	28427	4640		5262	8%	5584		3581		4988	
1251	28428	4360		4574		5291		5869	6 * 56%	4871	
1252	28429	4030		4691		5234		3731		5481	
1253	28430	5445	5 12%	5565	9 * 15%	5159		2956		5187	
1254	28431	5100	7 5%	5576	8 * 15%	5868		5538	* 47%	5158	
1255	28432	5600	4 15%	5826	3 * 20%	5714		5513	* 47%		
1256	27908	4055		5086		6752	1 * 12%	5600	* 49%	5953	
1257	28433	3450		4634		5006		7938	1 * 111%	6926	4 * 16%
1258	28434	4910		5281	9%	4693		5313	* 41%	5532	
1259	28435	4530		5324	10%	5291		4463	19%	5476	
1260	27876	3620		4570		5111		4819	* 28%	5546	
1261	28436	2065		3958		4450		4488	19%	5958	
1262	28437	4295		5190	7%	5621		3613		5263	
1263	28438			6017	2 * 24%	5835		5638	* 50%	5483	
1264	Local Check (LC)	3520		4520		5138		3756		5941	
	Exp. Mean	4224		4954		5588		4788		5545	
	CD	1028.27		672.16		507.37		909.1		697.36	
	CV%	12.18		6.79		4.54		9.5		6.29	
		20-06-2019						24-06-2019		27-06-2019	
		07-07-2019						24-07-2019		15-07-2019	
		HUR-4-3						JRB 1		JR 81	

Table 3.25 contd.: Grain Yield (Kg/ha) of entries in IVT-IME, Kharif 2019

Entry No.	IET NO.														
		MP (2)		CH		JDP		CH (2)		MA 1					
		Mean		RPR		JDP		Mean		SKL		SND			
1201	28383	4956		4988	8 13%	7435	2	6212	1	6396	2 * 21%	6605	1 * 20%		
1202	28384	4703		4128		4102		4115		2896		4759			
1203	28385	5839	9 * 20%	4107		5690		4899		3681		5291			
1204	28386	6437	3 * 33%	4664	6%	5404		5034		4826		5071			
1205	28387	5833	10 * 20%	5163	5 17%	6589	10	5876	4	4151		5810	8 6%		
1206	28388	5033		5104	6 16%	5508		5306		4755		4304			
1207	28389	5971	7 * 23%	4683	7%	5215		4949		5103	9	4361			
1208	28390	5000		5223	4 19%	5202		5213		4344		4432			
1209	28391	5620	* 16%	4421		5540		4981		3797		4418			
1210	27668	5429	12%	5304	3 21%	5482		5393		3732		4801			
1211	28392	4240		3500		6908	7	5204		2889		4950			
1212	28393	5396	11%	5414	2 23%	6120		5767	6	5920	3 12%	3750			
1213	28394	3998		3947		4694		4321		2638		3729			
1214	28395	4850		4414		5384		4899		3668		5163			
1215	28396	5532	* 14%	4348		6426		5387		3855		5866	7 7%		
1216	28397	5919	8 * 22%	4704	7%	5599		5152		4131		5163			
1217	28398	4896		3967		4609		4288		3700		2990			
1218	28399	4348		3901		4759		4330		2574		5043			
1219	28400	4775		3830		5423		4627		3636		5703	9		
1220	28401	5333	10%	3693		6322		5008		3771		5881	6 7%		
1221	28402	4468		4408		5716		5062		4505		5618	10		
1222	28403	5776	* 19%	4399		6602	9	5501	9	4408		5980	4 9%		
1223	28404	4696		4021		6230		5126		4151		5362			
1224	28405	4274		4143		5039		4591		3842		6143	3 12%		
1225	Gontra Bidhan	4148		4396		7441	1	5919	3	5277	8	4368			
1226	28406	4219		3307		5879		4593		3539		4403			
1227	28407	4886		3327		4993		4160		3604		3246			
1228	28408	4821		4456		7135	5	5796	5	4698		4851			
1229	28409	5030		4028		4603		4316		4762		3672			
1230	28410	4719		4614		5482		5048		3282		5426			
1231	28411	4477		4991	7 14%	6409		5700	7	3089		5313			
1232	28412	5123	6%	5465	1 * 24%	4629		5047		4588		3487			
1233	28413	4380		3876		4779		4328		3076		2358			
1234	28414	3644		4758	8%	3822		4290		3024		1911			
1235	28415	5771	* 19%	4555		5755		5155		4672		5249			
1236	28416	6194	6 * 28%	4039		6497		5268		5528	5	4972			
1237	28417	4689		4059		6172		5116		3411		4112			
1238	28418	5776	* 19%	4064		5658		4861		3674		5291			
1239	28419	5813	* 20%	3750		7148	4	5449		5373	7	5341			
1240	28420	5119	6%	4042		4258		4150		3218		4446			
1241	28421	6221	5 * 28%	4673	6%	7240	3	5957	2	6422	1 * 22%	6236	2 13%		
1242	Zonal Check (Z)	4581		3875		4160		4018		3642		4979			
1243	28422	5210	7%	3433		4577		4005		4453		4759			
1244	28423	5475	* 13%	3579		5072		4326		3089		4276			
1245	27695	6559	2 * 35%	4508		5898		5203		5019	10	5447			
1246	28424	5381	11%	4850	9 10%	5124		4987		4801		1818			
1247	28425	6404	4 * 32%	4765	8%	6211		5488	10	5450	6	4950			
1248	28426	5464	* 13%	4296		5944		5120		3411		3572			
1249	27896	5160	6%	4071		5983		5027		4247		4624			
1250	28427	4285		4128		6732	8	5430		4569		4609			
1251	28428	5370	11%	4361		6139		5250		3810		3686			
1252	28429	4606		4270		5462		4866		3861		3246			
1253	28430	4072		2854		4538		3696		4183		2216			
1254	28431	5348	10%	3994		5553		4774		4665		4709			
1255	28432	5513	* 14%	3976		5521		4749		3945		4496			
1256	27908	5777	* 19%	4698	7%	5417		5058		5682	4 8%	5419			
1257	28433	7432	1 * 53%	3903		4674		4289		3205		4751			
1258	28434	5423	12%	4374		3607		3991		3539		5959	5 8%		
1259	28435	4970		4301		5514		4908		4247		5426			
1260	27876	5183	7%	4801	10 9%	5280		5041		3700		4844			
1261	28436	5223	8%	4022		4928		4475		3719		4411			
1262	28437	4438		4185		7051	6	5618	8	4633		3303			
1263	28438	5561	* 15%	3234		4167		3701		3578		3438			
1264	Local Check (L)	4849		4131		5664		4898		4414		5504			
	Exp. Mean	5166		4273		5580		4927		4132		4630			
	CD	583.75		1041.51		1523.95		925.93		909.22		954.22			
	CV%	5.65		12.2		13.67		9.41		11.01		10.31			
				25-06-2019		19-06-2019				25-06-2019		25-06-2019			
				19-07-2019		10-07-2019				18-07-2019		06-08-2019			
				IGKV R 2 (Durgeshwari)		IGKVR 1				PKV Ganesh		PKV Ganesh			

Table 3.25 contd.: Grain Yield (Kg/ha) of entries in IVT-IME, Kharif 2019

Entry No.	IET NO.										
		MA 1 (2)		Zone V (6)		MA2 (1)		MA (3)			
		Mean		Mean		KJT		Mean			
1201	28383	6501	1 * 31%	5889	2 * 19%	5407	7 8%	6136	1 *	23%	
1202	28384	3828		4215		2891		3515			
1203	28385	4486		5075		3834		4269			
1204	28386	4949		5473	9 * 10%	3305		4401			
1205	28387	4981		5563	6 * 12%	6074	2 * 22%	5345	6	7%	
1206	28388	4530		4956		4250		4436			
1207	28389	4732		5217	5%	4459		4641			
1208	28390	4388		4867		4567		4448			
1209	28391	4108		4903		3864		4026			
1210	27668	4267		5030		3650		4061			
1211	28392	3920		4454		4203		4014			
1212	28393	4835		5333	7%	4255		4642			
1213	28394	3184		3834		3640		3336			
1214	28395	4416		4721		4548		4460			
1215	28396	4861		5260	6%	4541		4754			
1216	28397	4647		5239	6%	3215		4170			
1217	28398	3345		4176		4272		3654			
1218	28399	3809		4162		4373		3997			
1219	28400	4670		4690		4772		4704			
1220	28401	4826		5056		5432	6 9%	5028	8		
1221	28402	5062	9	4864		6092	1 * 22%	5405	5	9%	
1222	28403	5194	8	5490	8 * 11%	5160		5183	7		
1223	28404	4757		4859		4875		4796			
1224	28405	4993	10	4619		4511		4832			
1225	Gontra Bidhan	4823		4963		4845		4830			
1226	28406	3971		4261		3390		3777			
1227	28407	3425		4157		4555		3802			
1228	28408	4775		5130		4821		4790			
1229	28409	4217		4521		5221	9	4552			
1230	28410	4354		4707		4329		4346			
1231	28411	4201		4793		4723		4375			
1232	28412	4038		4736		4485		4187			
1233	28413	2717		3808		3500		2978			
1234	28414	2468		3467		2747		2561			
1235	28415	4961		5295	7%	5032		4984	10		
1236	28416	5250	5 6%	5571	5 * 12%	5943	3 * 19%	5481	3	10%	
1237	28417	3762		4522		3794		3772			
1238	28418	4483		5040		5291	8 6%	4752			
1239	28419	5357	4 8%	5540	7 * 12%	4323		5012	9		
1240	28420	3832		4367		2520		3395			
1241	28421	6329	2 * 28%	6169	1 * 24%	5478	5 10%	6045	2 *	22%	
1242	Zonal Check (Z)	4311		4303		3948		4190			
1243	28422	4606		4607		3915		4376			
1244	28423	3683		4494		3942		3769			
1245	27695	5233	6 6%	5665	4 * 14%	3832		4766			
1246	28424	3310		4559		4397		3672			
1247	28425	5200	7	5697	3 * 15%	3686		4695			
1248	28426	3492		4692		3873		3619			
1249	27896	4436		4874		3680		4184			
1250	28427	4589		4768		4459		4546			
1251	28428	3748		4789		4512		4003			
1252	28429	3554		4342		2192		3100			
1253	28430	3200		3656		5515	4 10%	3971			
1254	28431	4687		4936		4228		4534			
1255	28432	4221		4690		3666		4036			
1256	27908	5551	3 12%	5462	10 * 10%	5212	10	5438	4	9%	
1257	28433	3978		5233	5%	3285		3747			
1258	28434	4749		4721		3513		4337			
1259	28435	4837		4905		3487		4387			
1260	27876	4272		4832		3358		3967			
1261	28436	4065		4588		4456		4195			
1262	28437	3968		4675		4032		3989			
1263	28438	3508		4256		3807		3608			
1264	Local Check (L)	4959		4902		4999		4972			
	Exp. Mean	4381		4822		4268		4344			
	CD	677		464.33		885.26		534.38			
	CV%	7.73		4.82		10.38		6.14			
						25-06-2019					
						18-07-2019					
						Karjat 5					

Table 3.25 contd.: Grain Yield (Kg/ha) of entries in IVT-IME, Kharif 2019

Entry No.	IET NO.	GU										GU (2)	
		NVS					NWG					Mean	
		@DBI					@VYR						
1201	28383	5774			5894	5	8%	5554	3	3285		5834	
1202	28384	4719			5034			4461		3313		4877	
1203	28385	5266			4884			3691		3768		5075	
1204	28386	6396	8		5328			5309	4	4569		5862	10
1205	28387	6381	9		5547			5848	1	4971	8	5964	6 5%
1206	28388	6210			3849			4990	10	4872	10	5030	
1207	28389	6404	7		4966			5294	5	3903		5685	
1208	28390	6243			5237			5196	8	4610		5740	
1209	28391	5268			3978			3088		5024	6	4623	
1210	27668	6778	3	7%	3902			4990	10	4812		5340	
1211	28392	5259			5017			3299		3079		5138	
1212	28393	6165			6945	1 *	27%	5294	5	3356		6555	1 * 16%
1213	28394	4880			5563			3578		2325		5222	
1214	28395	6117			6652	2	22%	3799		2984		6385	3 13%
1215	28396	4884			3795			4804		5757	1	4340	
1216	28397	6341	10		5039			3466		2982		5690	
1217	28398	4931			5755	8	5%	2941		3063		5343	
1218	28399	3988			4463			3162		3743		4226	
1219	28400	3680			2067			3044		3900		2874	
1220	28401	5421			3986			3132		3970		4704	
1221	28402	6140			5729	9		5260	7	4921	9	5935	8
1222	28403	4662			5677	10		5642	2	4100		5170	
1223	28404	6188			5592			5034	9	5467	3	5890	9
1224	28405	5486			5813	6	6%	4721		3818		5650	
1225	Gontra Bidhan-3 (NC)	5950			5280			3113		5124	5	5615	
1226	28406	5610			5506			3613		2950		5558	
1227	28407	5610			5236			2990		3555		5423	
1228	28408	5360			4863			3324		3984		5112	
1229	28409	7032	1	11%	5195			3230		3673		6114	4 8%
1230	28410	5268			3000			2961		2726		4134	
1231	28411	5319			2894			2745		4370		4107	
1232	28412	6116			3683			4588		4401		4900	
1233	28413	4919			4202			3373		3488		4561	
1234	28414	4985			2043			2892		3830		3514	
1235	28415	6628	6		5534			3627		4398		6081	5 7%
1236	28416	5711			6197	3	13%	3515		4132		5954	7 5%
1237	28417	5163			5054			3279		3480		5109	
1238	28418	5336			3696			3770		5722	2	4516	
1239	28419	5860			4972			4088		2766		5416	
1240	28420	5133			4517			3265		3341		4825	
1241	28421	6758	4	7%	6112	4	12%	3725		5308	4	6435	2 14%
1242	Zonal Check (ZC)	6329			1425			3113		4092		3877	
1243	28422	4635			5579			3039		4571		5107	
1244	28423	4362			4036			3064		3222		4199	
1245	27695	6674	5	5%	4405			3417		4595		5540	
1246	28424	5290			4956			2868		5017	7	5123	
1247	28425	5087			3837			4343		4460		4462	
1248	28426	5241			3248			3010		3507		4245	
1249	27896	4987			4133			2971		3888		4560	
1250	28427	6785	2	7%	4697			2990		4761		5741	
1251	28428	4058			4408			2892		3229		4233	
1252	28429	4606			5780	7	6%	3637		2889		5193	
1253	28430	4086			4124			2868		2929		4105	
1254	28431	4930			5497			3456		3691		5214	
1255	28432	4438			1439			2843		2871		2939	
1256	27908	4839			3719			4608		4288		4279	
1257	28433	4617			2442			3039		4069		3530	
1258	28434	4399			1661			2971		4118		3030	
1259	28435	4662			1530			4289		3965		3096	
1260	27876	5383			3361			2926		2533		4372	
1261	28436	4498			5192			4240		3889		4845	
1262	28437	5673			4515			3346		2030		5094	
1263	28438	4424			4684			2956		2432		4554	
1264	Local Check (LC)	5871			5464			3397		2429		5668	
	Exp. Mean	5410			4513			3750		3864		4961	
	CD	1193.28			1307.64			1322.94		822.77		852.87	
	CV%	11.04			14.5			17.66		10.65		8.6	
		19-06-2019			24-06-2019			20-06-2019		19-06-2019			
		13-07-2019			26-07-2019			08-08-2019		26-07-2019			
		GNR-3			Mahisagar			GR-11		NAUR-1			

Table 3.25 contd.: Grain Yield (Kg/ha) of entries in IVT-IME, Kharif 2019

Entry No.	IET NO.	Zone VI (3)		AP		AP (1)		TE			
		Mean		MTU		Mean		RNR		WGL	
1201	28383	5692	9	5662	4 8%	5662	4 8%	6564	4	5762	
1202	28384	4215		4568		4568		5136		3439	
1203	28385	4661		5165		5165		4874		5090	
1204	28386	5010		5771	1 10%	5771	1 10%	5360		5008	
1205	28387	6001	2 10%	4503		4503		5527		5686	
1206	28388	4770		5485	8	5485	8	5273		8854	1 15%
1207	28389	5276		4864		4864		4624		5468	
1208	28390	5349		5076		5076		6568	3	4465	
1209	28391	4370		4533		4533		3786		8371	2 8%
1210	27668	4777		4255		4255		6219	8	7677	5
1211	28392	4826		3864		3864		5050		5980	
1212	28393	5788	6 6%	4402		4402		5826		5581	
1213	28394	4694		4136		4136		5662		6063	
1214	28395	5772	7 6%	4403		4403		6213	9	6320	
1215	28396	4407		4394		4394		5322		6410	10
1216	28397	4865		4733		4733		5523		4653	
1217	28398	4986		4091		4091		4674		5219	
1218	28399	4275		4961		4961		4849		4902	
1219	28400	3506		4865		4865		4724		5422	
1220	28401	4946		5369	10	5369	10	6229	7	5468	
1221	28402	5987	3 10%	5039		5039		4417		5030	
1222	28403	5166		4315		4315		5628		5596	
1223	28404	5552	10	4135		4135		4919		6403	
1224	28405	5270		4923		4923		5771		5344	
1225	Gontra Bidhan-3 (NC)	5358		5133		5133		6277	6	7730	4
1226	28406	4835		4899		4899		5550		4736	
1227	28407	5134		4713		4713		4677		5354	
1228	28408	5015		5121		5121		4742		4487	
1229	28409	5816	5 7%	4815		4815		5469		4540	
1230	28410	4199		3526		3526		5636		4676	
1231	28411	4312		4604		4604		5260		5324	
1232	28412	4761		4940		4940		5462		6312	
1233	28413	4207		3665		3665		5380		4480	
1234	28414	3258		4362		4362		4523		5799	
1235	28415	5731	8 5%	3788		3788		5562		5792	
1236	28416	5950	4 9%	3988		3988		4274		5852	
1237	28417	4670		5064		5064		5330		6652	9
1238	28418	4774		3397		3397		5215		5602	
1239	28419	5052		5277		5277		5796		5615	
1240	28420	4057		3577		3577		5319		5943	
1241	28421	6116	1 * 12%	5021		5021		7226	1 15%	5083	
1242	Zonal Check (ZC)	3901		5242		5242		4397		6101	
1243	28422	4710		3849		3849		4894		5362	
1244	28423	4113		4119		4119		5113		5008	
1245	27695	4970		4405		4405		5408		5347	
1246	28424	4881		5266		5266		4779		7368	6
1247	28425	4203		4723		4723		5841		8296	3 7%
1248	28426	4121		5423	9	5423	9	5716		4872	
1249	27896	4267		5043		5043		4534		5342	
1250	28427	5314		5109		5109		5510		4797	
1251	28428	4326		4348		4348		5337		5468	
1252	28429	4193		3910		3910		6116	10	5890	
1253	28430	4575		5309		5309		5605		3635	
1254	28431	4885		5606	6 7%	5606	6 7%	5153		4978	
1255	28432	3181		4602		4602		4957		6719	8
1256	27908	4590		4717		4717		6888	2 10%	5618	
1257	28433	3448		4882		4882		4235		6003	
1258	28434	3191		5062		5062		4617		7142	7
1259	28435	3226		5680	3 8%	5680	3 8%	4828		4744	
1260	27876	4034		5656	5 8%	5656	5 8%	5280		4676	
1261	28436	4715		5547	7 5%	5547	7 5%	5501		4072	
1262	28437	4740		5701	2 8%	5701	2 8%	6297	5	4864	
1263	28438	4305		5087		5087		3452		4163	
1264	Local Check (LC)	5445		5259		5259		4510		6290	
	Exp. Mean	4730		4749		4749		5303		5608	
	CD	662.67		1051.49		1051.49		1013.58		1321.38	
	CV%	7.01		11.08		11.08		9.56		11.79	
				08-07-2019				11-07-2019		01-07-2019	
				09-08-2019				17-08-2019		03-08-2019	
				MTU 1121				RNR 15048		RNR-15048	

Table 3.25 contd.: Grain Yield (Kg/ha) of entries in IVT-IME, Kharif 2019

Entry No.	IET NO.	TE (2)	TN	TN (2)	KE				
		Mean	ADT	CBT	Mean	@MNC	PTB		
1201	28383	6163	7	6553	5783	6168	5701	1	5036
1202	28384	4288		6402	6137	6270	3137		4662
1203	28385	4982	10	7197	8%	7230	5	6%	4176
1204	28386	5184		6856	7630	7243	2	12%	4020
1205	28387	5607		6288	5310	5799			4059
1206	28388	7064	2	6515	5278	5897			3637
1207	28389	5046		6061	5943	6002			3431
1208	28390	5517	6	7348	10%	5960			3235
1209	28391	6079	9	6629	5287	5958			3422
1210	27668	6948	4	6856	5626	6241			2745
1211	28392	5515		6894	5028	5961			3333
1212	28393	5704		6250	6338	6294			2647
1213	28394	5863	7	7045	6%	7006	4		3814
1214	28395	6267	5	7576	4	5493			6535
1215	28396	5866		6856	5033	5945			3941
1216	28397	5088		6856	6682	6769	9		3039
1217	28398	4947		6439	6245	6342			2745
1218	28399	4876		5568	5776	5672			2843
1219	28400	5073		5985	5838	5912			2941
1220	28401	5849		6098	6298	6198			3333
1221	28402	4724		5417	4978	5198			3627
1222	28403	5612	8	7311	10%	6514	6		4216
1223	28404	5661		6515	5022	5769			3137
1224	28405	5558	5	7462	12%	5660			3922
1225	Gontra Bidhan-3 (NC)	7004	3	6061	5553	5807			3627
1226	28406	5143		6818	6191	6505			3696
1227	28407	5016		5947	6838	6393			4706
1228	28408	4615		6705	5888	6297			3922
1229	28409	5005		6705	5458	6082			4608
1230	28410	5156		6364	5363	5864			2647
1231	28411	5292		5379	5493	5436			3725
1232	28412	5887		5909	7348	6629			3627
1233	28413	4930	6%	7083	6608	6846	7		2745
1234	28414	5161		5871	5978	5925			3039
1235	28415	5677	6	6667	7192	6930	5		3725
1236	28416	5063	1	7727	16%	5163			4412
1237	28417	5991		7045	5483	6264			2745
1238	28418	5409	6	7348	10%	4924			6136
1239	28419	5706		6970	5594	6282			5098
1240	28420	5631		7008	5%	6167			6588
1241	28421	6155	8	5871	5939	5905			5029
1242	Zonal Check (ZC)	5249		6515	5176	5846			2843
1243	28422	5128	1	7727	16%	5052			6390
1244	28423	5061		6705	5024	5865			3039
1245	27695	5378		6402	5968	6185			4412
1246	28424	6074	10	5114	6585	5850			3235
1247	28425	7069	1	6250	6214	6232			3725
1248	28426	5294		6136	7433	6785	8		3657
1249	27896	4938		6402	6801	6602			3431
1250	28427	5154		6364	6037	6201			3725
1251	28428	5403		6364	6866	6615			3333
1252	28429	6003		5530	6030	5780			3922
1253	28430	4620		6023	5808	5916			4706
1254	28431	5066		6742	4923	5833			4706
1255	28432	5838		6136	4701	5419			2833
1256	27908	6253	6	6818	7833	7326	1	9%	4804
1257	28433	5119		5530	6590	6060			3235
1258	28434	5880		5303	4935	5119			2647
1259	28435	4786	3	7614	14%	4398			6006
1260	27876	4978		7083	6%	5568			6326
1261	28436	4787		7045	6%	5036			6041
1262	28437	5581		6250	5503	5877			3098
1263	28438	3808	9	7273	9%	4660			5967
1264	Local Check (LC)	5400		6667	6803	6735	10		4216
Exp. Mean		5456		6538	5894	6216			3620
CD		782.41		2096.7	945.36	1092.74			1079.16
CV%		7.18		16.05	8.03	8.8			14.92
				24-06-2019	19-06-2019				01-07-2019
				23-07-2019	16-07-2019				20-07-2019
				ADT 53	CO 47				PRATHYASA
									Jyothi

Table 3.25 contd.: Grain Yield (Kg/ha) of entries in IVT-IME, Kharif 2019

Entry No.	IET NO.										
		KE (1)		KA				KA (1)			
		Mean		MND		@BRM		Mean			
1201	28383	5036	5%	8314	1 *	22%	4667	3	8314	1 *	22%
1202	28384	4662		4211			3848		4211		
1203	28385	4701		6117			3515		6117		
1204	28386	6660	5 * 39%	6837			3697		6837		
1205	28387	3430		4848			4485	6	4848		
1206	28388	5543	9 16%	6282			3455		6282		
1207	28389	5428	14%	5114			4121	7	5114		
1208	28390	3763		6635			3545		6635		
1209	28391	6472	6 * 35%	4773			3636		4773		
1210	27668	7228	3 * 51%	7386	4	8%	3879		7386	4	8%
1211	28392	3824		4729			3697		4729		
1212	28393	8010	1 * 68%	7266	5	7%	3848		7266	5	7%
1213	28394	4480		5057			3121		5057		
1214	28395	3215		5638			3939		5638		
1215	28396	7435	2 * 56%	5701			4939	2	5701		
1216	28397	6215	7 * 30%	5259			3424		5259		
1217	28398	2979		4779			3727		4779		
1218	28399	4626		5492			3152		5492		
1219	28400	3039		5467			2939		5467		
1220	28401	3042		4956			3273		4956		
1221	28402	4683		5032			3333		5032		
1222	28403	3032		5707			3394		5707		
1223	28404	3033		5840			3636		5840		
1224	28405	6124	8 * 28%	6755			2970		6755		
1225	Gontra Bidhan-3	4746		6812			3606		6812		
1226	28406	4831		6098			2909		6098		
1227	28407	4344		4356			3758		4356		
1228	28408	4792		6862	10		3515		6862	10	
1229	28409	3129		5139			4121	7	5139		
1230	28410	2996		6294			4061		6294		
1231	28411	3052		6199			3515		6199		
1232	28412	3269		7096	8		3273		7096	8	
1233	28413	3207		7229	6	6%	3000		7229	6	6%
1234	28414	4286		4313			3788		4313		
1235	28415	5149	8%	6705			3273		6705		
1236	28416	5007		6364			3091		6364		
1237	28417	4903		6926	9		3939		6926	9	
1238	28418	5108	7%	6199			3939		6199		
1239	28419	4755		6534			3848		6534		
1240	28420	3404		3617			3667		3617		
1241	28421	4536		6124			3970		6124		
1242	Zonal Check (ZC)	3248		6117			2485		6117		
1243	28422	5322	11%	5297			1697		5297		
1244	28423	4518		4628			2152		4628		
1245	27695	4713		6218			2576		6218		
1246	28424	5283	11%	6402			3727		6402		
1247	28425	3102		7210	7	6%	3818		7210	7	6%
1248	28426	4815		8018	2 *	18%	4091	10	8018	2 *	18%
1249	27896	3400		6635			4636	4	6635		
1250	28427	4611		6067			5394	1	6067		
1251	28428	3198		6402			4545	5	6402		
1252	28429	3189		5057			3727		5057		
1253	28430	4848		4097			3576		4097		
1254	28431	3369		5972			4121	7	5972		
1255	28432	4562		6073			3303		6073		
1256	27908	4690		5619			3576		5619		
1257	28433	4601		4628			2970		4628		
1258	28434	3847		4766			2667		4766		
1259	28435	5122	7%	6294			3242		6294		
1260	27876	2932		5284			3667		5284		
1261	28436	5443	10 13%	5328			2455		5328		
1262	28437	6938	4 * 45%	7582	3	11%	2273		7582	3	11%
1263	28438	5082	6%	4148			1636		4148		
1264	Local Check (LC)	4778		5625			3909		5625		
	Exp. Mean	4528		5852			3527		5852		
	CD	1280.08		929.7			829.87		929.7		
	CV%	14.15		7.95			11.77		7.95		
				02-08-2019			02-07-2019				
				26-08-2019			24-07-2019				
				Thanu			Mahaveera				

Table 3.25 contd.: Grain Yield (Kg/ha) of entries in IVT-IME, Kharif 2019

Entry No.	IET NO.								
		PU		PU (1)		Zone VII (8)		Overall (27)	
		KBP		Mean		Mean		Mean	
1201	28383	7675	3 6%	7675	3 6%	6419	1	6154	1 8%
1202	28384	4441		4441		4875		4606	
1203	28385	4167		4167		5568		5560	
1204	28386	4057		4057		6022	6	5683	9
1205	28387	10362	1 * 43%	10362	1 * 43%	5744		5627	10
1206	28388	5263		5263		6062	5	5621	
1207	28389	4879		4879		5298		5247	
1208	28390	7018	8	7018	8	5854		5612	
1209	28391	5592		5592		5680		5413	
1210	27668	4550		4550		6225	2	5530	
1211	28392	6031		6031		5175		5137	
1212	28393	3646		3646		5915	7	5573	
1213	28394	5263		5263		5589		5023	
1214	28395	4770		4770		5454		5614	
1215	28396	5154		5154		5788		5604	
1216	28397	3947		3947		5484		5383	
1217	28398	3783		3783		4776		4761	
1218	28399	5373		5373		5193		4633	
1219	28400	5154		5154		5062		4775	
1220	28401	5592		5592		5382		5530	
1221	28402	3180		3180		4722		4985	
1222	28403	3564		3564		5208		5414	
1223	28404	3947		3947		4977		5187	
1224	28405	4605		4605		5831		5451	
1225	Gontra Bidhan-3 (NC)	7237	5	7237	5	6194	3	5711	4
1226	28406	5537		5537		5583		5116	
1227	28407	6113		6113		5293		4981	
1228	28408	4879		4879		5435		5342	
1229	28409	3070		3070		4791		5343	
1230	28410	4112		4112		4871		4793	
1231	28411	5154		5154		5058		4805	
1232	28412	4825		4825		5645		5423	
1233	28413	3728		3728		5173		4680	
1234	28414	6195		6195		5166		4446	
1235	28415	5592		5592		5806		5591	
1236	28416	5702		5702		5510		5686	7
1237	28417					5915	7	5298	
1238	28418	8279	2 14%	8279	2 14%	5759		5395	
1239	28419	6743	9	6743	9	5911	9	5709	5
1240	28420	4276		4276		4914		4666	
1241	28421	7182	6	7182	6	5873		5968	3
1242	Zonal Check (ZC)	3947		3947		5093		5092	
1243	28422	6140		6140		5455		5331	
1244	28423	5811		5811		5116		4708	
1245	27695	6634		6634		5637		5705	6
1246	28424	5811		5811		5826		5388	
1247	28425	5482		5482		5890	10	5686	7
1248	28426	4002		4002		5802		5056	
1249	27896	4770		4770		5366		5205	
1250	28427	5482		5482		5497		5392	
1251	28428	5291		5291		5409		5147	
1252	28429	4386		4386		5014		4883	
1253	28430	6195		6195		5190		4778	
1254	28431	4386		4386		5141		5275	
1255	28432	6689		6689		5555		5103	
1256	27908	7182	6	7182	6	6171	4	6042	2 * 6%
1257	28433	4276		4276		5093		4908	
1258	28434	3618		3618		4911		4614	
1259	28435	7675	3 6%	7675	3 6%	5794		5077	
1260	27876	3125		3125		4951		4897	
1261	28436	3947		3947		5240		4778	
1262	28437	3509		3509		5831		5300	
1263	28438	5592		5592		4932		4826	
1264	Local Check (LC)	6689	10	6689	10	5828		5385	
	Exp. Mean	5258		5258		5468		5245	
	CD	1717.08		1717.08		442.48		1897.43	
	CV%	16.34		16.34		4.05		18.1	
		31-08-2019							
		27-09-2019							
		CO 52							

Table 3.26: Days to 50% flowering of entries in IVT-IME, Kharif 2019

Entry	IET NO	ZONE II					Zone II (3)	ZONE III				BI
		UT	PU	HA	JK	RA		OD			OD (3)	
		@PNT	@LDN	KUL	CHT	KTA		CTK	JYP	CHP	Mean	SBR
1201	28383	117	100	98		103	100	108	105	102	105	102
1202	28384	87	100	95	92	104	97	103	94	92	96	71
1203	28385	93	105	101	106	98	102	105	94	93	97	94
1204	28386	87	100	99	97	100	98	99	92	92	94	85
1205	28387	100	99	105	111	104	107	105	108	99	104	98
1206	28388	85	100	94	97	103	98	99	96	91	95	89
1207	28389	87	99	98	105	103	102	104	100	91	98	101
1208	28390	83	96	93	95	97	95	97	94	89	93	70
1209	28391	103	117	95	105	106	102	104	107	101	104	100
1210	27668	89	99	92	96	100	96	100	96	92	96	69
1211	28392	93	104	100	102	101	101	99	99	93	97	98
1212	28393	119	98	101	96	108	101	102	105	94	100	104
1213	28394	99	106	101	107	106	105	107	103	95	101	98
1214	28395	98	98	100	114	106	106	110	102	97	103	100
1215	28396	88	103	93	101	101	98	105	91	94	97	92
1216	28397	95	97	98	107	97	101	96	103	93	97	94
1217	28398	93	97	105	111	106	107	96	104	92	97	101
1218	28399	86	103	92	96	101	96	101	95	91	96	92
1219	28400	83	99	92	101	100	97	103	96	91	96	69
1220	28401	88	100	95	97	102	98	96	93	90	93	91
1221	28402	102	106	105	114	105	108	99	92	90	93	101
1222	28403	90	102	94	98	102	98	97	101	92	97	87
1223	28404	85	99	93	102	103	99	98	91	86	91	68
1224	28405	88	101	94	96	100	96	99	95	88	94	68
1225	Gontra Bidhan-3 (NC)	84	94	93	98	98	96	95	94	88	92	71
1226	28406	113	101	98		101	99	105	97	98	100	102
1227	28407	101	99	105		110	108	112	106	101	106	103
1228	28408	98	98		114	107	110	108	104	95	102	97
1229	28409	99	100	96		107	101	105	101	97	101	103
1230	28410	83	101	91	114	101	102	96	89	88	91	89
1231	28411	92	102	94	102	102	99	104	107	93	101	92
1232	28412	89	104	99	102	101	101	103	94	88	95	71
1233	28413	83	96	90	94	105	96	94	93	88	91	68
1234	28414	88	97	93	100	104	99	95	106	88	96	70
1235	28415	94	102	100	110	107	105	105	106	91	101	94
1236	28416	110	102	101	114	101	105	106	101	100	102	102
1237	28417	79	92	90	98	102	97	95	95	113	101	65
1238	28418	86	99	87	107	102	99	103	108	88	99	70
1239	28419	104	100	97		102	100	108	107	100	105	106
1240	28420	78	94	86	96	99	93	102	94	87	94	70
1241	28421	111	105	98	115	109	107	104	101	97	101	100
1242	Zonal Check (ZC)	94	104	100	108	107	105	104	96	96	99	93
1243	28422	98	105	101	115	111	109	103	103	99	101	101
1244	28423	93	102	102	96	111	103	106	99	99	101	97
1245	27695	94	102	102	111	107	106	105	97	97	99	90
1246	28424	85	101	92	96	96	94	97	94	92	94	68
1247	28425	99	102	102	110	100	104	105	105	92	100	92
1248	28426	86	99	92		95	94	97	92	92	94	90
1249	27896	87	101		105	101	103	105	93	89	96	94
1250	28427	91	100	98	107	99	101	102	104	91	99	93
1251	28428	89	96	101	110	103	105	102	93	93	96	91
1252	28429	102	93	102		106	104	104	101	96	100	101
1253	28430	111	104	100		110	105	114	107	105	108	111
1254	28431	99	105	100	115	103	106	112	106	98	105	101
1255	28432	84	93	95		102	99	96	106	91	98	90
1256	27908	111	105	100		109	105	111	109	99	106	100
1257	28433	91	100	101	106	101	103	103	94	91	96	91
1258	28434	83	97	92	97	93	94	99	91	88	93	70
1259	28435	90	98	93	103	92	96	106	97	95	99	70
1260	27876	87	98	94	102	91	95	91	95	88	91	72
1261	28436	90	101	100	104	98	101	96	101	97	98	94
1262	28437	90	99	95	97	98	96	104	96	88	96	69
1263	28438	131		104		104	104	118	114	112	115	115
1264	Local Check (LC)	81	100	100	106	103	103	105	97	97	99	96
	Exp Mean	93	100	97	103	102	101	102	99	94	98	89

Table 3.26 contd.: Days to 50% flowering of entries in IVT-IME, Kharif 2019

Entry	IET NO						Zone III (7)	ZONE-V		
		JH	WB	UP		UP (2)		MP		MP (2)
		@RCI	CHN	MSD	VRN	Mean		WRS	IBP	Mean
1201	28383	127	104	111	111	111	106	111	110	110
1202	28384	116	95	96	83	89	90	96	100	98
1203	28385	110	99	104	90	97	97	101	104	102
1204	28386	112	93	94	87	90	92	99	101	100
1205	28387	116	98	106	102	104	102	100	108	104
1206	28388	112	97	97	82	89	93	95	103	99
1207	28389	111	98	104	86	95	98	97	103	100
1208	28390	105	92	98	79	89	88	96	100	98
1209	28391	112	105	109	103	106	104	102	108	105
1210	27668	106	96	92	87	89	90	93	99	96
1211	28392	110	99	102	98	100	98	99	105	102
1212	28393	111	107	109	115	112	105	102	107	104
1213	28394	112	104	99	101	100	101	98	108	103
1214	28395	115	104	111	102	106	103	102	108	105
1215	28396	106	99	100	89	94	96	98	106	102
1216	28397	110	100	102	101	101	98	99	108	103
1217	28398	109	102	105	96	101	99	100	109	104
1218	28399	110	98	100	87	94	95	97	101	99
1219	28400	104	98	97	88	92	92	98	101	99
1220	28401	110	98	99	85	92	93	98	104	101
1221	28402	110	99	105	107	106	99	99	103	101
1222	28403	112	101	105	87	96	96	96	101	98
1223	28404	107	97	100	80	90	88	93	99	96
1224	28405	106	93	102	85	93	90	95	97	96
1225	Gontra Bidhan-3 (NC)	108	98	97	81	89	89	97	101	99
1226	28406	115	105	104	111	107	103	102	110	106
1227	28407	116	108	108	102	105	106	108	112	110
1228	28408	110	102	105	98	101	101	100	108	104
1229	28409	110	106	105	99	102	102	103	109	106
1230	28410	108	92	96	87	92	91	97	97	97
1231	28411	112	98	103	91	97	98	94	106	100
1232	28412	105	91	102	87	94	91	95	102	98
1233	28413	102	92	96	82	89	87	88	98	93
1234	28414	108	93	94	87	90	90	95	100	97
1235	28415	108	101	102	83	93	97	100	103	101
1236	28416	116	104	110	107	108	104	106	113	109
1237	28417	102	92	93	79	86	90	94	97	95
1238	28418	107	96	102	84	93	93	95	102	98
1239	28419	119	111	128	107	117	109	107	111	109
1240	28420	106	93	95	80	87	88	90	95	92
1241	28421	116	103	108	112	110	103	108	112	110
1242	Zonal Check (ZC)	110	100	104	94	99	98	91	97	94
1243	28422	117	102	108	108	108	103	108	110	109
1244	28423	118	102	104	92	98	100	102	110	106
1245	27695	111	101	103	90	96	97	99	108	103
1246	28424	110	93	98	75	86	88	93	99	96
1247	28425	118	101	101	98	99	99	97	108	102
1248	28426	101	94	100	84	92	93	97	98	97
1249	27896	106	101	105	89	97	96	96	104	100
1250	28427	110	101	104	90	97	98	92	106	99
1251	28428	104	98	101	92	97	96	98	101	99
1252	28429	114	106	101	105	103	102	92	108	100
1253	28430	126	115	113	101	107	109	98	106	102
1254	28431	116	109	98	107	102	104	105	110	107
1255	28432	108	96	99	85	92	95	93		93
1256	27908	116	105	108	109	108	106	103	113	108
1257	28433	108	93	100	89	94	94	110	103	106
1258	28434	108	93	97	85	91	89	99	99	99
1259	28435	111	101	101	90	95	94	98	106	102
1260	27876	102	91	98	96	97	90	97	102	99
1261	28436	110	101	108	95	102	99	96	106	101
1262	28437	111	97	100	81	91	91	96	99	97
1263	28438	127	116	117		117	115	103	115	109
1264	Local Check (LC)	106	91	104	89	96	97	90	101	95
	Exp Mean	111	99	102	93	98	97	98	104	101

Table 3.26 contd.: Days to 50% flowering of entries in IVT-IME, Kharif 2019

Entry	IET NO							Zone V (6)	ZONE VI	
		CH		CH (2)	MA 1		MA 1 (2)		MA 2 (1)	MA (4)
		RPR	JDP	Mean	SKL	SND	Mean	Mean	KJT	Mean
1201	28383	108	111	109	90	116	103	107	100	102
1202	28384	96	98	97	84	106	95	97	91	94
1203	28385	102	98	100	86	108	97	100	97	97
1204	28386	98	96	97	82	104	93	96	94	93
1205	28387	104	103	103	92	111	101	103	95	99
1206	28388	98	96	97	83	105	94	97	93	94
1207	28389	98	97	98	81	103	92	96	92	92
1208	28390	95	101	98	82	104	93	96	93	93
1209	28391	104	108	106	92	108	100	104	98	99
1210	27668	94	98	96	83	101	92	94	95	93
1211	28392	101	106	103	90	102	96	100	97	96
1212	28393	102	107	105	75	110	92	100	101	95
1213	28394	103	98	101	79	107	93	99	94	93
1214	28395	103	99	101	89	107	98	101	96	97
1215	28396	101	100	100	84	104	94	99	95	94
1216	28397	103	110	106	90	104	97	102	95	96
1217	28398	102	106	104	90	105	97	102	95	97
1218	28399	102	101	101	77	104	91	97	95	92
1219	28400	101	100	100	79	104	91	97	91	91
1220	28401	101	103	102	85	100	92	98	97	94
1221	28402	100	101	100	89	105	97	99	93	95
1222	28403	102	100	101	86	106	96	98	95	96
1223	28404	97	94	95	80	98	89	93	93	90
1224	28405	98	95	97	78	102	90	94	92	90
1225	Gontra Bidhan-3 (NC)	103	103	103	83	99	91	97	95	92
1226	28406	108	107	107	92	109	100	104	95	98
1227	28407	114	110	112	92	110	101	107	106	103
1228	28408	106	100	103	92	109	100	102	95	98
1229	28409	105	107	106	93	108	100	104	99	100
1230	28410	101	97	99	78	103	91	95	91	91
1231	28411	105	103	104	91	108	99	101	93	97
1232	28412	99	97	98	80	101	90	95	92	91
1233	28413	101	94	97	79	97	88	93	93	90
1234	28414	95	95	95	82	99	90	94	91	91
1235	28415	103	98	101	84	107	96	99	96	96
1236	28416	109	110	109	92	110	101	106	99	100
1237	28417	90	97	94	76	100	88	92	93	89
1238	28418	99	97	98	80	104	92	96	95	93
1239	28419	117	111	114	72	118	95	106	103	97
1240	28420	98	96	97	73	103	88	92	90	88
1241	28421	106	108	107	91	110	101	106	101	101
1242	Zonal Check (ZC)	94	93	93	79	101	90	92	91	90
1243	28422	113	117	115	92	114	103	109	101	102
1244	28423	107	107	107	90	115	102	105	95	100
1245	27695	107	103	105	90	109	100	102	95	98
1246	28424	94	92	93	79	102	91	93	93	91
1247	28425	101	107	104	90	110	100	102	95	98
1248	28426	93	94	93	80	100	90	93	93	91
1249	27896	97	94	96	84	103	93	96	93	93
1250	28427	102	100	101	89	107	98	99	95	97
1251	28428	98	100	99	85	104	94	97	95	95
1252	28429	106	103	104	91	110	100	101	99	100
1253	28430	117	116	116	72	122	97	105	99	97
1254	28431	104	98	101	90	110	100	103	98	99
1255	28432	94	94	94	81	99	90	92	92	90
1256	27908	108	107	107	92	120	106	107	100	104
1257	28433	99	91	95	83	106	94	98	95	94
1258	28434	92	91	91	78	103	90	93	92	91
1259	28435	102	98	100	86	111	98	100	95	97
1260	27876	97	98	98	82	100	91	96	92	91
1261	28436	100	100	100	84	106	95	98	95	95
1262	28437	96	101	99	82	106	94	97	93	94
1263	28438	120	118	119	80	100	90	106	106	95
1264	Local Check (LC)	94	106	100	90	108	99	98	96	98
	Exp Mean	101	101	101	84	106	95	99	95	95

Table 3.26 contd.: Days to 50% flowering of entries in IVT-IME, Kharif 2019

Table Size contains: Days 0 to 6 % lowering of entries in IV (1) Rate, Return 2015															
Entry	IET NO	ZONE VI				GU (2)	Zone VI (3)	AP	TE			TE (2)	TN		
		GU							MTU	RNR	WGL		Mean	ADT	CBT
		NVS	NWG	@DBI	@VYR										
1201	28383	102	102	119	115	102	101	95	115	109	112	103	110		
1202	28384	92	99	119	99	95	94	91	105	101	103	105	100		
1203	28385	93	97	116	91	95	96	89	105	101	103	107	100		
1204	28386	88	101	117	98	94	94	89	105	99	102	101	102		
1205	28387	97	106	119	102	101	99	107	107	101	104	106	114		
1206	28388	88	103	117	98	95	95	91	101	100	100	106	110		
1207	28389	92	103	116	98	97	95	90	97	101	99	105	101		
1208	28390	87	100	110	90	93	93	90	99	97	98	108	101		
1209	28391	97	106	117	105	101	100	96	105	102	104	109	104		
1210	27668	91	95	108	94	93	94	90	103	96	100	102	103		
1211	28392	85	98	106	89	91	93	89	109	90	99	105	111		
1212	28393	102	78	116	111	90	93	92	97	99	98	101	101		
1213	28394	92	103	120	97	97	96	95	105	99	102	103	100		
1214	28395	93	102	122	105	97	97	97	104	101	102	109	113		
1215	28396	88	100	122	108	94	94	95	102	103	103	102	105		
1216	28397	86	97	117	108	91	92	93	104	97	101	106	109		
1217	28398	83	103	117	99	93	93	87	100	94	97	105	98		
1218	28399	80	92	123	105	86	89	94	102	88	95	107	113		
1219	28400	87	95	119	98	91	91	88	101	95	98	106	99		
1220	28401	87	98	100	96	93	94	95	105	92	99	108	108		
1221	28402	92	95	110	97	93	93	89	97	99	98	107	100		
1222	28403	89	96	111	104	92	93	84	108	99	103	107	105		
1223	28404	92	96	112	106	94	93	86	97	96	96	103	102		
1224	28405	83	96	112	98	89	90	84	102	95	99	102	98		
1225	Gontra Bidhan-3	80	98	114	93	89	91	86	105	87	96	101	116		
1226	28406	99	105	112	108	102	99	98	107	107	107	103	101		
1227	28407	99	103	117	109	101	103	100	113	107	110	96	113		
1228	28408	97	99	112	112	98	97	96	105	99	102	102	111		
1229	28409	92	107	118	109	99	99	98	102	102	102	105	108		
1230	28410	82	95	112	90	88	89	91	100	96	98	108	102		
1231	28411	93	101	119	105	97	95	95	105	102	104	107	111		
1232	28412	84	95	110	98	89	90	90	104	99	102	103	97		
1233	28413	80	91	96	87	85	88	84	92	87	89	99	92		
1234	28414	90	94	115	94	92	91	93	103	95	99	107	101		
1235	28415	93	104	115	106	98	97	95	101	91	96	108	99		
1236	28416	96	100	115	110	98	98	96	106	108	107	118	107		
1237	28417	83	94	108	91	88	90	95	100	86	93	98	100		
1238	28418	81	94	120	107	87	90	92	100	96	98	103	101		
1239	28419	102	100	123	110	101	102	100	113	117	115	101	120		
1240	28420	80	90	111	88	85	86	87	100	96	98	99	101		
1241	28421	96	107	120	108	101	101	98	113	108	110	107	109		
1242	Zonal Check (ZC)	83	91	110	92	87	88	88	93	92	93	96	101		
1243	28422	96	106	113	104	101	101	100	115	108	111	111	117		
1244	28423	97	101	122	99	99	97	95	113	102	108	102	111		
1245	27695	87	97	112	101	92	93	93	113	102	108	105	103		
1246	28424	87	95	109	94	91	92	86	103	94	98	102	97		
1247	28425	92	104	110	106	98	97	91	113	102	108	101	102		
1248	28426	85	94	113	90	89	90	87	100	104	102	99	103		
1249	27896	88	102	115	96	95	94	89	110	98	104	107	101		
1250	28427	89	102	114	99	95	95	92	106	100	103	109	110		
1251	28428	88	96	111	92	92	93	93	102	96	99	101	99		
1252	28429	97	105	113	106	101	100	96	111	100	106	99	112		
1253	28430	107	103	119	113	105	103	97	117	109	113	105	118		
1254	28431	98	107	120	108	102	101	99	108	107	107	103	111		
1255	28432	86	99	113	94	92	92	89	96	96	96	107	98		
1256	27908	97	102	121	108	99	99	100	108	108	108	109	110		
1257	28433	87	102	110	89	94	94	89	104	98	101	107	96		
1258	28434	83	95	111	95	89	90	89	100	95	98	105	97		
1259	28435	88	101	116	96	94	94	90	108	99	103	102	116		
1260	27876	83	90	112	87	86	88	85	104	87	96	101	100		
1261	28436	91	97	112	92	94	94	95	105	98	102	102	103		
1262	28437	88	100	110	99	94	94	87	108	99	103	101	103		
1263	28438	113	103	122	117	108	107	112	116	119	118	104	119		
1264	Local Check (LC)	85	104	109	90	94	95	105	104	102	103	102	95		
	Exp Mean	90	99	114	100	94	95	93	105	99	102	104	104		

Table 3.26 contd.: Days to 50% flowering of entries in IVT-IME, Kharif 2019

Entry	IET NO	ZONE VII									
		TN (2)	KE		KE (1)	KA		KA (1)	PU	Zone VII (8)	Overall (27)
		Mean	@MNC	PTB	Mean	MND	@BRM		KBP	Mean	Mean
1201	28383	106	90	104	104	103	112	103	84	103	104
1202	28384	102	82	99	99	93	99	93	83	97	95
1203	28385	103	90	105	105	94	108	94	84	98	98
1204	28386	101	82	102	102	93	99	93	87	97	95
1205	28387	110	88	106	106	101	110	101	94	104	103
1206	28388	108	81	99	99	88	99	88	82	97	96
1207	28389	103	85	95	95	86	100	86	82	95	97
1208	28390	104	79	100	100	98	108	98	82	97	94
1209	28391	107	90	102	102	102	112	102	92	101	102
1210	27668	102	78	100	100	95	104	95	83	96	94
1211	28392	108	83	97	97	105	106	105	82	98	98
1212	28393	101	82	93	93	87	106	87	81	94	99
1213	28394	101	90	97	97	93	113	93	83	97	99
1214	28395	111	92	104	104	91	110	91	84	100	102
1215	28396	103	86	96	96	88	102	88	82	97	97
1216	28397	107	86	100	100	97	113	97	81	98	99
1217	28398	101	82	97	97	94	110	94	82	95	99
1218	28399	110	80	96	96	93	110	93	83	97	95
1219	28400	102	81	106	106	86	110	86	83	95	94
1220	28401	108	87	101	101	103	112	103	82	99	97
1221	28402	103	82	93	93	88	108	88	81	94	98
1222	28403	106	87	100	100	97	108	97	80	97	97
1223	28404	102	78	99	99	87	99	87	81	94	93
1224	28405	100	84	96	96	88	98	88	81	93	92
1225	Gontra Bidhan-3 (NC)	108	84	93	93	102	108	102	84	97	94
1226	28406	102	90	99	99	93	110	93	81	98	101
1227	28407	104	100	111	111	105	113	105	88	104	105
1228	28408	106	88	103	103	95	112	95	84	99	101
1229	28409	106	88	96	96	95	113	95	81	98	101
1230	28410	105	81	102	102	96	110	96	95	99	95
1231	28411	109	88	107	107	99	111	99	88	102	99
1232	28412	100	80	98	98	93	108	93	82	96	94
1233	28413	95	73	88	88	92	99	92	83	89	90
1234	28414	104	82	92	92	96	110	96	80	96	94
1235	28415	103	82	98	98	91	110	91	82	95	98
1236	28416	112	92	100	100	104	114	104	85	103	104
1237	28417	99	78	90	90	94	98	94		95	93
1238	28418	102	83	98	98	87	102	87	83	95	94
1239	28419	110	98	104	104	103	115	103	93	106	106
1240	28420	100	77	99	99	91	102	91	81	94	91
1241	28421	108	92	99	99	101	113	101	46	97	102
1242	Zonal Check (ZC)	98	77	95	95	88	105	88	79	91	94
1243	28422	114	90	101	101	106	115	106	94	106	106
1244	28423	106	93	99	99	98	113	98	94	102	101
1245	27695	104	89	99	99	97	110	97	87	100	100
1246	28424	99	77	93	93	86	99	86	75	92	91
1247	28425	101	84	105	105	98	112	98	81	99	100
1248	28426	101	78	98	98	88	102	88	81	95	93
1249	27896	104	85	101	101	87	104	87	82	97	97
1250	28427	109	87	95	95	103	110	103	84	100	99
1251	28428	100	80	93	93	92	110	92	81	94	96
1252	28429	105	91	100	100	96	113	96	92	101	101
1253	28430	111	103	99	99	111	118	111	97	106	106
1254	28431	107	89	104	104	95	112	95	93	102	103
1255	28432	102	85	92	92	98	113	98	81	95	94
1256	27908	110	97	105	105	97	114	97	86	103	104
1257	28433	101	83	98	98	91	104	91	84	96	96
1258	28434	101	77	97	97	83	102	83	79	93	92
1259	28435	109	87	99	99	98	106	98	88	100	97
1260	27876	100	72	84	84	91	101	91	44	87	91
1261	28436	102	83	87	87	93	107	93	83	96	97
1262	28437	102	84	98	98	94	102	94	82	96	95
1263	28438	111	99	109	109	108	118	108	83	109	109
1264	Local Check (LC)	98	85	95	95	98	100	98	90	99	98
	Exp Mean	104	85	98	98	95	108	95	83	98	98

Table 3.27: Plant Height (cm) of entries in IVT-IME, Kharif 2019

Entry	IET NO	ZONE II					Zone II (3)	ZONE III		
		UT	PU	HA	JK	RA		OD		
		@PNT	@LDN	KUL	CHT	KTA		CTK	JYP	CHP
1201	28383	123.00	111.00	118.00		115.00	116.50	110.20	116.70	120.05
1202	28384	138.00	129.50	134.00	110.60	114.00	119.53	110.80	115.10	116.25
1203	28385	128.00	105.00	118.00	98.50	111.50	109.33	105.80	89.80	113.15
1204	28386	113.00	109.50	118.00	102.90	111.00	110.63	97.20	106.10	108.40
1205	28387	118.00	97.50	115.00	96.70	104.00	105.23	99.00	102.20	105.90
1206	28388	125.00	114.50	124.00	108.10	115.00	115.70	103.00	102.10	119.35
1207	28389	131.00	105.00	116.00	100.60	111.00	109.20	103.10	93.85	112.35
1208	28390	128.00	116.00	127.00	106.70	114.50	116.07	114.90	116.20	121.55
1209	28391	110.00	78.50	93.00	72.00	110.50	91.83	83.20	78.50	98.10
1210	27668	120.00	109.50	130.00	108.40	101.00	113.13	102.60	103.40	108.05
1211	28392	119.00	100.00	114.00	104.50	107.00	108.50	93.40	99.90	106.60
1212	28393	120.00	101.00	117.00	78.50	110.50	102.00	96.10	110.80	118.10
1213	28394	110.00	100.00	107.00	91.20	114.50	104.23	102.30	97.80	104.05
1214	28395	126.00	98.00	109.00	88.90	111.50	103.13	101.20	105.50	113.05
1215	28396	129.00	109.50	115.00	108.40	103.00	108.80	97.70	92.80	106.60
1216	28397	137.00	123.50	136.00	105.20	112.00	117.73	104.80	117.60	131.30
1217	28398	135.00	96.50	113.00	91.20	113.50	105.90	97.60	95.10	108.85
1218	28399	104.00	102.00	116.00	101.90	111.50	109.80	98.80	94.20	97.00
1219	28400	121.00	107.00	115.00	102.40	103.50	106.97	102.70	110.90	120.35
1220	28401	118.00	107.50	116.00	97.10	121.50	111.53	93.70	103.10	111.90
1221	28402	114.00	73.00	94.00	71.80	112.00	92.60	87.30	87.80	101.35
1222	28403	131.00	95.50	108.00	92.40	105.50	101.97	95.70	91.70	105.20
1223	28404	106.00	107.00	117.00	101.00	101.00	106.33	85.50	91.60	107.40
1224	28405	128.00	114.00	127.00	105.20	108.00	113.40	103.80	97.50	124.60
1225	Gontra Bidhan-3 (NC)	117.00	97.50	112.00	102.60	96.00	103.53	91.70	102.70	107.50
1226	28406	136.00	119.00	116.00		116.00	116.00	121.70	122.20	131.75
1227	28407	102.00	85.00	85.00		94.50	89.75	87.40	78.40	105.40
1228	28408	116.00	87.50		82.30	110.50	96.40	97.70	94.60	103.25
1229	28409	122.00	106.00	127.00		124.00	125.50	109.10	108.10	119.75
1230	28410	122.00	109.00	116.00	106.20	104.50	108.90	100.90	108.00	119.40
1231	28411	127.00	107.50	127.00	101.40	118.00	115.47	102.60	105.00	106.30
1232	28412	114.00	107.50	118.00	108.20	102.50	109.57	97.30	94.80	110.10
1233	28413	128.00	113.50	124.00	103.20	112.00	113.07	94.70	101.30	113.20
1234	28414	111.00	94.50	113.00	84.50	99.00	98.83	81.00	93.10	106.75
1235	28415	121.00	103.50	117.00	98.80	107.00	107.60	103.70	96.20	117.30
1236	28416	118.00	96.00	105.00	83.30	108.00	98.77	89.30	95.00	104.55
1237	28417	100.00	103.00	114.00	97.10	98.00	103.03	84.60	86.90	103.35
1238	28418	104.00	98.00	122.00	107.20	109.00	112.73	99.10	89.20	111.30
1239	28419	129.00	95.00	119.00		116.50	117.75	106.50	121.90	110.25
1240	28420	112.00	100.00	114.00	107.90	105.00	108.97	90.00	89.40	109.40
1241	28421	108.00	107.00	107.00	95.80	108.00	103.60	104.50	98.90	119.55
1242	Zonal Check (ZC)	113.00	89.00	97.00	83.60	95.50	92.03	108.10	98.30	111.40
1243	28422	123.00	94.00	107.00	91.90	99.00	99.30	96.80	96.90	107.50
1244	28423	150.00	106.00	117.00	105.30	103.50	108.60	96.80	105.10	111.90
1245	27695	120.00	105.00	107.00	97.40	97.00	100.47	103.60	110.50	109.10
1246	28424	121.00	107.50	119.00	101.80	97.00	105.93	96.80	92.80	111.05
1247	28425	134.00	100.00	123.00	84.90	116.50	108.13	103.90	106.00	124.55
1248	28426	115.00	110.50	116.00		113.00	114.50	85.20	93.30	108.95
1249	27896	121.00	106.50		104.30	103.00	103.65	105.40	103.60	107.25
1250	28427	133.00	102.00	124.00	103.90	107.50	111.80	105.30	102.00	114.60
1251	28428	133.00	112.00	111.00	107.40	106.00	108.13	94.60	96.20	117.40
1252	28429	130.00	92.00	112.00		102.00	107.00	113.40	115.30	124.05
1253	28430	101.00	85.50	93.00		96.00	94.50	92.90	87.50	102.80
1254	28431	136.00	116.00	132.00	102.20	122.00	118.73	118.20	127.80	135.55
1255	28432	129.00	103.50	125.00		124.50	124.75	107.80	120.10	119.35
1256	27908	136.00	147.50	115.00		118.50	116.75	117.70	106.40	124.80
1257	28433	116.00	99.00	103.00	95.70	104.50	101.07	93.80	83.60	103.10
1258	28434	123.00	107.00	125.00	92.50	110.00	109.17	99.10	92.00	116.45
1259	28435	126.00	112.50	126.00	112.40	111.50	116.63	110.10	107.90	121.45
1260	27876	126.00	106.50	114.00	96.20	100.50	103.57	78.60	92.80	107.35
1261	28436	125.00	110.00	115.00	107.40	120.00	114.13	107.20	107.50	121.20
1262	28437	123.00	108.50	115.00	100.20	106.50	107.23	90.70	100.40	107.00
1263	28438	110.00		96.00		103.00	99.50	106.90	99.90	116.45
1264	Local Check (LC)	126.00	93.50	114.00	106.50	106.00	108.83	110.80	94.20	132.10
	Exp Mean	121.70	104.03	115.15	98.42	108.34	107.87	99.94	100.72	113.03

Table 3.27 contd.: Plant Height (cm) of entries in IVT-IME, Kharif 2019

Entry	IET NO								Zone III (7)
		OD (3)	BI	JH	WB	UP		UP (2)	
		Mean	SBR	@RCI	CHN	MSD	VRN	Mean	
1201	28383	115.65	125.67	83.00	104.00	116.00	129.90	122.95	117.50
1202	28384	114.05	130.17	92.00	94.50	114.00	133.90	123.95	116.39
1203	28385	102.92	118.83	72.00	99.00	103.00	117.30	110.15	106.70
1204	28386	103.90	107.83	87.00	93.00	104.00	105.90	104.95	103.20
1205	28387	102.37	119.17	86.00	98.00	106.00	114.10	110.05	106.34
1206	28388	108.15	114.67	94.00	96.50	114.00	121.90	117.95	110.22
1207	28389	103.10	107.17	81.00	98.00	105.00	105.30	105.15	103.54
1208	28390	117.55	127.17	97.00	92.00	107.00	115.30	111.15	113.45
1209	28391	86.60	93.33	68.00	104.50	87.00	97.80	92.40	91.78
1210	27668	104.68	111.33	90.00	95.50	110.00	112.70	111.35	106.23
1211	28392	99.97	108.50	78.00	99.00	101.00	106.20	103.60	102.09
1212	28393	108.33	121.83	96.00	106.50	119.00	122.20	120.60	113.50
1213	28394	101.38	116.17	80.00	103.50	112.00	101.80	106.90	105.37
1214	28395	106.58	116.67	79.00	104.00	105.00	114.00	109.50	108.49
1215	28396	99.03	116.83	85.00	99.00	97.00	105.20	101.10	102.16
1216	28397	117.90	117.50	95.00	99.50	126.00	127.50	126.75	117.74
1217	28398	100.52	111.83	86.00	101.50	119.00	117.60	118.30	107.35
1218	28399	96.67	112.33	82.00	98.00	101.00	104.70	102.85	100.86
1219	28400	111.32	124.00	86.00	98.00	103.00	122.30	112.65	111.61
1220	28401	102.90	117.50	80.00	97.50	77.00	111.00	94.00	101.67
1221	28402	92.15	101.67	71.00	98.50	80.00	95.00	87.50	93.09
1222	28403	97.53	116.83	75.00	101.00	109.00	99.20	104.10	102.66
1223	28404	94.83	120.33	79.00	97.00	100.00	97.40	98.70	99.89
1224	28405	108.63	130.17	88.00	93.00	102.00	115.60	108.80	109.52
1225	Gontra Bidhan-3 (NC)	100.63	113.67	70.00	97.50	93.00	98.60	95.80	100.67
1226	28406	125.22	128.33	96.00	105.00	136.00	135.60	135.80	125.80
1227	28407	90.40	98.33	65.00	108.00	86.00	98.80	92.40	94.62
1228	28408	98.52	111.50	70.00	101.50	94.00	104.90	99.45	101.06
1229	28409	112.32	128.00	94.00	105.50	110.00	116.80	113.40	113.89
1230	28410	109.43	118.83	88.00	92.00	105.00	120.90	112.95	109.29
1231	28411	104.63	122.83	79.00	97.50	115.00	124.20	119.60	110.49
1232	28412	100.73	114.67	70.00	90.50	103.00	106.70	104.85	102.44
1233	28413	103.07	119.50	82.00	92.00	121.00	110.00	115.50	107.39
1234	28414	93.62	110.83	74.00	93.00	102.00	104.40	103.20	98.73
1235	28415	105.73	118.83	81.00	100.50	106.00	112.00	109.00	107.79
1236	28416	96.28	108.50	90.00	104.00	96.00	105.10	100.55	100.35
1237	28417	91.62	108.00	69.00	92.00	103.00	101.80	102.40	97.09
1238	28418	99.87	108.50	73.00	95.50	92.00	102.40	97.20	99.71
1239	28419	112.88	121.33	85.00	110.50	116.00	125.60	120.80	116.01
1240	28420	96.27	103.50	71.00	93.00	90.00	113.00	101.50	98.33
1241	28421	107.65	116.33	87.00	103.00	98.00	126.60	112.30	109.55
1242	Zonal Check (ZC)	105.93	114.67	87.00	100.00	114.00	113.40	113.70	108.55
1243	28422	100.40	113.83	74.00	101.50	105.00	113.70	109.35	105.03
1244	28423	104.60	123.83	89.00	102.00	104.00	124.70	114.35	109.76
1245	27695	107.73	118.33	86.00	100.50	116.00	106.50	111.25	109.22
1246	28424	100.22	109.17	86.00	93.00	93.00	102.90	97.95	99.82
1247	28425	111.48	119.17	90.00	100.50	110.00	118.20	114.10	111.76
1248	28426	95.82	113.83	74.00	94.00	98.00	110.30	104.15	100.51
1249	27896	105.42	120.00	74.00	101.00	101.00	110.90	105.95	107.02
1250	28427	107.30	122.17	79.00	100.50	116.00	121.00	118.50	111.65
1251	28428	102.73	122.67	87.00	97.50	113.00	122.10	117.55	109.07
1252	28429	117.58	123.50	79.00	106.00	106.00	113.30	109.65	114.51
1253	28430	94.40	97.00	66.00	115.00	95.00	101.10	98.05	98.76
1254	28431	127.18	131.00	83.00	108.50	100.00	135.60	117.80	122.38
1255	28432	115.75	129.67	106.00	96.00	110.00	117.50	113.75	114.35
1256	27908	116.30	125.17	84.00	104.50	108.00	128.60	118.30	116.45
1257	28433	93.50	109.67	72.00	93.00	90.00	106.70	98.35	97.12
1258	28434	102.52	116.00	84.00	93.00	100.00	105.90	102.95	103.21
1259	28435	113.15	114.33	85.00	101.00	113.00	116.60	114.80	112.05
1260	27876	92.92	115.83	70.00	90.50	119.00	110.80	114.90	102.13
1261	28436	111.97	120.33	90.00	101.00	102.00	123.50	112.75	111.82
1262	28437	99.37	110.00	75.00	97.00	98.00	108.30	103.15	101.63
1263	28438	107.75	113.83	73.00	116.00	105.00		105.00	109.68
1264	Local Check (LC)	112.37	109.00	75.00	91.00	105.00	94.30	99.65	105.20
	Exp Mean	104.56	116.13	81.59	99.30	104.75	112.81	108.72	106.66

Table 3.27 contd.: Plant Height (cm) of entries in IVT-IME, Kharif 2019

Entry	IET NO	ZONE-V									Zone V (6)
		MP		MP (2)	CH		CH (2)	MA 1		MA 1 (2)	
		WRS	IBP	Mean	RPR	IDP	Mean	SKL	SND	Mean	Mean
1201	28383	134.00	96.81	115.41	115.69	112.10	113.90	127.00	123.20	125.10	118.13
1202	28384	119.20	96.38	107.79	112.21	102.90	107.56	122.00	122.60	122.30	112.55
1203	28385	113.20	86.65	99.93	102.78	92.50	97.64	116.00	103.70	109.85	102.47
1204	28386	113.80	88.00	100.90	97.34	98.50	97.92	118.00	102.05	110.03	102.95
1205	28387	116.00	86.47	101.24	98.60	101.50	100.05	119.00	97.90	108.45	103.25
1206	28388	124.80	89.55	107.18	109.58	97.90	103.74	114.00	112.80	113.40	108.11
1207	28389	120.40	77.08	98.74	109.39	85.40	97.40	114.00	106.30	110.15	102.10
1208	28390	143.00	102.39	122.70	124.57	109.40	116.99	126.00	112.85	119.43	119.70
1209	28391	106.40	61.36	83.88	89.06	73.90	81.48	85.00	80.20	82.60	82.65
1210	27668	122.40	82.39	102.40	102.69	105.30	104.00	110.00	105.25	107.63	104.67
1211	28392	120.20	74.78	97.49	93.05	99.00	96.03	96.00	91.55	93.78	95.76
1212	28393	122.60	83.43	103.02	102.57	96.50	99.54	119.00	91.95	105.48	102.68
1213	28394	104.40	71.61	88.01	90.48	90.00	90.24	98.00	92.60	95.30	91.18
1214	28395	114.00	77.01	95.51	94.96	88.80	91.88	108.00	95.40	101.70	96.36
1215	28396	113.80	78.80	96.30	95.14	90.20	92.67	110.00	114.80	112.40	100.46
1216	28397	122.20	104.54	113.37	115.59	114.40	115.00	124.00	122.75	123.38	117.25
1217	28398	112.80	82.51	97.66	94.86	90.70	92.78	99.00	96.20	97.60	96.01
1218	28399	106.60	84.35	95.48	96.89	91.80	94.35	96.00	97.45	96.73	95.52
1219	28400	117.20	79.94	98.57	91.63	98.10	94.87	118.00	111.40	114.70	102.71
1220	28401	113.60	75.70	94.65	98.35	95.80	97.08	114.00	95.55	104.78	98.83
1221	28402	98.80	71.86	85.33	75.42	81.30	78.36	96.00	87.65	91.83	85.17
1222	28403	112.00	78.25	95.13	87.38	86.60	86.99	98.00	105.40	101.70	94.61
1223	28404	115.00	80.20	97.60	84.33	92.10	88.22	116.00	102.00	109.00	98.27
1224	28405	124.40	92.65	108.53	93.03	99.70	96.37	115.00	108.65	111.83	105.57
1225	Gontra Bidhan-3 (NC)	121.40	77.02	99.21	86.48	90.10	88.29	101.00	93.30	97.15	94.88
1226	28406	135.60	101.60	118.60	108.24	112.80	110.52	119.00	126.75	122.88	117.33
1227	28407	97.60	68.64	83.12	91.71	78.80	85.26	86.00	82.95	84.48	84.28
1228	28408	102.20	72.87	87.54	97.98	86.90	92.44	99.00	90.10	94.55	91.51
1229	28409	133.20	86.26	109.73	103.00	96.10	99.55	112.00	104.40	108.20	105.83
1230	28410	115.20	82.83	99.02	97.79	96.80	97.30	111.00	100.20	105.60	100.64
1231	28411	113.00	81.08	97.04	105.78	103.20	104.49	98.00	112.20	105.10	102.21
1232	28412	108.80	73.49	91.15	94.20	87.80	91.00	108.00	103.05	105.53	95.89
1233	28413	115.00	86.48	100.74	84.96	89.70	87.33	99.00	113.50	106.25	98.11
1234	28414	104.40	67.11	85.76	86.86	82.40	84.63	92.00	91.05	91.53	87.30
1235	28415	113.20	82.04	97.62	87.24	93.20	90.22	115.00	104.40	109.70	99.18
1236	28416	108.60	80.59	94.60	86.23	92.40	89.32	98.40	93.35	95.88	93.26
1237	28417	104.20	75.43	89.82	88.69	81.70	85.20	96.00	94.75	95.38	90.13
1238	28418	113.70	76.62	95.16	81.76	89.00	85.38	112.80	110.05	111.43	97.32
1239	28419	130.00	87.29	108.65	97.01	99.60	98.31	114.00	122.55	118.28	108.41
1240	28420	106.00	73.82	89.91	87.24	83.60	85.42	114.00	95.30	104.65	93.33
1241	28421	115.20	83.03	99.12	96.41	97.20	96.81	112.00	117.00	114.50	103.47
1242	Zonal Check (ZC)	113.00	82.83	97.92	84.99	84.80	84.90	119.80	98.60	109.20	97.34
1243	28422	113.00	79.84	96.42	94.81	97.40	96.11	107.40	104.50	105.95	99.49
1244	28423	130.60	79.64	105.12	98.76	95.20	96.98	97.60	119.80	108.70	103.60
1245	27695	115.60	73.04	94.32	94.24	94.70	94.47	108.40	110.80	109.60	99.46
1246	28424	119.80	79.67	99.74	102.86	94.10	98.48	114.80	108.90	111.85	103.36
1247	28425	117.00	86.53	101.77	103.43	106.80	105.12	118.80	113.05	115.93	107.60
1248	28426	111.00	71.58	91.29	91.01	92.40	91.71	98.00	92.10	95.05	92.68
1249	27896	121.20	78.06	99.63	96.70	87.20	91.95	97.40	88.80	93.10	94.89
1250	28427	115.40	74.70	95.05	100.02	98.80	99.41	111.80	105.00	108.40	100.95
1251	28428	121.20	86.41	103.81	103.47	102.00	102.74	117.80	106.25	112.03	106.19
1252	28429	123.00	77.10	100.05	104.76	98.70	101.73	117.20	103.50	110.35	104.04
1253	28430	106.20	59.99	83.10	89.68	82.00	85.84	93.40	88.75	91.08	86.67
1254	28431	142.80	82.94	112.87	104.77	110.00	107.39	117.40	110.25	113.83	111.36
1255	28432	148.20		148.20	109.80	118.60	114.20	139.40	120.00	129.70	127.20
1256	27908	123.00	93.00	108.00	112.52	103.80	108.16	127.60	113.80	120.70	112.29
1257	28433	109.00	73.86	91.43	90.50	79.40	84.95	98.00	91.60	94.80	90.39
1258	28434	112.20	77.11	94.66	94.12	92.10	93.11	120.40	108.30	114.35	100.71
1259	28435	113.00	86.54	99.77	105.93	98.60	102.27	111.80	112.80	112.30	104.78
1260	27876	113.20	70.03	91.62	97.74	88.90	93.32	106.80	92.10	99.45	94.80
1261	28436	112.00	90.35	101.18	108.79	99.70	104.25	124.20	109.40	116.80	107.41
1262	28437	116.20	75.73	95.97	93.63	92.30	92.97	110.20	96.85	103.53	97.49
1263	28438	122.60	68.86	95.73	105.56	91.50	98.53	95.40	110.85	103.13	99.13
1264	Local Check (LC)	117.00	72.56	94.78	99.47	90.30	94.89	119.80	109.45	114.63	101.43
	Exp Mean	116.94	80.62	99.31	97.57	94.61	96.09	109.67	103.91	106.79	100.68

Table 3.27 contd.: Plant Height (cm) of entries in IVT-IME, Kharif 2019

Entry	IET NO	ZONE VI							Zone VI (3)
		MA 2 (1)	MA (3)	GU				GU (2)	
		KJT	Mean	NVS	NWG	@DBI	@VYR	Mean	
1201	28383	131.50	127.23	122.20	135.20	124.20	117.20	128.70	129.63
1202	28384	136.00	126.87	125.30	140.80	114.30	130.50	133.05	134.03
1203	28385	106.50	108.73	119.00	130.40	122.25	115.30	124.70	118.63
1204	28386	117.00	112.35	125.90	127.40	107.35	111.50	126.65	123.43
1205	28387	118.50	111.80	123.00	119.80	113.45	125.00	121.40	120.43
1206	28388	113.50	113.43	129.70	121.60	120.50	114.80	125.65	121.60
1207	28389	109.50	109.93	118.90	117.80	110.50	104.00	118.35	115.40
1208	28390	135.50	124.78	135.20	122.00	124.00	114.30	128.60	130.90
1209	28391	102.00	89.07	96.70	106.20	97.50	92.40	101.45	101.63
1210	27668	110.50	108.58	129.70	137.40	114.50	120.20	133.55	125.87
1211	28392	123.00	103.52	119.90	116.20	102.60	110.20	118.05	119.70
1212	28393	125.00	111.98	136.50	126.20	108.28	121.80	131.35	129.23
1213	28394	109.00	99.87	111.00	88.60	102.20	109.20	99.80	102.87
1214	28395	113.00	105.47	118.40	112.60	104.15	111.90	115.50	114.67
1215	28396	106.50	110.43	117.90	125.80	110.18	106.40	121.85	116.73
1216	28397	110.00	118.92	134.60	131.00	114.20	119.40	132.80	125.20
1217	28398	120.50	105.23	113.50	125.60	115.00	103.00	119.55	119.87
1218	28399	113.50	102.32	97.90	101.80	102.00	104.70	99.85	104.40
1219	28400	118.00	115.80	116.50	109.60	108.00	102.40	113.05	114.70
1220	28401	125.00	111.52	115.30	106.20	98.00	102.10	110.75	115.50
1221	28402	107.00	96.88	95.30	114.00	106.00	100.00	104.65	105.43
1222	28403	99.00	100.80	115.80	113.40	114.00	99.60	114.60	109.40
1223	28404	109.50	109.17	114.80	121.80	112.00	95.30	118.30	115.37
1224	28405	122.50	115.38	125.20	113.80	120.00	122.40	119.50	120.50
1225	Gontra Bidhan-3 (NC)	108.50	100.93	123.80	116.40	104.00	108.00	120.10	116.23
1226	28406	104.50	116.75	150.60	135.80	145.00	133.90	143.20	130.30
1227	28407	108.00	92.32	110.90	107.00	99.00	93.90	108.95	108.63
1228	28408	106.00	98.37	119.40	104.00	104.00	113.60	111.70	109.80
1229	28409	118.00	111.47	122.80	127.40	114.00	110.80	125.10	122.73
1230	28410	123.00	111.40	126.90	116.00	104.00	119.90	121.45	121.97
1231	28411	117.00	109.07	123.60	116.20	116.00	122.70	119.90	118.93
1232	28412	114.00	108.35	106.10	111.80	111.00	105.80	108.95	110.63
1233	28413	103.00	105.17	103.80	116.00	112.00	100.60	109.90	107.60
1234	28414	108.00	97.02	99.30	96.20	100.00	107.10	97.75	101.17
1235	28415	125.50	114.97	121.10	137.00	123.00	110.90	129.05	127.87
1236	28416	120.00	103.92	114.10	113.60	114.00	105.30	113.85	115.90
1237	28417	106.00	98.92	104.30	112.20	109.00	108.00	108.25	107.50
1238	28418	110.00	110.95	109.00	112.20	110.00	108.80	110.60	110.40
1239	28419	130.50	122.35	131.50	132.20	113.00	119.00	131.85	131.40
1240	28420	116.00	108.43	111.50	113.60	106.00	104.90	112.55	113.70
1241	28421	126.50	118.50	120.50	122.80	123.00	100.70	121.65	123.27
1242	Zonal Check (ZC)	100.50	106.30	95.00	86.20	102.00	85.40	90.60	93.90
1243	28422	123.50	111.80	110.00	112.40	119.00	104.50	111.20	115.30
1244	28423	118.00	111.80	116.50	104.80	110.00	109.50	110.65	113.10
1245	27695	106.50	108.57	121.50	111.60	123.00	104.70	116.55	113.20
1246	28424	117.50	113.73	105.50	117.20	114.00	110.30	111.35	113.40
1247	28425	128.50	120.12	123.20	120.40	126.00	119.90	121.80	124.03
1248	28426	115.00	101.70	111.40	112.00	114.00	119.10	111.70	112.80
1249	27896	114.50	100.23	119.70	127.80	126.00	120.60	123.75	120.67
1250	28427	118.00	111.60	123.20	124.00	123.00	113.70	123.60	121.73
1251	28428	127.00	117.02	124.10	127.80	115.00	117.60	125.95	126.30
1252	28429	117.00	112.57	119.40	128.40	121.00	118.20	123.90	121.60
1253	28430	114.50	98.88	122.40	107.00	97.00	89.60	114.70	114.63
1254	28431	122.50	116.72	123.80	126.80	129.00	136.30	125.30	124.37
1255	28432	132.00	130.47	128.40	116.60	135.00	132.50	122.50	125.67
1256	27908	128.50	123.30	104.60	97.20	124.80	120.90	100.90	110.10
1257	28433	106.00	98.53	118.10	105.80	108.70	108.10	111.95	109.97
1258	28434	123.50	117.40	122.80	112.80	111.80	124.40	117.80	119.70
1259	28435	120.00	114.87	115.80	112.00	117.40	124.10	113.90	115.93
1260	27876	109.00	102.63	128.90	116.80	104.20	103.70	122.85	118.23
1261	28436	123.00	118.87	119.20	127.60	125.60	123.20	123.40	123.27
1262	28437	105.00	104.02	118.20	115.20	104.10	108.60	116.70	112.80
1263	28438	117.00	107.75	124.70	117.20	107.30	84.90	120.95	119.63
1264	Local Check (LC)	118.00	115.75	101.40	113.60	103.30	112.20	107.50	111.00
	Exp Mean	116.12	109.90	118.05	117.14	113.02	111.24	117.59	117.10

Table 3.27 contd.: Plant Height (cm) of entries in IVT-IME, Kharif 2019

Entry	IET NO	ZONE VII								
		AP	TE		TE (2)	TN		TN (2)	KE	
		MTU	RNR	WGL	Mean	ADT	CBT	Mean	@MNC	PTB
1201	28383	94.50	103.10	132.30	117.70	94.60	98.10	96.35	120.90	114.80
1202	28384	91.50	105.90	128.60	117.25	102.80	115.70	109.25	112.00	111.70
1203	28385	88.50	94.80	122.50	108.65	84.60	93.30	88.95	100.40	106.30
1204	28386	88.50	101.10	127.60	114.35	97.20	101.20	99.20	101.70	102.30
1205	28387	107.50	87.10	127.10	107.10	90.50	101.00	95.75	99.40	104.10
1206	28388	91.50	102.10	124.70	113.40	95.30	103.40	99.35	100.90	102.80
1207	28389	90.00	85.30	120.10	102.70	84.90	94.80	89.85	97.90	93.00
1208	28390	90.00	106.40	136.90	121.65	110.30	114.40	112.35	103.80	94.30
1209	28391	96.00	81.50	97.30	89.40	93.90	72.40	83.15	92.20	89.90
1210	27668	90.00	105.10	132.50	118.80	91.50	98.40	94.95	102.10	97.90
1211	28392	88.25	100.90	112.40	106.65	95.00	86.05	90.53	101.60	87.60
1212	28393	92.00	101.20	127.30	114.25	90.80	100.00	95.40	91.00	94.90
1213	28394	94.75	94.30	113.20	103.75	100.20	84.10	92.15	95.60	95.50
1214	28395	97.50	84.00	123.90	103.95	92.30	108.00	100.15	108.50	105.80
1215	28396	94.75	91.20	127.20	109.20	93.70	90.90	92.30	101.40	94.30
1216	28397	92.50	103.30	128.10	115.70	60.35	121.00	90.68	109.80	98.10
1217	28398	87.50	97.30	118.70	108.00	96.40	83.10	89.75	102.60	68.40
1218	28399	93.50	96.50	122.90	109.70	91.00	99.30	95.15	96.50	80.50
1219	28400	88.00	100.70	124.70	112.70	99.80	104.90	102.35	112.30	117.80
1220	28401	94.25	99.60	109.50	104.55	95.60	94.80	95.20	101.80	114.70
1221	28402	88.50	75.00	105.30	90.15	90.30	73.50	81.90	78.90	82.50
1222	28403	83.00	98.60	112.40	105.50	85.30	84.90	85.10	96.10	103.00
1223	28404	85.25	91.40	111.40	101.40	102.20	75.80	89.00	97.40	96.20
1224	28405	84.50	102.60	132.10	117.35	93.30	96.50	94.90	112.10	115.60
1225	Gontra Bidhan-3 (NC)	85.75	96.20	108.00	102.10	95.80	94.90	95.35	98.40	98.10
1226	28406	96.75	104.40	145.00	124.70	97.50	104.10	100.80	124.40	125.30
1227	28407	99.50	83.00	100.80	91.90	95.20	80.60	87.90	99.90	105.40
1228	28408	95.25	84.60	114.40	99.50	94.30	90.30	92.30	99.00	109.30
1229	28409	98.25	102.20	138.60	120.40	94.10	101.80	97.95	69.10	103.80
1230	28410	91.50	103.40	115.60	109.50	107.70	93.10	100.40	101.10	90.50
1231	28411	94.50	97.10	124.30	110.70	106.40	103.40	104.90	109.60	102.20
1232	28412	89.25	83.10	112.90	98.00	85.20	77.00	81.10	97.70	103.20
1233	28413	83.50	94.50	113.90	104.20	86.20	88.40	87.30	100.70	94.40
1234	28414	94.50	89.80	103.50	96.65	84.80	90.80	87.80	85.50	79.60
1235	28415	94.75	96.60	124.30	110.45	105.40	99.30	102.35	98.80	102.10
1236	28416	95.25	101.80	111.80	106.80	103.40	99.30	101.35	106.30	103.90
1237	28417	94.50	91.90	108.80	100.35	93.00	92.25	92.63	87.60	87.10
1238	28418	92.00	95.60	112.50	104.05	89.30	75.40	82.35	92.30	98.30
1239	28419	99.75	102.60	123.90	113.25	104.65	115.40	110.03	115.00	106.00
1240	28420	87.50	91.90	117.60	104.75	100.50	93.20	96.85	94.70	93.70
1241	28421	98.25	98.60	124.90	111.75	95.80	93.30	94.55	109.10	108.90
1242	Zonal Check (ZC)	88.00	76.70	114.50	95.60	81.36	73.30	77.33	92.80	87.30
1243	28422	100.50	84.20	119.40	101.80	104.80	99.50	102.15	106.40	98.70
1244	28423	94.50	99.30	126.00	112.65	96.00	91.60	93.80	113.50	103.60
1245	27695	92.00	97.50	122.30	109.90	94.00	84.60	89.30	110.50	104.90
1246	28424	86.00	91.80	118.80	105.30	84.70	100.70	92.70	99.80	94.50
1247	28425	90.50	100.20	133.30	116.75	83.00	88.20	85.60	104.10	104.80
1248	28426	86.50	95.40	124.50	109.95	93.80	98.90	96.35	92.50	90.00
1249	27896	88.75	102.60	122.30	112.45	95.40	93.30	94.35	107.20	99.20
1250	28427	92.00	101.50	122.70	112.10	94.70	92.10	93.40	100.20	95.60
1251	28428	92.50	101.80	118.30	110.05	80.60	105.20	92.90	102.90	98.80
1252	28429	95.25	95.10	131.40	113.25	93.30	94.70	94.00	111.60	109.90
1253	28430	98.00	85.70	109.50	97.60	104.80	82.80	93.80	102.80	88.90
1254	28431	99.00	103.50	133.10	118.30	112.80	104.30	108.55	115.30	113.70
1255	28432	89.50	104.00	147.50	125.75	75.60	115.80	95.70	110.50	105.20
1256	27908	99.75	102.20	144.50	123.35	111.30	105.20	108.25	122.10	141.20
1257	28433	89.50	84.40	116.90	100.65	85.60	77.80	81.70	100.90	92.70
1258	28434	89.50	93.95	123.60	108.78	85.50	91.50	88.50	100.50	98.90
1259	28435	90.00	100.10	132.10	116.10	101.70	95.80	98.75	107.90	118.40
1260	27876	85.00	92.20	110.20	101.20	103.30	85.10	94.20	87.20	89.20
1261	28436	95.50	103.70	127.90	115.80	96.30	99.90	98.10	119.50	101.40
1262	28437	87.50	95.20	118.50	106.85	93.60	94.50	94.05	95.60	99.10
1263	28438	112.50	88.10	128.10	108.10	108.10	97.80	102.95	109.80	93.90
1264	Local Check (LC)	103.75	99.00	132.50	115.75	85.00	83.40	84.20	105.80	85.35
	Exp Mean	92.64	95.69	121.83	108.76	94.32	94.44	94.38	102.27	99.99

Table 3.27 contd.: Plant Height (cm) of entries in IVT-IME, Kharif 2019

Entry	IET NO	ZONE VII					Zone VII (8)	Overall (27)
		KE (1)	KA		KA (1)	PU		
		Mean	MND	@BRM	Mean	KBP	Mean	Mean
1201	28383	114.80	105.30	90.50	105.30	116.00	107.34	115.84
1202	28384	111.70	97.20	93.00	97.20	129.00	110.30	116.04
1203	28385	106.30	93.90	77.50	93.90	107.00	98.86	105.06
1204	28386	102.30	101.50	81.50	101.50	108.00	103.43	106.29
1205	28387	104.10	98.10	79.50	98.10	124.00	104.93	106.68
1206	28388	102.80	101.30	83.50	101.30	103.00	103.01	109.49
1207	28389	93.00	83.00	69.50	83.00	106.00	94.64	102.53
1208	28390	94.30	101.20	89.00	101.20	124.00	109.69	115.95
1209	28391	89.90	77.60	61.00	77.60	95.00	87.95	89.72
1210	27668	97.90	93.40	87.00	93.40	119.00	103.48	108.02
1211	28392	87.60	95.40	84.00	95.40	104.00	96.20	101.61
1212	28393	94.90	98.00	86.50	98.00	101.00	100.65	107.76
1213	28394	95.50	77.80	74.00	77.80	102.00	95.23	98.81
1214	28395	105.80	85.80	76.50	85.80	104.00	100.16	103.42
1215	28396	94.30	91.00	79.50	91.00	113.00	99.51	103.35
1216	28397	98.10	114.40	103.50	114.40	131.00	106.09	115.01
1217	28398	68.40	99.40	84.00	99.40	109.00	94.98	102.39
1218	28399	80.50	95.40	77.50	95.40	104.00	97.89	100.18
1219	28400	117.80	102.60	76.50	102.60	111.00	106.19	107.85
1220	28401	114.70	94.20	78.50	94.20	107.00	101.21	103.54
1221	28402	82.50	77.60	65.00	77.60	74.00	83.34	89.76
1222	28403	103.00	83.80	78.00	83.80	107.00	94.75	99.20
1223	28404	96.20	99.40	71.50	99.40	92.00	94.21	100.28
1224	28405	115.60	99.80	87.50	99.80	108.00	104.05	108.67
1225	Gontra Bidhan-3 (NC)	98.10	88.20	78.00	88.20	106.00	96.62	100.23
1226	28406	125.30	103.40	98.00	103.40	127.00	112.93	119.65
1227	28407	105.40	77.80	59.50	77.80	101.00	92.91	92.95
1228	28408	109.30	84.20	67.50	84.20	103.00	96.92	98.23
1229	28409	103.80	98.80	76.50	98.80	118.00	106.94	111.81
1230	28410	90.50	96.00	85.50	96.00	117.00	101.85	106.53
1231	28411	102.20	89.00	84.00	89.00	116.00	104.11	108.25
1232	28412	103.20	89.00	71.50	89.00	105.00	93.08	99.91
1233	28413	94.40	98.40	79.50	98.40	111.00	96.29	102.69
1234	28414	79.60	92.20	73.00	92.20	110.00	93.15	94.82
1235	28415	102.10	93.40	76.50	93.40	111.00	103.36	106.77
1236	28416	103.90	103.40	64.50	103.40	103.00	102.73	101.03
1237	28417	87.10	98.50	73.50	98.50		95.15	96.85
1238	28418	98.30	81.60	75.50	81.60	110.00	94.34	100.22
1239	28419	106.00	102.90	71.00	102.90	125.00	110.03	114.32
1240	28420	93.70	92.60	71.00	92.60	97.00	96.75	99.64
1241	28421	108.90	98.20	94.50	98.20	102.00	102.49	106.97
1242	Zonal Check (ZC)	87.30	92.80	72.50	92.80	90.00	88.00	96.51
1243	28422	98.70	84.80	78.50	84.80	105.00	99.61	102.70
1244	28423	103.60	98.80	85.50	98.80	115.00	103.10	106.66
1245	27695	104.90	97.00	77.50	97.00	111.00	100.41	103.91
1246	28424	94.50	81.80	78.50	81.80	92.00	93.79	101.01
1247	28425	104.80	97.00	77.00	97.00	114.00	101.38	108.72
1248	28426	90.00	85.00	75.50	85.00	94.00	96.01	99.81
1249	27896	99.20	84.00	93.50	84.00	121.00	100.82	103.63
1250	28427	95.60	96.40	87.50	96.40	113.00	101.00	107.26
1251	28428	98.80	97.60	88.50	97.60	99.00	99.23	107.32
1252	28429	109.90	84.60	81.50	84.60	120.00	103.03	108.80
1253	28430	88.90	82.00	61.00	82.00	97.00	93.59	95.88
1254	28431	113.70	84.20	86.00	84.20	137.00	110.95	116.36
1255	28432	105.20	110.50	95.00	110.50	123.00	108.89	117.36
1256	27908	141.20	99.70	88.00	99.70	111.00	114.36	114.14
1257	28433	92.70	90.70	69.50	90.70	102.00	92.45	96.11
1258	28434	98.90	92.40	83.50	92.40	89.00	95.54	102.88
1259	28435	118.40	103.40	95.00	103.40	128.00	108.69	110.38
1260	27876	89.20	99.80	83.50	99.80	80.00	93.10	99.77
1261	28436	101.40	97.30	90.00	97.30	116.00	104.75	110.27
1262	28437	99.10	98.70	80.50	98.70	107.00	99.26	101.87
1263	28438	93.90	90.10	76.50	90.10	112.00	103.83	105.65
1264	Local Check (LC)	85.35	91.80	77.00	91.80	108.00	98.60	103.45
	Exp Mean	99.99	93.67	79.93	93.67	108.63	100.13	104.61

Table 3.28: Panicles/m2 of entries in IVT-IME, Kharif 2019

Entry	IET NO	ZONE II					Zone II (3)	ZONE III			
		UT	PU	HA	JK	RA		OD			OD (3)
		@PNT	@LDN	KUL	CHT	KTA		CTK	IYP	CHP	Mean
1201	28383	209	257	292		203	248	280	273	196	250
1202	28384	333	304	254	281	175	237	255	353	170	259
1203	28385	346	215	296	295	270	287	223	280	186	229
1204	28386	226	231	279	260	245	261	261	290	176	242
1205	28387	332	228	234	287	193	238	205	330	151	228
1206	28388	357	172	239	279	149	222	226	236	135	199
1207	28389	358	224	282	275	240	266	249	419	220	296
1208	28390	292	215	264	284	201	250	294	373	178	282
1209	28391	376	330	408	265	221	298	227	400	186	271
1210	27668	352	208	224	258	193	225	218	256	157	210
1211	28392	310	195	312	279	219	270	188	286	172	215
1212	28393	217	175	295	279	189	254	221	320	186	242
1213	28394	342	188	299	262	214	258	228	380	162	256
1214	28395	346	231	278	279	175	244	219	413	171	268
1215	28396	364	264	282	279	236	266	221	281	189	230
1216	28397	392	281	308	279	229	272	283	432	245	320
1217	28398	268	224	301	256	184	247	282	380	168	276
1218	28399	264	218	323	281	152	252	226	286	169	227
1219	28400	280	191	237	273	175	228	237	223	117	192
1220	28401	245	241	243	277	172	231	244	250	146	213
1221	28402	404	333	321	259	203	261	248	396	242	295
1222	28403	327	284	319	263	173	252	221	395	179	265
1223	28404	276	201	304	260	201	255	209	453	196	286
1224	28405	311	218	266	260	147	224	235	350	189	258
1225	Gontra Bidhan-3 (NC)	252	251	319	279	259	286	205	306	146	219
1226	28406	336	185	242		173	207	244	303	138	228
1227	28407	391	337	372		187	279	226	499	206	310
1228	28408	239	333		279	222	251	231	266	148	215
1229	28409	263	281	339		221	280	265	336	210	270
1230	28410	289	182	264	286	161	237	215	456	160	277
1231	28411	363	284	310	284	156	250	231	270	160	220
1232	28412	273	238	382	284	186	284	261	345	218	275
1233	28413	281	251	369	284	168	274	224	313	205	247
1234	28414	385	320	299	273	149	240	222	280	183	228
1235	28415	248	218	288	283	210	260	218	263	194	225
1236	28416	309	248	248	283	193	241	247	329	180	252
1237	28417	206	218	308	281	224	271	215	423	187	275
1238	28418	399	304	406	280	217	301	226	490	260	325
1239	28419	272	251	353		208	280	241	450	170	287
1240	28420	359	248	267	263	189	240	205	286	205	232
1241	28421	334	178	312	257	182	250	248	405	189	281
1242	Zonal Check (ZC)	263	221	316	257	236	270	275	393	150	272
1243	28422	253	238	357	284	187	276	219	303	174	232
1244	28423	222	257	303	284	170	252	245	276	187	236
1245	27695	390	244	345	286	191	274	231	353	184	256
1246	28424	290	231	350	286	229	288	231	230	198	219
1247	28425	351	188	327	276	252	285	202	397	169	256
1248	28426	272	185	262		235	248	225	260	133	206
1249	27896	308	188		280	235	257	215	266	208	229
1250	28427	296	297	379	282	222	294	224	343	156	241
1251	28428	360	221	370	302	236	303	204	353	204	253
1252	28429	362	215	256		172	214	215	256	124	198
1253	28430	313	323	354		189	271	229	403	226	286
1254	28431	324	211	418	265	252	312	261	303	189	251
1255	28432	262	234	270		198	234	234	236	141	204
1256	27908	385	191	318		264	291	227	260	150	212
1257	28433	393	218	360	265	189	271	215	280	211	235
1258	28434	267	244	304	265	229	266	209	263	206	226
1259	28435	301	228	324	253	221	266	225	370	151	248
1260	27876	291	264	258	271	210	246	192	313	198	234
1261	28436	278	201	367	286	203	285	225	383	191	266
1262	28437	258	224	356	279	201	279	206	343	215	254
1263	28438	137		307		186	246	234	292	147	224
1264	Local Check (LC)	267	231	351	293	217	287	246	306	199	250
	Exp Mean	306	238	309	275	203	261	231	332	180	248

Table 3.28 contd.: Panicles/m² of entries in IVT-IME, Kharif 2019

Entry	IET NO							Zone III (7)	ZONE-V		
		BI	IH	WB	UP		UP (2)		MP		MP (2)
		SBR	@RCI	CHN	MSD	VRN	Mean		WRS	JBP	Mean
1201	28383	215	233	281	241	200	220	241	354	201	277
1202	28384	279	236	314	328	154	241	265	332	232	282
1203	28385	364	178	248	274	197	235	253	275	192	233
1204	28386	321	245	314	419	106	262	269	281	223	252
1205	28387	261	192	264	356	194	275	251	314	209	261
1206	28388	297	144	231	338	169	253	233	179	180	179
1207	28389	275	238	297	265	198	231	274	364	230	297
1208	28390	243	170	314	340	219	279	280	347	186	267
1209	28391	267	196	264	180	245	213	253	401	247	324
1210	27668	250	174	182	330	165	247	222	334	135	234
1211	28392	298	180	264	258	196	227	237	315	180	247
1212	28393	318	246	314	339	228	283	275	212	186	199
1213	28394	228	215	248	240	214	227	242	334	211	272
1214	28395	244	179	314	300	172	236	262	325	190	258
1215	28396	288	228	231	358	222	290	255	305	200	253
1216	28397	343	242	330	328	263	295	317	427	202	315
1217	28398	351	274	347	348	202	275	297	314	188	251
1218	28399	285	182	314	271	209	240	251	350	216	283
1219	28400	201	136	215	314	177	245	212	340	199	269
1220	28401	243	175	231	275	190	233	226	304	172	238
1221	28402	346	215	347	287	250	268	302	310	236	273
1222	28403	349	210	281	320	218	269	280	351	202	276
1223	28404	223	181	231	254	200	227	252	362	191	276
1224	28405	280	192	215	231	209	220	244	318	196	257
1225	Gontra Bidhan-3 (NC)	220	268	297	238	178	208	227	333	238	285
1226	28406	292	171	182	331	191	261	240	367	187	277
1227	28407	373	291	330	354	249	302	319	417	256	336
1228	28408	362	193	231	230	215	223	240	340	181	260
1229	28409	283	217	248	263	222	243	261	305	220	263
1230	28410	240	165	248	232	204	218	250	242	208	225
1231	28411	320	226	281	338	231	285	261	340	187	264
1232	28412	269	158	231	317	210	264	264	254	193	223
1233	28413	331	205	297	323	172	247	266	317	203	260
1234	28414	311	203	297	237	230	233	251	270	205	238
1235	28415	266	194	198	317	213	265	238	318	193	256
1236	28416	320	255	231	378	217	298	272	294	206	250
1237	28417	189	248	314	328	176	252	261	237	186	211
1238	28418	298	252	248	237	223	230	283	379	242	310
1239	28419	373	201	215	358	202	280	287	351	205	278
1240	28420	205	211	215	359	199	279	239	295	214	255
1241	28421	278	139	198	296	186	241	257	331	167	249
1242	Zonal Check (ZC)	266	164	215	318	196	257	259	384	183	283
1243	28422	280	216	248	298	226	262	250	304	194	249
1244	28423	332	187	231	335	179	257	255	278	219	248
1245	27695	273	238	198	407	209	308	265	308	186	247
1246	28424	213	168	248	290	199	244	230	291	197	244
1247	28425	245	201	198	269	232	250	244	350	217	283
1248	28426	303	178	215	291	176	234	229	296	205	250
1249	27896	277	195	314	358	220	289	265	264	268	266
1250	28427	275	199	198	330	218	274	249	348	218	283
1251	28428	254	259	182	315	208	261	245	341	183	262
1252	28429	233	178	182	351	165	258	218	286	208	247
1253	28430	378	215	281	407	252	329	311	282	233	258
1254	28431	310	203	281	319	193	256	265	290	188	239
1255	28432	228	216	330	257	176	216	229	244		244
1256	27908	237	171	248	237	198	217	222	276	201	238
1257	28433	275	198	264	349	239	294	262	338	205	271
1258	28434	221	224	281	226	245	235	236	279	210	245
1259	28435	215	208	281	422	203	312	266	353	185	269
1260	27876	282	186	248	233	223	228	241	295	209	252
1261	28436	260	234	264	325	215	270	266	340	199	270
1262	28437	270	218	330	273	219	246	265	291	192	242
1263	28438	306	160	248	330		330	259	352	186	269
1264	Local Check (LC)	243	304	314	281	252	266	263	265	196	230
	Exp Mean	279	206	260	305	205	256	256	315	203	259

Table 3.28 contd.: Panicles/m² of entries in IVT-IME, Kharif 2019

Entry	IET NO							Zone V (6)	ZONE VI	
		CH		CH (2)	MA (1)		MA1 (2)		MA 2(1)	MA (3)
		RPR	JDP	Mean	SKL	SND	Mean		KJT	Mean
1201	28383	243	224	233	224	351	287	266	280	285
1202	28384	218	228	223	203	390	296	267	225	273
1203	28385	206	214	210	211	339	275	239	269	273
1204	28386	149	205	177	219	339	279	236	234	264
1205	28387	199	239	219	167	331	249	243	268	255
1206	28388	132	166	149	169	269	219	182	227	222
1207	28389	205	264	234	280	378	329	287	246	301
1208	28390	201	214	207	224	382	303	259	291	299
1209	28391	200	240	220	171	304	238	260	269	248
1210	27668	199	199	199	196	293	244	226	276	255
1211	28392	186	239	212	184	319	251	237	235	246
1212	28393	207	306	256	220	361	290	248	247	276
1213	28394	201	208	205	228	315	271	249	243	262
1214	28395	200	197	198	269	317	293	249	257	281
1215	28396	198	267	233	240	393	317	267	288	307
1216	28397	201	262	231	277	342	310	285	254	291
1217	28398	194	236	215	229	402	316	260	215	282
1218	28399	193	206	200	204	402	303	262	259	288
1219	28400	200	182	191	185	418	301	254	231	278
1220	28401	197	135	166	188	392	290	231	263	281
1221	28402	168	291	229	244	421	332	278	253	306
1222	28403	181	240	210	296	420	358	281	233	316
1223	28404	172	213	192	226	365	296	255	270	287
1224	28405	198	189	193	236	354	295	248	234	275
1225	Gontra Bidhan-3	147	192	169	178	343	260	238	237	252
1226	28406	262	218	240	125	275	200	239	244	215
1227	28407	195	278	236	272	462	367	313	249	328
1228	28408	188	196	192	196	314	255	236	289	266
1229	28409	185	232	208	215	347	281	251	261	274
1230	28410	221	260	241	218	454	336	267	273	315
1231	28411	204	243	223	143	430	287	258	228	267
1232	28412	193	169	181	224	309	266	223	291	275
1233	28413	153	206	180	238	507	372	270	199	314
1234	28414	122	214	168	213	244	228	211	257	238
1235	28415	139	237	188	189	410	299	247	244	281
1236	28416	150	210	180	227	404	315	248	254	295
1237	28417	158	216	187	262	438	350	249	233	311
1238	28418	221	205	213	239	377	308	277	281	299
1239	28419	200	261	231	201	438	319	276	274	304
1240	28420	199	238	218	212	390	301	258	236	279
1241	28421	151	233	192	262	424	343	261	279	322
1242	Zonal Check (ZC)	154	211	183	291	356	323	263	260	302
1243	28422	172	226	199	206	382	294	247	288	292
1244	28423	196	190	193	246	325	286	242	267	279
1245	27695	209	273	241	250	340	295	261	247	279
1246	28424	208	189	198	170	325	247	230	246	247
1247	28425	231	226	229	197	370	283	265	249	272
1248	28426	184	214	199	189	354	271	240	245	263
1249	27896	208	229	218	214	344	279	254	244	267
1250	28427	187	240	213	236	290	263	253	260	262
1251	28428	160	234	197	223	354	289	249	234	270
1252	28429	223	188	205	208	353	280	244	259	273
1253	28430	238	264	251	239	400	320	276	292	310
1254	28431	243	229	236	269	374	321	265	270	304
1255	28432	204	197	200	138	371	254	231	244	251
1256	27908	226	192	209	190	369	279	242	273	277
1257	28433	203	229	216	263	380	322	270	255	299
1258	28434	213	248	230	180	359	270	248	261	267
1259	28435	219	204	211	249	314	281	254	244	269
1260	27876	201	245	223	224	388	306	260	267	293
1261	28436	198	229	214	200	365	282	255	267	277
1262	28437	201	235	218	171	382	276	245	259	270
1263	28438	187	239	213	171	375	273	252	275	273
1264	Local Check (LC)	178	209	193	288	388	338	254	276	317
	Exp Mean	193	223	208	217	366	292	253	256	280

Table 3.28 contd.: Panicles/m2 of entries in IVT-IME, Kharif 2019

Entry	IET NO						Zone VI (3)	ZONE VII					
		GU				GU (2)		AP	TE		TE (2)	TN	
		NVS	NWG	@DBI	@VYR	Mean		MTU	RNR	WGL	Mean	ADT	CBT
1201	28383	269	282	239	368	275	277	323	327	381	354	336	445
1202	28384	298	278	193	329	288	267	333	330	368	349	343	353
1203	28385	288	277	227	296	282	278	294	327	376	351	336	328
1204	28386	312	278	206	309	295	275	304	290	385	337	364	290
1205	28387	274	279	251	372	276	273	314	300	386	343	378	373
1206	28388	290	270	220	415	280	262	277	293	370	331	396	208
1207	28389	278	277	235	339	277	267	330	363	389	376	333	260
1208	28390	284	278	252	335	281	284	307	287	394	341	445	263
1209	28391	254	271	206	431	262	264	333	357	393	375	427	303
1210	27668	271	271	205	315	271	273	281	277	383	330	294	328
1211	28392	272	277	199	266	274	261	281	370	404	387	364	225
1212	28393	238	279	218	312	258	254	317	400	404	402	410	358
1213	28394	214	281	200	408	247	246	297	297	378	337	354	188
1214	28395	243	285	205	388	264	262	317	287	388	337	336	313
1215	28396	260	269	223	418	264	272	333	280	384	332	354	333
1216	28397	285	277	248	388	281	272	320	347	396	371	483	345
1217	28398	216	280	245	441	248	237	290	277	380	328	354	235
1218	28399	265	274	197	457	269	266	340	327	386	356	487	283
1219	28400	269	230	183	276	249	243	304	253	388	321	308	358
1220	28401	273	271	206	276	272	269	386	263	371	317	343	215
1221	28402	237	282	261	372	259	257	337	273	386	330	333	235
1222	28403	293	280	248	329	287	269	327	283	388	336	361	419
1223	28404	269	281	239	395	275	273	330	283	376	330	508	260
1224	28405	271	282	224	289	276	262	314	297	380	338	343	303
1225	Gontra Bidhan-3 (NC)	249	278	172	306	263	254	297	410	391	401	392	363
1226	28406	198	279	177	306	239	240	330	430	376	403	336	354
1227	28407	237	278	190	441	258	255	320	430	398	414	347	365
1228	28408	223	276	184	349	249	262	350	353	394	374	368	340
1229	28409	225	276	211	437	250	254	363	453	404	429	329	273
1230	28410	211	264	183	448	237	249	277	397	394	396	448	270
1231	28411	185	265	180	349	225	226	297	433	398	415	273	293
1232	28412	211	266	195	305	239	256	330	270	386	328	315	315
1233	28413	200	272	199	299	236	224	333	297	389	343	480	313
1234	28414	243	257	151	431	250	252	310	317	404	360	382	295
1235	28415	274	280	189	299	277	266	261	410	376	393	350	293
1236	28416	259	283	195	339	271	265	347	353	381	367	364	288
1237	28417	281	277	173	404	279	264	310	333	403	368	263	373
1238	28418	292	269	213	415	281	281	300	333	399	366	350	278
1239	28419	253	278	222	471	265	268	314	360	376	368	280	333
1240	28420	268	274	221	438	271	259	330	317	388	352	406	393
1241	28421	268	283	234	329	276	277	297	433	383	408	326	265
1242	Zonal Check (ZC)	278	152	170	296	215	230	304	297	389	343	354	240
1243	28422	264	279	204	411	271	277	317	357	413	385	410	265
1244	28423	272	271	197	279	271	270	320	297	384	341	343	238
1245	27695	279	272	201	421	275	266	300	483	378	431	322	348
1246	28424	268	275	205	474	272	263	287	347	386	366	340	333
1247	28425	261	269	232	309	265	260	317	293	393	343	336	374
1248	28426	273	267	201	272	270	261	284	273	404	339	329	290
1249	27896	207	272	174	289	239	241	317	333	383	358	291	349
1250	28427	251	275	215	269	263	262	300	337	396	366	357	253
1251	28428	204	273	215	507	238	237	310	347	386	366	417	360
1252	28429	234	280	210	276	257	257	323	370	383	376	252	354
1253	28430	194	272	191	491	233	252	337	433	376	405	357	298
1254	28431	255	280	223	395	267	268	317	407	394	401	368	369
1255	28432	198	155	176	434	176	199	267	290	391	341	357	273
1256	27908	205	270	210	246	237	249	274	330	396	363	340	233
1257	28433	283	262	219	411	272	266	317	393	393	393	448	258
1258	28434	182	193	227	405	187	212	304	337	404	370	322	270
1259	28435	237	148	245	401	192	210	277	380	404	392	284	255
1260	27876	205	267	196	355	236	246	314	323	381	352	270	268
1261	28436	181	278	227	283	229	242	330	320	391	356	357	273
1262	28437	272	274	215	279	273	268	300	393	404	399	343	355
1263	28438	219	275	171	332	247	256	287	307	368	337	305	208
1264	Local Check (LC)	227	278	208	276	252	260	373	360	384	372	301	315
	Exp Mean	249	267	208	359	258	257	313	339	388	364	356	303

Table 3.28 contd.: Panicles/m2 of entries in IVT-IME, Kharif 2019

Entry	IET NO	ZONE VII								Zone VII (8)	Overall (27)
		TN (2)	KE		KE (1)	KA		KA (1)	PU		
		Mean	@MNC	PTB	Mean	MND	@BRM	Mean	KBP	Mean	Mean
1201	28383	391	225	283	283	450	320	450	384	366	290
1202	28384	348	208	371	371	600	359	600	467	395	301
1203	28385	332	212	377	377	480	382	480	367	360	288
1204	28386	327	182	386	386	465	317	465	400	360	289
1205	28387	375	184	238	238	455	328	455	450	362	283
1206	28388	302	149	336	336	415	317	415	384	335	254
1207	28389	296	162	322	322	455	369	455	433	361	301
1208	28390	354	201	305	305	400	359	400	417	352	294
1209	28391	365	188	418	418	455	318	455	484	396	303
1210	27668	311	152	451	451	460	363	460	400	359	269
1211	28392	295	191	316	316	410	340	410	367	342	275
1212	28393	384	251	357	357	450	377	450	400	387	298
1213	28394	271	167	265	265	480	392	480	417	334	273
1214	28395	324	195	249	249	400	374	400	350	330	277
1215	28396	343	129	399	399	470	350	470	434	373	296
1216	28397	414	229	382	382	510	321	510	467	406	326
1217	28398	294	178	257	257	470	381	470	500	345	291
1218	28399	385	169	339	339	420	388	420	400	373	291
1219	28400	333	165	229	229	390	333	390	433	333	262
1220	28401	279	152	293	293	400	374	400	367	330	263
1221	28402	284	153	376	376	510	431	510	500	369	307
1222	28403	390	178	218	218	480	478	480	467	368	302
1223	28404	384	225	253	253	410	390	410	384	350	284
1224	28405	323	211	490	490	450	380	450	417	374	283
1225	Gontra Bidhan-3 (NC)	377	152	345	345	420	337	420	450	383	285
1226	28406	345	185	323	323	410	418	410	433	374	278
1227	28407	356	168	337	337	480	401	480	534	401	333
1228	28408	354	188	333	333	490	379	490	417	380	286
1229	28409	301	187	270	270	450	427	450	450	374	294
1230	28410	359	152	232	232	460	320	460	350	354	283
1231	28411	283	220	336	336	440	383	440	417	361	285
1232	28412	315	185	206	206	420	325	420	383	328	275
1233	28413	396	129	284	284	500	342	500	450	381	297
1234	28414	338	152	260	260	490	401	490	450	363	274
1235	28415	321	158	305	305	410	368	410	450	357	281
1236	28416	326	175	350	350	440	302	440	450	372	292
1237	28417	318	165	256	256	450	379	450		341	281
1238	28418	314	175	280	280	455	349	455	400	349	303
1239	28419	306	234	321	321	445	310	445	433	358	303
1240	28420	399	231	297	297	480	387	480	417	378	287
1241	28421	295	195	253	253	450	360	450	417	353	288
1242	Zonal Check (ZC)	297	122	254	254	450	371	450	500	348	284
1243	28422	337	202	270	270	490	308	490	417	367	290
1244	28423	290	201	315	315	400	352	400	350	331	276
1245	27695	335	228	308	308	420	312	420	467	378	299
1246	28424	336	149	319	319	430	320	430	434	359	278
1247	28425	355	158	298	298	420	352	420	417	356	288
1248	28426	310	158	294	294	470	339	470	300	331	268
1249	27896	320	234	278	278	470	381	470	434	357	287
1250	28427	305	164	283	283	420	416	420	534	360	289
1251	28428	388	175	249	249	430	394	430	350	356	284
1252	28429	303	158	262	262	480	352	480	417	355	270
1253	28430	327	168	349	349	570	314	570	484	400	320
1254	28431	368	215	282	282	465	359	465	484	386	306
1255	28432	315	238	378	378	445	344	445	450	356	267
1256	27908	286	182	344	344	390	309	390	400	338	271
1257	28433	353	178	284	284	535	348	535	367	374	298
1258	28434	296	179	292	292	500	355	500	383	351	273
1259	28435	269	169	298	298	460	362	460	417	347	281
1260	27876	269	221	245	245	465	371	465	317	323	271
1261	28436	315	172	434	434	450	392	450	434	374	295
1262	28437	349	131	410	410	425	368	425	467	387	299
1263	28438	256	155	341	341	430	380	430	450	337	281
1264	Local Check (LC)	308	188	375	375	500	404	500	417	378	297
	Exp Mean	329	182	313	313	455	361	455	423	361	287

ADVANCE VARIETY TRIAL 1-IRRIGATED MEDIUM (AVT1-IM)**Locations: 43****Test Entries: 34**

Checks: NDR 359 -National; PR 121 (Northern), CR Dhan 300 (Eastern and North Eastern), Karma Mahsuri (Central), Akshyadhan (Western), Jaya (Southern)-Zonal; US 312 & HRI 174 (Hybrid) and Local check; Recurrent parents: Akshyadhan, Sarjoo-52, ADT 46 and Pusa 44.

Table: 3.29

AVT 1-IM was constituted with 34 test entries with 5 of them in 3rd and 20 in 2nd year of testing and 9 NILs in the background of various recurrent parents. Among the test entries, 9 are hybrid and remaining are varietal entries with 3 repeat entries (IETs 26847, 26819 and 26535). NDR 359 as National, PR121 in northern, CR Dhan 300 in eastern and north eastern, Karma Mahsuri in central, Akshyadhan in western and Jaya in southern zones as zonal, US 312 and HRI-174 as hybrid checks and a local check were included in the trial along with 4 recurrent parents (Akshyadhan, Sarjoo 52, ADT46 and Pusa 44). The data pertaining to yield, days to 50% flowering, plant height, number of panicles/m² and quality are presented in tables 3.30, 3.31, 3.32, 3.33 and 3.34. The status of the trial data from 43 locations is presented in the following table.

Trial data/Status	Location/State/Zone	Total
Data not received	Dabhoi, Vyara (VI) and Rudrur (VII)	3
Data not included due to low/high CV%	Pantnagar (II), Bikramgunj (III) and Karaikal (VII)	3
Data not included due to low experimental mean	Ludhiana, Kaul (II), Bhubaneswar, Ranchi (III) and Brahmavar (VII)	5
Data not included due to low/high CV% and low experimental mean	Gerua (IV) and Pattambi (VII)	2
Data included in the analysis	Chatta, Kota (II), Cuttack, Jeypore, Chiplima, Sabour, Patna, Chinsurah, Masodha, Varanasi (III), Titabar, Lembuchera (IV), Waraseoni, Raipur, Jagdalpur, Bilaspur, Sakoli, Sindewahi (V), Karjat, Shirgoan, Navsari, Nawgam (VI), Maruteru, Ragolu, Rajendranagar, Warangal, Jagital, Aduthurai, Coimbatore and Mandya (VII)	30
Total no of locations		43

A general over view of the observations at these locations across the zones is presented below.

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Observation	Z-II		Z-III		Z-IV		Z-V		Z-VI		Z-VII	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Zonal mean (kg/ha)	3073 (IET 28017)	5251 (IET 26418)	7568 (IET 27387)	4475 (IET 28782)	4726 (IET 26418)	6062 (US 312-HC)	4451 (LC)	6214 (IET 27387)	4155 (IET 26418)	5387 (IET 27386)	5247 (IET 28782)	8723 (IET 26535)
Experimental mean (kg/ha)	2386 (LDN)	4262 (PNT)	2438 (RCI)	7831 (VRN)	3165 (GER)	5791 (LMC)	4192 (SKL)	7173 (BLP)	4367 (KJT)	5808 (NVS)	2951 (PTB)	8657 (WGL)
CV %	9.96 (CHT)	23.92 (PNT)	5.17 (MSD)	22.73 (BKG)	12.92 (LMC)	32.85 (GER)	9.39 (WRS)	15.51 (JDP)	8.29 (KJT)	10.86 (SHR)	0.49 (KRR)	33.62 (PTB)
days to 50% flowering	103 (IET 28782)	113 (IET 28018, 28017)	88 (IET 28782)	113 (ZC)	103 (US312-HC)	120 (ZC)	93 (US312-HC) IET 27380)	104 (IET 27705)	93 (LC)	102 (IET 26418)	91 (IET 28782)	113 (IET 28790)
plant height (cm)	75 (IET 28018)	120 (IET 27667)	87 (IET 28018)	118 (IET 27712)	101 (NC)	108 (LC)	94 (ZC)	122 (IET 27712)	102 (NC)	119 (ZC)	92 (Pusa 44)	133 (IET 27703)
panicles/m ²	198 (IET 28782)	300 (LC)	233 (Akshya dhan)	317 (IET 28783)	217 (LC)	259 (IET 26418)	222 (IET 27385, 26535)	273 (IET 27389)	209 (LC)	269 (ZC)	349 (NC)	419 (IET 28791)

Performance of the entries across the zones

In Z-II, though two locations data-Chatha and Kota, but for the first ranking entry (IET 26418), data from Kota only is available as the entry didn't flower at Chatha. As per 54th ARGM proceedings, entries cannot be promoted based on single location data in a zone, hence IET 26418 is not promoted in Z-II. Performance of the promising entries in 3rd, 5th and 7th zones is presented in the following table while none of the entries recorded required superiority in 4th and 6th zones, hence not promoted in 4th and 6th zones.

Rank	IET No/ Designation/ Cross Combination	Zonal performance		State wise performance		
		Yield (kg/ha)/ DFF/GT	%NC/ZC/ LC	Rank	Yield	%BC
Z-III (8 locations)						
1	IET 27387 (H) (PHI-18104)	7714 103	27 43.6 46.74 19.04 15.74	OD-1 WB-1	8143 6689	27 (15) 10 (18)
2	IET 27380 (H) NPH-X8	7037	16.2 30.99 33.86 8.6 5.58	OD-3	7738	20 (9)
3	IET 27384 (H) PHI-18102	7013	15.8 30.55 33.4 8.23 5.22	OD-2	7963	24 (12)
5	IET 27689 (CR3516-1-1-2-1-1-4) Birupa/Pusa 44	6716 101	10.9 25.02 27.56	OD-5 WB-4	7450 6387	16 5

Rank	IET No/ Designation/ Cross Combination	Zonal performance		State wise performance		
		Yield (kg/ha)/ DFF/GT	%NC/ZC/ LC	Rank	Yield	%BC
8	IET 27263	6543	8.04	OD-8	7064	9.82
	(CR 4113-3-2-1)	103	21.8	BI-3	6806	12
	CR3724-1/TJ 171-1		24.5	WB-2	6463	7
	NDR 359 (NC)	6056				
	Zonal Check (ZC)	5372				
	Local Check	5257				
	US-312 – (HC)	6480				
	HRI -174 – (HC)	6665				
Z-V (3 locations)						
1	IET 27387 (H)	6214	20.47	MP-1	8173	17.89 (19.37)
	PHI-18104	97	28.18	CH-1	6276	15.86 (12.86)
			39.61	MA-2	5142	25.54 (19.03)
	NDR 359 (NC)	5158				
	Zonal Check (ZC)	4848				
	Local Check	4451				
	HRI -174 – (HC)	5362				
	US-312 – (HC)	4671				
Z-VII (8 locations)						
1	IET 26535 (R) (H)	8723	18.60	TS-1	10560	38.76 (21.42)
	PHI-17101	96	45.09	TN-3	7429	11.93 (8.29)
			21.83			
2	IET 27705	8322	13.15	AP-3	7681	9.38
	MTU 1280 (MTU2274- 8-1-1-9)	105	38.42	TS-3	9625	25.45
	MTU 1001/KMP 150		16.23	KA-4	8985	8.02
5	IET 26086	7918	7.65	AP-2	8013	14.11
	[OR (T)-31]	103	31.70	TS-9	8464	8.91
	Lalat Mutant		10.59	TN-5	7102	7.01
6	IET 27686	7902	7.44	AP-1	8422	19.94
	MTU 1310 (MTU2613- 25-1-4)	108	31.44	TS-6	8884	14.90
	MTU 1075/CR 3598-1- 4-2-1		10.36			
	NDR 359 (NC)	7355				
	Zonal Check (ZC)	6012				
	Local Check	7160				
	US-312 – (HC)	7275				
	HRI -174 – (HC)	8109				

The following entries are dropped despite having required yield superiority due to inferior grain quality traits

- IET 27387: HRR<55% (54.6%); AC>25% (26.57) with GC<40mm (37mm)
- IET 27263: low HRR (52.2%)
- IET 26535: low HRR (33%)
- IET 26086: AC>25% (25.66) with GC<40mm (22mm)
- IET 27686: AC>25% (25.75) with GC<40mm (25mm)
- IET 27384: low HRR (53.2%); AC>27% (27.10) with GC<60mm (33MM) & ASV<5 (4)

Three years performance of the entries

IET 27263 was evaluated in NPT trials during 2017 and 2018 and in IM trial during 2019. It ranked 6th, 1st and 4th in Odisha with 15.2, 19.86 and 26.36 % yield advantage over the best check in 2019, 2018 and 2017 respectively. Also, it ranked 3rd and 7th in Bihar with 12.4 and 8.5% yield advantage over the best check in 2019 and 2017 respectively. However, it recorded superior performance in West Bengal only in one year (2019). Since it recorded low HRR of only 52.2%, the entry is discontinued.

IET 26086: In 2017, IET 26086 recorded required superiority of $\geq 5\%$ over the best varietal check on overall basis with promising performance in West Bengal, Maharashtra and Gujarat with 1st rank and 54.5, 13.0 and 16.4% yield advantage over the BVC respectively and hence promoted to 2nd year of testing on overall basis. However, its promising performance was observed only in Z-VII in 2018 with 9 and 22% yield advantage over the BVC in Tamil Nadu and Kerala respectively. Again in 2019, it recorded 14.11, 8.91 and 7.01 % yield advantage over the BVC in Andhra Pradesh, Telangana and Tamil Nadu respectively. Due to inferior grain quality traits [AC>25% (25.75) with GC<40mm (25mm)], the entry is discontinued.

Three years performance of the entries in AVT1-IM

S. No	IET No/ Designation/ Cross Combination	Performance across the states			
		Year	Rank	Yield	%BVC
1	IET27263 (CR 4113-3-2-1) CR3724-1/TJ 171-1	2019 (AVT1-IM)	OD-6	7467	15.2
			BI-3	6806	12.4
			WB-2	6463	6.54
		2018 (IVT-NPT)	OD-1	8291	19.86
		2017 (IVT-NPT)	OD-4	6491	26.36
2	IET26086 [OR (T)-31] Lalat Mutant	2019	BI-7	5692	6.25
			AP-2	8013	14.11
			TS-9	8464	8.91
		2018	TN-5	7102	7.01
			TN-1	6901	9
		2017	KE-2	7130	22
			WB-1	8817	54.5
			MH-1	6364	13
			GU-1	6942	16.4

Entries promoted to 3rd year of testing:

- ZIII: IET 27689 and 27380
- ZVII: IET 27705

Performance of the NILs in AVT1-IM (2019)

NIL in the background of Akshyadhan

IET 27280 (RP-5989-47-15-11-1-126-2-13-11) derived from Akshyadhan*2/FBR1-15 with Xa33 gene for bacterial blight resistance is in the 2nd year of testing. It recorded -7.3, -2.0, -15.93, -32.91 and -10.91% yield inferiority over the recurrent parent in Andhra Pradesh, Telangana, Karnataka, Tamil Nadu (gazette notified states of the recurrent parent-Akshyadhan) and in Z-VII respectively. Disease severity index of bacterial blight was recorded

as 5.4 in IET 27280 while 5.6 in the RP (Akshyadhan) and 3.9 in resistant check (Improved samba mahsuri). Due to yield inferiority of the IET 27280 over the RP, IET 27280 is discontinued.

NILs in the background of Sarjoo 52

Two NILs IET 28792 (Sarjoo 52 sub 1) and IET 28783 (CSR 189-11-123), with Sarjoo 52 (gazette notified state: Uttar Pradesh) as recurrent parent are in the 1st year of testing. IET 28792 (Sarjoo 52 sub 1) is a derivative of Sarjoo 52/IR 64 sub1 with *sub1* gene/QTL for submergence tolerance. It exhibited -14.27% yield inferiority over the recurrent parent under normal irrigated conditions, hence dropped.

IET 28783 (CSR 189-11-123) derived from Sarjoo 52/FL 478/*4 has *Saltol* QTL introgressed in the background of Sarjoo 52. Under normal irrigated conditions, it is similar to RP in yield performance (-1.22% yield inferiority over the RP), days to 50% flowering, plant height and grain quality traits. Under salinity stress conditions (only Canning centre is considered as the sensitive check-Pusa 44 yielded high compared to the tolerant check-FL 478 at Cuttack, Chinsurah and Machilipatnam), it recorded 17.21% and 29.93% yield advantage over tolerant check and recurrent parent respectively. Hence, IET 28783 is promoted.

NILs in the background of ADT 46

IETs 28790 (KR 16023), 28791 (KR 16024) and 28789 (KR 16022) are three NILs derived from ADT 46*3/Swarna sub 1 with *sub1* QTL for submergence tolerance in the background of ADT 46 (Gazette notified state-Tamil Nadu). The performance of the NILs is presented below

S. No	IET No	Control-TN	Stress	Remarks
		% RP	% TC/RP/SC	
1	IET 28790	16.37	-9.53 14.05 14.27	Promoted
2	IET 28791	23.13	36.57 72.17 72.5	Dropped
3	IET 28789	30.11	28.26 61.69 62	Promoted

TC-Tolerant check; RP-Recurrent parent; SC-sensitive check

NILs in the background of Pusa 44

IET 28017, 28782 and 28018 are NILs in the background of Pusa 44 (Gazette notified states-Rajasthan, Uttar Pradesh, Punjab and Karnataka). IET 28782 (CSR 187-11-229) derived from Pusa 44/FL 478/*Pusa44 has *Saltol* QTL for salinity tolerance. Under normal irrigated conditions, it exhibited 2.83% yield advantage over RP in Rajasthan and -31 and -69% yield inferiority over the RP in Uttar Pradesh and Karnataka respectively. Due to yield inferiority over the RP under control conditions and differences in grain type (LS for the NIL; MS for RP), IET 28782 is dropped.

IETs 28017 (Pusa 1823-12-62) and 28018 (Pusa 1823-12-82) derived from Pusa 44/IR81896-B-B-142//Pusa 44*3 have two QTL for yield under drought stress *qDTY2.1+qDTY3.1*. IET 28017 recorded -18.8% yield inferiority over RP in Rajasthan, on par performance with RP in Uttar Pradesh and 7.89% yield advantage in Karnataka. Further, under drought stress conditions, RP yielded more than NIL. Due to inconsistent yield performance under control conditions, differences in grain type (LB for the NIL; MS for RP) and lower yield than RP under drought stress, IET 28017 is dropped.

IET 28017 recorded -3.9% yield inferiority over RP in Rajasthan, on par performance with RP in Uttar Pradesh and 2.52% yield advantage in Karnataka. Further, under drought stress conditions, RP yielded more than NIL. Due to differences in grain type (LB for the NIL; MS for RP) and lower yield than RP under drought stress, IET 28017 is dropped.

NILs considered for promotion:

- **IET 28783: Promoted to AVT2-NIL (CS)**
- **IET 28791 and IET 28789: Promoted to AVT2-NIL (Sub)**

INITIAL VARIETY TRIAL-IRRIGATED MEDIUM (IVT-IM)

Locations: 44

Test Entries: 61

Checks: NDR 359 -National; PR 121 (Northern), CR Dhan 300 (Eastern and North Eastern), Karma Mahsuri (Central), Akshyadhan (Western), Jaya (Southern)- Zonal and Local check **Table: 3.35**

IVT-IM comprised 61 test entries, NDR 359 as national, PR121 in northern, CR Dhan 300 in eastern and north eastern, Karma Mahsuri in central, Akshyadhan in western and Jaya in southern zones as zonal checks and a local check. The trial was sent to 44 locations spanning all the zones in the country and the details of data from the locations are presented in the following table.

Trial data/Status	Location/State/Zone	Total
Data not received	Bhubaneswar (III), Gerua, Lembuchera (IV), Bilaspur (V), Vyara (VI), Rudrur, Jagitial, Katalgiri and Kurumbapet (VII)	9
Data not included due to low/high CV%	Pantnagar (II), Patna and Varanasi (III)	3
Data not included due to low experimental mean	Ludhiana (II), Ranchi (III) and Brahmavar (VII)	3
Data included in the analysis	Kaul, Chatta, Kota (II), Cuttack, Jeypore, Chiplima, Bikramgunj, Sabour, Chinsurah, Masodha, (III), Titabar (IV*), Waraseoni, Raipur, Jagdalpur, Sakoli, Sindewahi (V), Karjat, Shirgoan, Navsari, Nawagam, Daboi (VI), Maruteru, Ragolu, Rajendranagar, Warangal, Aduthurai, Coimbatore, Pattambi and Mandya (VII)	29
Total no of locations		44

*Single location data in Z-IV, hence promotion of entries on zonal basis in Z-IV is not considered.

Overall mean yield of the entries varied from a minimum of 3730 kg/ha (IET 28443) to a maximum of 6532 kg/ha (IET 27900), experimental mean from 2205 kg/ha (Ludhiana) to 6768 kg/ha (Mandya), CV% from 4.55 (Varanasi) to 23.86% (Pantnagar), days to 50% flowering from 86 (IET 28443) to 116 (IET 28440), plant height from 93 cm (IET 28492) to 131 cm (IET 28490) and panicles per square meter from 254 (IET 28470) to 315 (IET 28489). The data pertaining to yield, flowering, plant height and number of panicles/m² are presented in tables 3.36, 3.37, 3.38 and 3.39. Performance of the entries on overall/zonal basis is given in the following tables.

Performance of the entries on overall basis in IVT-IM, Kharif 2019

Rank	IET No /Designation / Cross combination	Yield (kg/ha) / DFF / GT	% Yield Adv.NC /ZC/LC	Rank	Yield	% BC	Remarks
1	IET 27900 MTU 1276 (MTU 2578-56-1) MTU1156/MTU1081	6532 110 MS	19.18 21.14 10.45	OD-5	6951	13	Promoted- AVT1-IM
				BI-2	7714	29	
				MP-1	8378	63	
				CH-1	6893	14	
				AP-1	8116	10	
				TS-5	7518	10	
				KA-9	8294	7	
2	IET 28444 (ORR1803-OR2573-4-1) Birupa/IR 76561-AC-8-8	6392 104 LS	16.62 18.55 8.08	OD-2	7384	21	Promoted- AVT1-IM
				BI-1	7743	29	
				MP--	5612	9	
				CH-2	6885	14	
				AP-3	7767	6	
				TS-6	7456	9	
				KE-7	7572	44	
				KA-1	9408	22	
3	IET 28455 (RGL 7014) RGL 2538/NLR 34449	6286 112 LS	14.68 16.58 6.29	OD--	6603	8	Shift to IVT-L
				BI-5	7122	19	
				MP-10	6307	23	
				CH-4	6646	10	
				GU-1	6852	24	
				TS-3	7715	13	
				KA-7	8405	9	
	National Check-NDR 359	5481					
	Zonal Check	5392					
	Local Check	5914					

Performance of the entries on zonal basis in IVT-IM, Kharif 2019

S. No	IET No.	Zone II (3)		Zone III (7)		Zone V (5)		Zone VI (5)		Zone VII (8)		Remarks
		Yield	%BC	Yield	%BC	Yield	%BC	Yield	%BC	Yield	%BC	
1.	28439			6095 (109)	5.96	6211 (108)	15.38					Promoted to AVT1-IM in Z-III & V
2.	28440			6467 (114)	12.43	5926 (122)	10.09					Shift to IVT-L
3.	28442	6649 (109)	16.32									Promoted to AVT1-IM in Z-II
4.	27749	6204 (101)	8.54									
5.	28447			6099 (103)	6.03							Promoted to AVT1-IM in Z-III
6.	28451			6219 (103)	8.12	6015 (103)	11.74					Promoted to AVT1-IM in Z-III & V
7.	28452			6658 (104)	15.75							Promoted to AVT1-IM in Z-III
8.	28454			6060 (112)	5.35							Shift to IVT-L
9.	28462			6561 (118)	14.06							
10.	27771			6304 (106)	9.60							Promoted to AVT1-IM in Z-III
11.	28467			6055 (97)	5.27							Shift to IVT-IME
12.	28471			6341 (109)	10.24							Promoted to AVT1-IM in Z-III
13.	28472			6143 (104)	6.80							
14.	28475			6106 (107)	6.15							Promoted to AVT1-IM in Z-III
15.	28481			6085 (107)	5.79	5843 (103)	8.55	6017 (107)	12.11			Promoted to AVT1-IM in Z-III, V & VI
16.	28483			6116 (106)	6.33							Promoted to AVT1-IM in Z-III
17.	28487	6166 (103)	7.87									Promoted to AVT1-IM in Z-II
18.	28489	6625 (107)	15.90	6321 (111)	9.89	5998 (109)	11.42	6091 (109)	13.49			Promoted to AVT1-IM in Z-II, V & VI
19.	28490					5917 (109)	9.92	6105 (109)	13.75			Promoted to AVT1-IM in Z-V & VI
20.	28491			6330 (100)	10.05							Promoted to AVT1-IM in Z-III
21.	28493			6372 (103)	10.78	5804 (97)	7.82					
Best Check		5716		5752		5343		5367		6916		

The following entries with required yield superiority have been promoted or shifted to appropriate duration group trial based on days to 50% flowering

Promoted on

- Overall basis-IETs 28444 and 27900
- Zone II: IETs 28442, 27749, 28487 and 28489
- Zone III: IETs 28439, 28447, 28451, 28452, 27771, 28471, 28472, 28475, 28481, 28483, 28491 and 28493
- Zone V: IETs 28439, 28451, 28481, 28489 and 28490
- Zone VI: IETs 28481, 28489 and 28490
- Zone VII: None
- Shift to IVT-L: IETs 28440 and 28455
- Shift to IVT-IME: IET 28467.

Table 3.29: Composition of entries in Advance Variety Trial 1 - Irrigated Medium (AVT 1-IM), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
3rd Year of testing:				
1301	26418	CR 3969-24-1-2-1-1	IR 73907-753-2-3 / Pratiksha	LB
1302	26118	MTU 1216 (MTU 2347-55-1-1)	MTU 1075 / MTU 1081	SS
1303	Local Check			
1304	27263	CR 4113-3-2-1	CR 3724-1 / TJ 171-1	LB
1305	26086	OR (T) -31	Lalat Mutant	SB
1306	26420	CR 3856-44-22-2-1-10-1-5	IR 73963-86-1-5-2-2 / CR 2324-1	LS
2nd Year of testing:				
1307	27384	<i>PHI-18102 (Hybrid)</i>	-	LB
1308	27386	<i>RRX-301 (Hybrid)</i>	-	SB
1309	27390	<i>Bio-698 (Hybrid)</i>	-	LB
1310	26847(R)	RNR 21225	MTU 1075 / Kavya	SS
1311	27686	MTU 1310 (MTU 2613-25-1-4)	MTU 1075 / CR 3598-1-4-2-1	MS
1312	27689	CR3516-1-1-2-1-1-4	Birupa / Pusa 44	MS
1313	27662	RP 6112-MS 114-23-2-58-6-4-1-3	BPT5204 Mutant	MS
1314	27667	JR 1 (Gandhari)	IR 36 / Manoharsali	MS
1315	27389	<i>PHI-18103 (Hybrid)</i>	-	SB
1316	27378	<i>HRI-199 (Hybrid)</i>	-	MS
1317	26819 (R)	MTU 1212 (MTU 2223-5-2-2-1-1)	IR 64 / PLA 99-1-3-1-3	MS
1318	27661	RP 6294-1096-1101-22-3	Swarna / ST12 // Swarna / Habataki /// Swarna /4 / Swarna	MS
1319	27703	CR 2906-253-8-1	IR 20 / Dandi	SB
1320	NDR 359 (NC)			
1321	US-312 – (HC)			
1322	27712	WGL 1083	IR 69702-52-3-3R / 1096	SB
1323	27705	MTU 1280 (MTU 2274-8-1-1-9)	MTU 1001 / KMP 150	LB
1324	27387	<i>PHI-18104 (Hybrid)</i>	-	MS
1325	27385	<i>US-362 (Hybrid)</i>	-	MS
1326	27380	<i>NPH-X8 (Hybrid)</i>	-	LB

Entry No.	IET No.	Designation	Cross combination	Grain Type
1327	27691	RP 6319-12-2-1-1	MTU 1010 / HMT Sona	MS
1328	PR 121 (Northern), CR Dhan 300 (Eastern and North Eastern), Karma Mahsuri (Central), Akshyadhan (Western), Jaya (Southern)—(ZC)			
1329	26535(R)	PHI-17101 (Hybrid)	-	LB
1330	HRI -174 – (HC)			
1331	27280	RP 5989-47-15-11-1-126-2-13-11	Akshyadhan /// FBRI-15	LB
1332	Akshyadhan (RP)			
1333	28792	Sarjoo 52 sub-1	Sarjoo 52 / IR 64 sub-1	SB
1334	28783	CSR 189-11-123	Sarjoo 52 / FL 478 / *4	SB
1335	Sarjoo 52 (RP)			
1336	28790	KR 16023	ADT 46 *3/Swarna sub-1	LB
1337	28791	KR 16024	ADT 46 *3/Swarna sub-1	LS
1338	28789	KR 16022	ADT 46 *3/Swarna sub-1	LB
1339	ADT 46 (RP)			
1340	28017	Pusa 1823-12-62	Pusa 44 / IR81896-B-B-142 // Pusa 44*3	LB
1341	28782	CSR 187-11-229	Pusa 44 / FL 478 / * Pusa 44	LS
1342	28018	Pusa 1823-12-82	Pusa 44/ IR 81896-B-B-142 // Pusa 44*3	LB
1343	Pusa 44 (RP)			
				MS

Table 3.30: Grain Yield (Kg/ha) of entries in AVT1 IM, Kharif, 2019 Zone II

Entry No.	IET No.	Zone II											
		UK		PU		HA		JK (1)		RA (1)		ZONE II(2)	
		@PNT		@LDN		@KUL		CHT		KTA		Mean	
1301	26418	1340		1508		3273	7			5251	2	5251	1*# 12% 14%
1302	26118	3666		1157		2400		4533	2 13% 14%	5115	4	4824	3
1303	Local Check	5051	7	2550	6	4664	2	4022	7	5333	1	4678	4
1313	27662	4303	10	1988				4067	5	4555	5	4311	6
1314	27667	4491	9			6819	1	3644		4348	6	3996	9
1315	27389	5581	4	4834	1	3682	4	5556	1*# 38% 40%	4269	7	4913	2 5%
1318	27661	5427	5	3899	2	3546	6	4111	4	4023	9	4067	8
1320	NDR 359 (NC)	5660	3	2359	8	2319		4000	8	4214	8	4107	7
1321	US-312 – (HC)	4492	8	2901	3			3689		3778		3734	
1323	27705	2184		1082		2510		3689		3478		3584	
1327	27691	5677	2	2651	5	2155		4533	2 13% 14%	3189		3861	
1328	Zonal Check (ZC)	5302	6	2203	9	2455		3444		3573		3509	
1330	HRI -174 – (HC)	5901	1	2840	4	2919	9	3978	9	5196	3	4587	5
1340	28017	2916		1624		2591	10	3022		3123		3073	
1341	28782	3526		2524	7	3273	7			3955	10	3955	10
1342	28018	4096		2001		3682	4	4044	6	3696		3870	
1343	Pusa 44 (RP)	2848		2051	10	3955	3	3800	10	3846		3823	
Exp. Mean		4262.44		2385.78		3349.7		4008.89		4173.17		4125.98	
CD		1695.69		686.89		785.16		667.77		881.32		550.28	
CV%		23.92		17.27		14.01		9.96		12.7		8.02	
D/S		17-07-2019		17-07-2019		08-07-2019		11-07-2019		12-07-2019			
D/P		01-08-2019		08-07-2019		04-08-2019		02-08-2019		10-08-2019			
Local Check Name		Pant Dhan 4		PR 121		HKR-128		SJR-5		Ratna			

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 3.30 contd.: Grain Yield (Kg/ha) of entries in AVT1 IM (Zone III), Kharif 2019

Entry No.	IET No.	Zone III							
		OD						OD (3)	
		@BBN		CTK		JYP		CHP	Mean
1301	26418	4582	5	5897		6800		5589	6095
1303	Local Check	3535		5530		4913		6003	5482
1304	27263	5519	2	6253	10	8721	6	6219	7064 8 * 9.82%
1307	27384	5447	3	7460	2 * #	9737	3 * #	6691	6 * 7963 2 * # 24% 12%
1309	27390	4654	4	6380	8	7111		6349	9 6613
1310	26847(R)	4365	8	6800	5	8516	8	6667	7 * 7328 6 * 14%
1312	27689	3968		8007	1 * #	8740	5	5604	7450 5 * 16% 5%
1315	27389	4509	7	6367	9	9693	4 * #	7133	2 * 7731 4 * # 20% 9%
1320	NDR 359 (NC)	3824		5600		6291		5070	5654
1321	US-312 – (HC)	3968		5893		8642	7	6705	5 * 7080 7
1322	27712	4257		6707	6	7074		6667	7 * 6816 , 6%
1323	27705	5628	1	6053		7980		6320	10 6784 , 5.47%
1324	27387	4582	5	7320	3 * #	10355	1 * #	6753	4 * 8143 1 * # 27%
1326	27380	3283		6147		10208	2 * #	6859	3 * 7738 3 * # 20% 9%
1328	Zonal Check (ZC)	4113		5833		8179		5286	6433
1330	HRI -174 – (HC)	4257	10	5980		8183	10	6316	6826 10
1331	27280	3788		6973	4*	6811		7249	1 * 7011 9 * 8.99%
1332	Akshyadhan (RP)	3499		5667		8501	9	5469	6546
1333	28792	1623		4260		3082		4310	3884
1334	28783	2814		5820		6366		5334	5840
1335	Sarjoo 52 (RP)	3139		5653		6392		5017	5687
1340	28017	2742		6447	7	4717		4228	5131
1341	28782	4329	9	3973		3632		5791	4465
1342	28018	2706		4970		3571		4824	4455
1343	Pusa 44 (RP)	3175		4667		4421		4372	4487
Exp. Mean		3932		6026		7145		5873	6348
CD		959.22		1092.99		700.07		615.27	451
CV%		14.86		11.05		5.97		6.38	4.33
D/S		11-07-2019		12-07-2019		11-07-2019		16-07-2019	
D/P		16-08-2019		19-08-2019		09-08-2019		12-08-2019	
Local Check Name		Hiranmayee		Tapaswini		Pratikshya		Pratikshya	
*Superior to best check		%superior over best check							
#Superior over hybrid check		%Superior over hybrid check							

Table 3.30 contd.: Grain Yield (Kg/ha) of entries in AVT1 IM (Zone III), Kharif 2019

Entry No.	IET No.	Zone III							
		BI						BI(2)	
		@BKG		SBR		PTN		Mean	
1301	26418	6487	5	4604		5753		5179	
1303	Local Check	5230		3375		4867		4121	
1304	27263	4400		6871	5 *	6740	4	6806	3 * 12%
1307	27384	3726		7275	1 * #	4460		5868	
1309	27390	4242		6176	9	8107	1 * #	7142	1 * 18% 10%
1310	26847(R)	4534		5780		6293	8	6037	
1312	27689	4108		6987	4 *	5393		6190	7
1315	27389	6846	3	6654	6	4947		5801	
1320	NDR 359 (NC)	6891	2	6062		6047		6055	10
1321	US-312 – (HC)	6599	4	5525		6873	2	6199	6
1322	27712	4085		6431	7	5320		5876	
1323	27705	3367		5105		5767		5436	
1324	27387	5724	6	7133	3 * #	6567	5	6850	2 * 13%
1326	27380	7003	1	7177	2 * #	6227	9	6702	4 * 11%
1328	Zonal Check (ZC)	5342	8	4025		3613		3819	
1330	HRI -174 – (HC)	5657	7	6360	8	6567	5	6464	5
1331	27280	5275	9	5241		5693		5467	
1332	Akshyadhan (RP)	4624		5649		6420	7	6035	
1333	28792	4938		4165		4893		4529	
1334	28783	4287		6098	10	6120	10	6109	8
1335	Sarjoo 52 (RP)	4983		5821		5887		5854	
1340	28017	5230	10	5378		6793	3 *	6086	9
1341	28782	2424		2069		4000		3035	
1342	28018	4826		4506		5707		5107	
1343	Pusa 44 (RP)	2604		4511		4927		4719	
Exp. Mean		4937		5559		5759		5659	
CD		1842.68		660.68		741.94		495.4	
CV%		22.73		7.24		7.85		5.33	
D/S		15-07-2019		15-07-2019		20-07-2019			
D/P		13-08-2019		10-08-2019		16-08-2019			
Local Check Name		Sabour Shree		Rajendra Sweta		Rajendra Sweta			
*Superior to best check		%superior over best check							
#Superior over hybrid check		%Superior over hybrid check							

Table 3.30 contd.: Grain Yield (Kg/ha) of entries in AVT1 IM (Zone III), Kharif 2019

Entry No.	IET No.	Zone III										
		JH		WB		WB(1)	UP			UP(2)	ZONE III(8)	
		@RCI		CHN		Mean	MSD	VRN		Mean	Mean	
1301	26418	2431		5215		5215	4828	5	7030	5929	5714	
1303	Local Check	637		5782	6	5782	4555	8	7027	5791	5257	
1304	27263	2257		6463	2 #	6463	4528	9	6547	5538	6543	8* 8%
1307	27384	1968		5291		5291	5456	1* #	9733	4* 7595	4 7013	3* 16% 5.21%
1309	27390	2720	9	5367		5367	5456	1* #	7707	10 6582	6582	7* 8.68%
1310	26847(R)	2749	8	5253		5253	4228		6427	5328	6246	
1312	27689	2894	6	6387	4	6387	4064		8550	7 6307	6716	5* 11%
1315	27389	2922	5	5215		5215	4283	10	10983	2* # 7633	3 6909	4* 14%
1320	NDR 359 (NC)	1794		5178		5178			8143	9 8143	2 6056	
1321	US-312 – (HC)	3472	2	5556		5556	4037		8607	6 6322	6480	9
1322	27712	2431		5178		5178	3737		8540	8 6139	6207	
1323	27705	2633		6425	3	6425	4255		6503	5379	6051	
1324	27387	3038	3	6689	1 #	6689	4965	3*	11933	1* # 8449	1 # 7714	1*# 27% 15.74%
1326	27380	3675	1	5026		5026	4692	6	9963	3* 7328	7037	2*# 16% 5.58%
1328	Zonal Check (ZC)	1794		6066	5	6066	4637	7	5333	4985	5372	
1330	HRI -174 – (HC)	3038	3	5669	9	5669	4965	3	9283	5 7124	6665	6
1331	27280	1823		5329		5329			7523	5 7523	6403	10* 5.7%
1332	Akshyadhan (RP)	2025		4913		4913			7520	6 7520	6306	
1333	28792	2170		5064		5064			6307	6307	4583	
1334	28783	1707		5102		5102			7267	7267	6015	
1335	Sarjoo 52 (RP)	2402		5593	10	5593	10		7357	7357	5960	
1340	28017	2459		5782	6	5782	6		7460	7460	5829	
1341	28782	2402		5745	8	5745	8		5117	5117	4332	
1342	28018	2807	7	5140		5140			7457	7457	5168	
1343	Pusa 44 (RP)	2691	10	4762		4762			7453	7453	5016	
Exp. Mean		2438		5528		5528	4579		7831	6721	6087	
CD		704.9		778.94		778.9	395.97		760.69	513.8	306.2	
CV%		17.62		8.58		8.58	5.17		5.92	4.66	3.06	
D/S		12-07-2019		16-07-2019			15-07-2019		12-07-2019			
D/P		21-08-2019		14-08-2019			14-08-2019		01-08-2019			
Local Check Name		BVD-203		KAUSHALYA			Sarjoo-52		HUR 105			
*Superior to best check		%superior over best check										
#Superior over hybrid check		%Superior over hybrid check										

Table 3.30 contd.: Grain Yield (kg/ha) of entries in AVT1 IM, Kharif 2019 Zone IV

Entry No.	IET No.	Zone IV									
		AS			AS(1)		TR(1)		ZONE IV(2)		
		TTB		@GER		Mean		LMB		Mean	
1301	26418	4375	7	2988	5	4375	7	5077	8	4726	8
1303	Local Check	5000	5	2325	6	5000	5	5939	4	5470	5
1315	27389	6400	1	4493	2	6400	1 11% 9%	5596	6	5998	2
1320	NDR 359 (NC)	5750	3	1710	8	5750	3	6078	3	5914	3
1321	US-312 – (HC)	5875	2	4878	1	5875	2	6249	2	6062	1
1323	27705	4500	6	3800	3	4500	6	5264	7	4882	7
1328	Zonal Check (ZC)	3750	8	1944	7	3750	8	6318	1	5034	6
1330	HRI -174 – (HC)	5700	4	3177	4	5700	4	5805	5	5753	4
Exp. Mean		5169		3165		5169		5791		5480	
CD		1045.79		1528.7		1045.79		1100.23		828.07	
CV%		13.76		32.85		13.76		12.92		10.28	
D/S		02-07-2019		06-08-2019				25-07-2019			
D/P		05-08-2019		27-08-2019				13-08-2019			
Local Check Name		Shraboni		Naveen							

Table 3.30 contd.: Grain Yield (kg/ha) of entries in AVT1 IM, Kharif,2019 Zone-V

Entry No.	IET No.	Zone V									
		MP(1)				CH					
		WRS		RPR		JDP		BLP		CH(3)	
1301	26418	6149		3979		5329	3	5633		4980	
1303	Local Check	4287		3754		5721	2 #	5600		5025	
1307	27384	7027	2	4753	8	4081	9	7933	6	5589	4
1308	27386	4573		4890	6	3870		7933	6	5564	6
1315	27389	7013	3	4768	7	4052		8267	3 *	5696	2 5%
1316	27378	6438	8	5195	2	4423	8	6400		5339	10
1320	NDR 359 (NC)	6933	4	4510		4741	4	7000	10	5417	9
1321	US-312 – (HC)	5016		4378		4487	7	7133	9	5333	
1322	27712	5853		5310	1	4682	6	5733		5242	
1323	27705	6320	10	4575	10	4720	5	6500		5265	
1324	27387	8173	1 * # 18% 19%	4988	5	5740	1 #	8100	4	6276	1 *# 16% 13%
1325	27385	6736	6	5043	3	3657		7567	8	5422	8
1326	27380	6338	9	5010	4	3654		8400	1 *	5688	3 5%
1328	Zonal Check (ZC)	6084		4483		4060	10	6267		4937	
1329	26535(R)	6618	7	4476		3924		8300	2 *	5567	5
1330	HRI -174 – (HC)	6847	5	4714	9	3969		8000	5	5561	7
	Exp. Mean	6275		4677		4444		7173		5431	
	CD	982.45		839.84		1149.53		1177.94		491.37	
	CV%	9.39		10.77		15.51		9.85		5.43	
	D/S	15-07-2019		10-07-2019		12-07-2019		12-07-2019			
	D/P	30-07-2019		31-07-2019		05-08-2019		11-08-2019			
	Local Check Name	JRB 1		Maheshwari		IGKVR 1244		Chandrasasini			

Table 3.30 contd.: Grain Yield (kg/ha) of entries in AVT1 IM, Kharif,2019 Zone-V

Entry No.	IET No.	Zone V									
		MA				MA(2)			ZONE V(6)		
		SKL		SND		Mean			Mean		
1301	26418	4023	10	4847	10 #	4435	7	8%	4993		
1303	Local Check	3631		3712		3672			4451		
1307	27384	4228	7	5570	3 #	4899	5 *#	20% 13%	5599	3 * 9%	
1308	27386	5480	1 *	5608	2 #	5544	1 *#	35% 28%	5392	5 4.53%	
1315	27389	4534	6	5139	6 #	4837	6 *	18% 12%	5629	2 * 9%	
1316	27378	3552		5303	4 #	4428	8	8%	5219	10	
1320	NDR 359 (NC)	2812		4951	9 #	3882			5158		
1321	US-312 – (HC)	3350		3661		3506			4671		
1322	27712	5106	2 *	3145		4126			4972		
1323	27705	4888	4 *	5074	8 #	4981	3 *#	22% 15%	5346	7	
1324	27387	5101	3 *	5183	5 #	5142	2 *#	26% 19%	6214	1 *# 20% 16%	
1325	27385	3451		5125	7 #	4288	10		5263	9	
1326	27380	4193	8	4018		4106			5269	8	
1328	Zonal Check (ZC)	3854		4337		4096			4848		
1329	26535(R)	4086	9	5851	1 * #	4969	4 *#	21% 15%	5543	4 * 7%	
1330	HRI -174 – (HC)	4785	5 *	3854		4320	9		5362	6	
	Exp. Mean	4192		4711		4452			5245		
	CD	714.88		810.7		520.94			359.29		
	CV%	10.23		10.32		7.02			4.11		
	D/S	11-07-2018		17-07-2019							
	D/P	02-08-2019		02-08-2019							
	Local Check Name	PDKV Kisan		PKV-HMT							

Table 3.30 contd.: Grain Yield (Kg/ha) of entries in AVT1 IM (Zone 6), Kharif 2019

Entry No.	IET No.	Zone VI													
		MA				MA(2)			GU			GU (2)		ZONE VI (4)	
		KJT		SHR		Mean			NVS		NWG	Mean		Mean	
1301	26418	3208	8	4363	9	3786	9		5475	8	3575	9	4525	9	
1303	Local Check	4530	4	5258	5	4894	4		5657	7	4648	3	5153	4	
1308	27386	6102	1 * #	5125	6	5614	1 #	4.71% 19%	6338	2	3981	8	5160	3	
1315	27389	4559	3	5438	4	4999	3		6698	1 #	4829	1	5764	1*# 12% 13%	
1320	NDR 359 (NC)	5258	2	5463	3	5361	2		6079	3	4196	7	5138	5	
1321	US-312 – (HC)	4444	5	4983	7	4714	6		5713	4	4505	4	5109	6	
1323	27705	2958	9	5558	2 #	4258	8		5710	5	4807	2	5259	2	
1328	Zonal Check (ZC)	4116	7	5604	1	4860	5		5679	6	4364	6	5022	7	
1330	HRI -174 – (HC)	4130	6	4458	8	4294	7		4926	9	4412	5	4669	8	
Exp. Mean		4367.39		5138.89		4753.14			5808.26		4368.33		5088.29		
CD		528.26		814.77		509.19			708.77		531.87		418.7		
CV%		8.29		10.86		7.34			8.36		8.34		5.64		
D/S		15-07-2019		13-07-2019					16-07-2019		12-07-2019				
D/P		10-08-2019		30-07-2019					14-08-2019		03-09-2019				
Local Check Name		Karjat 5		Ratnagiri 4					GNR-5		GAR-13				

Table 3.30 contd.: Grain yield (kg/ha) of entries in AVT1 IM (Zone 7), Kharif 2019

Entry No.	IET No.	Zone VII													
		AP				AP (2)			TE			TE (3)			
		MTU		RGL		Mean			RNR		WGL	JGL		Mean	
1301	26418	4523		8413		6468			7218		8421		7800		
1302	26118	4613		8535	8	6574			7649		9370	6 * #	8299	6	
1303	Local Check	5878	7	7438		6658			7813		8831		6871		
1305	26086	7080	2 *	8945	3	8013	2 * 14%		8696	9	8778		7917	8	
1306	26420	5462	9	8848	5	7155	7		7729		7786		7917	8	
1311	27686	7979	1 * #	8865	4	8422	1 * # 20% 9.79%		8016		10417	2 * #	8220	7	
1315	27389	6135	5	8774	6	7455	6 6%		10351	2 *	10191	4 * #	8718	2	
1317	26819 (R)	6565	4 *	8349		7457	5 6%		7635		10171	5 * #	8373	4	
1319	27703	4137		8333		6235			7892		8857	10	6497		
1320	NDR 359 (NC)	5780	8	8263		7022	10		8474	10	6931		7803		
1321	US-312 – (HC)	4409		7628		6019			9082	7	8912	9	7124		
1323	27705	5153	10	10209	1 * #	7681	3 * 9%		10143	4 *	10258	3 * #	8474	3	
1328	Zonal Check (ZC)	3655		5147		4401			7051		6715		6736		
1329	26535(R)	4330		9735	2 *	7033	9		10877	1 * #	11304	1 * #	9500	1 * #	
1330	HRI -174 – (HC)	6716	3 *	8625	7	7671	4 9%		9357	6	8924	8	7811	10	
1331	27280	2652		6715		4684			9743	5 *	9295	7 * #	7767		
1332	Akshyadhan (RP)	2570		7538		5054			10179	3 *	8847		8324	5	
1336	28790	3783		8518	9	6151			7093		8249		5997		
1337	28791	5895	6	8301		7098	8		7868		8033		6776		
1338	28789	3424		8245		5835			8421		8088		6385		
1339	ADT 46 (RP)	3450		8430	10	5940			7606		8340		5990		
1340	28017	1847		5032		3440			6598		7339		6938		
1341	28782	2172		5354		3763			8816	8	7991		6649		
1342	28018	2319		6164		4242			6542		6711		5750		
1343	Pusa 44 (RP)	2535		5288		3912			7050		7659		6777		
Exp. Mean		4523		7828		6175			8316		8657		7416		
CD		559.47		1192.55		641.69			1056.74		1161.55		1067.13		
CV%		7.54		9.28		6.33			7.74		8.17		8.76		
D/S		05-07-2019		16-07-2019					15-07-2019		11-07-2019		08-07-2019		
D/P		01-08-2019		13-08-2019					27-08-2019		11-08-2019		06-08-2019		
Local Check Name		MTU 1075		RGL 2538					Krishna		SOMNATH		JGL 11470		

Table 3.30 contd.: Grain yield (kg/ha) of entries in AVT1 IM (Zone 7), Kharif 2019

Entry No.	IET No.	Zone VII																	
		TN		TN (2)		KE	KA		KA (1)		PU	ZONE VII (8)							
		ADT	CBT	Mean		@PTB	MND	@BRM	Mean		@KRRK	Mean							
1301	26418	5679	6597		6138			3728	5	7207	3708	3	7207		4500		6982		
1302	26118	5607	6684		6146			5385	1	6100	2724		6100		5078	9	7107		
1303	Local Check	6611	6369		6490			2767		7468	3230	6	7468		6151	3	7160		
1305	26086	7145	67059	6	7102	5	7%	5036	2	7724	4399	1	7724		4267		7918	5 * 8%	
1306	26420	6526	6858	9	6692	10		3833	4	7882	10	2911	7882	10	3389		7376	10	
1311	27686	5996	6467		6232			3267		7253	2884		7253		4056		7902	6 * 7%	
1315	27389	6380	6717		6549			1971		8194	6	2539	8194	6	3769		8183	3 * 11%	
1317	26819 (R)	5692	6764		6228			2835		7485	3472	5	7485		4067		7629	8	
1319	27703	6992	9	6233		6613		3535	7	7253	2897		7253		5078	9	7024		
1320	NDR 359 (NC)	7047	8	6226		6637		2724		8318	5	2833	8318	5	4667		7355		
1321	US-312 – (HC)	6876	10	6260		6568		2913		7905	8	2897	7905	8	5967	5	7275		
1323	27705	5688	7663	2 * #	6676			3493	9	8985	4	3176	7	8985	4 8%	3898		8322	2 * 13%
1328	Zonal Check (ZC)	6586	5210		5898			2209		6999	2844		6999		3822		6012		
1329	26535(R)	7248	5	7609	3 * #	7429	3 12%	1964		9178	2	3509	4	9178	2 10%	5944	6	8723	1 * # 19%
1330	HRI -174 – (HC)	7120	7	6599		6860	7	2518		9718	1	3987	2	9718	1	4456		8109	4 10%
1331	27280	6154	7016	7	6585			2165		6142	3163	8	6142		6244	2	6936		
1332	Akshayadhan (RP)	8222	1	7443	4 * 7833	1 *# 18% 14%		3596	6	9155	3	2765		9155	3 10%	4756		7785	7 * 6%
1336	28790	6461	7359	5 * 6910	6			3501	8	7724	2645		7724		5989	4	6898		
1337	28791	7675	3	6948	8	7312	4 10%	2912		7905	8	2432		7905	8	5578	7	7425	9
1338	28789	7735	2	7716	1 * # 7726	2 *# 16% 12.62%		3275	10	7608	2485		7608		5289	8	7203		
1339	ADT 46 (RP)	5949	5927		5938			4367	3	7986	7	2578		7986	7	6811	1	6710	
1340	28017	6782	6657		6720	9		1487		7276	3030	9	7276		4922		6059		
1341	28782	4573	4341		4457			1478		2076	2950	10	2076		4244		5247		
1342	28018	7295	4	5998		6647		1543		6914	2884		6914		4433		5962		
1343	Pusa 44 (RP)	6816	6826	10	6821	8		1283		6744	2632		6744		4500		6212		
	Exp. Mean	6594	6622		6608			2951		7488	3023		7488		4875		7165		
	CD	1748.62	918		811.06			1628.88		909.06	403.43		909.06		39.51		332.19		
	CV%	16.15	8.44		7.48			33.62		7.4	8.13		7.4		0.49		2.82		
	D/S	21-08-2019	14-08-2019					19-08-2019		18-07-2019	12-07-2019				30-08-2019				
	D/P	25-09-2019	19-09-2019					05-09-2019		14-08-2019	27-07-2019				26-09-2019				
	Local Check Name	CO 52	CO (R) 50					Swetha		BR-2655	MO-4				ADT 39				

Table 3.31: Days to 50% flowering of entries of AVT1 IM (Zone II), Kharif 2019

Entry No.	IET NO	Zone II					
		UK	PU	HA	JK(1)	RA(1)	Zone II (2)
		@PNT	@LDN	@KUL	CHT	KTA	Mean
1301	26418	99	111	112		109	109
1302	26118	107	107	114	110	110	110
1303	Local Check	92	99	106	108	107	107
1313	27662	86	97		103	107	105
1314	27667	106		107	110	108	109
1315	27389	92	92	111	115	106	110
1318	27661	93	93	110	113	109	111
1320	NDR 359 (NC)	92	100	109	114	107	111
1321	US-312 – (HC)	81	96		103	108	106
1323	27705	100	92	104	110	112	111
1327	27691	83	92	114	116	103	109
1328	Zonal Check (ZC)	95	105	110	108	109	109
1330	HRI -174 – (HC)	97	104	114	111	109	110
1340	28017	98	109	85	113	112	113
1341	28782	101	91	114		103	103
1342	28018	79	105	106	115	111	113
1343	Pusa 44 (RP)	102	102	102	111	102	107
	Exp Mean	94	100	108	111	108	109

Table 3.31 contd.: Days to 50% flowering of entries in AVT1 IM (Zone 3), Kharif, 2019

Entry No.	IET NO	ZONE III														
		OD				OD (3)	BI			BI (2)	JH	WB(1)	UP		UP (2)	Zone III (8)
		@BBN	CTK	JYP	CHP	Mean	@BKG	SBR	PTN	Mean	@RCI	CHN	MSD	VRN	Mean	Mean
1301	26418	110	97	104	110	103	99	109	100	105	109	106	91	100	96	102
1303	Local Check	106	97	108	111	106	96	97	101	99	111	101	94	88	91	100
1304	27263	107	95	110	108	104	98	109	98	104	104	103	96	96	96	102
1307	27384	102	100	106	105	104	93	104	94	99	106	99	97	88	93	99
1309	27390	95	103	96	98	99	86	92	87	90	98	91	103	76	89	93
1310	26847(R)	104	111	105	111	109	96	113	103	108	102	95	102	100	101	105
1312	27689	104	95	106	107	103	96	108	98	103	106	103	103	86	95	101
1315	27389	102	96	104	102	101	87	98	93	96	102	93	105	86	96	97
1320	NDR 359 (NC)	98	110	105	102	106	89	98	95	96	102	93		85	85	98
1321	US-312 – (HC)	97	92	104	100	98	84	93	90	91	100	88	110	79	94	94
1322	27712	105	110	107	106	108	98	105	96	101	103	103	112	99	106	105
1323	27705	111	109	115	113	112	106	114	105	109	110	106	116	103	110	110
1324	27387	103	107	105	105	106	94	103	95	99	106	100	114	88	101	102
1326	27380	101	112	103	103	106	88	96	91	94	103	104	110	83	96	100
1328	Zonal Check (ZC)	117	115	117	116	116	100	127	106	117	111	111	112	106	109	114
1330	HRI -174 – (HC)	103	110	107	105	107	90	104	94	99	103	98	100	86	93	100
1331	27280	106	114	111	109	111	96	108	100	104	106	104		94	94	106
1332	Akshyadhan (RP)	106	110	106	106	107	89	103	91	97	100	100		84	84	100
1333	28792	92	94	96	98	96	91	98	90	94	100	88		91	91	94
1334	28783	97	106	100	102	103	91	97	92	95	99	92		90	90	97
1335	Sarjoo 52 (RP)	101	103	108	108	106	95	103	94	99	109	101		88	88	101
1340	28017	101	101	97	107	102	100	103	95	99	103	101		97	97	100
1341	28782	89	92	96	94	94	111	87	81	84	94	84		75	75	87
1342	28018	102	99	95	107	100	96	104	98	101	102	99		97	97	100
1343	Pusa 44 (RP)	102	96	97	107	100	96	103	96	100	105	95		95	95	98
	Exp Mean	102	103	104	106	104	95	103	95	99	104	98	104	90	94	100

Table 3.31 contd.: Days to 50% flowering of entries in AVT1 IM, Kharif 2019 Zone IV

Entry No.	IET NO	ZONE IV			
		AS		AS (1)	Zone IV(1)
		TTB	@GER	Mean	Mean
1301	26418	112	89	112	112
1303	Local Check	119	85	119	119
1315	27389	107	85	107	107
1320	NDR 359 (NC)	108	86	108	108
1321	US-312 – (HC)	103	85	103	103
1323	27705	118	94	118	118
1328	Zonal Check (ZC)	120	97	120	120
1330	HRI -174 – (HC)	109	86	109	109
	Exp Mean	112	88	112	112

Table 3.31 contd.: Days to 50 flowering of entries in AVT1 IM, Kharif,2019 Zone V

Entry No.	IET NO	ZONE-V								Zone V (6)
		MP	CH			CH(3)	MA		MA (2)	
		WRS	RPR	JDP	BLP	Mean	SKL	SND	Mean	Mean
1301	26418	96	104	92	103	100	94	100	97	98
1303	Local Check	84	97	98	92	96	98	103	100	95
1307	27384	90	104	110	100	105	98	96	97	100
1308	27386	90	105	107	100	104	96	93	94	98
1315	27389	87	97	96	96	96	95	92	94	94
1316	27378	92	106	107	103	105	99	97	98	101
1320	NDR 359 (NC)	87	98	90	100	96	97	94	96	94
1321	US-312 – (HC)	84	91	107	96	98	87	90	89	93
1322	27712	90	100	107	101	103	98	95	96	98
1323	27705	94	107	106	107	107	105	104	105	104
1324	27387	91	106	91	98	98	99	98	99	97
1325	27385	89	103	107	100	103	98	99	99	99
1326	27380	87	102	89	94	95	92	92	92	93
1328	Zonal Check (ZC)	84	109	108	97	105	93	92	92	97
1329	26535(R)	85	96	107	94	99	94	91	92	94
1330	HRI -174 – (HC)	92	99	108	97	101	99	94	97	98
	Exp. Mean	89	102	102	99	101	96	96	96	97

Table 3.31 contd.: Days to 50% flowering of entries in AVT1 IM (Zone 6), Kharif 2019

Entry No.	IET NO	ZONE VI						
		MA		MA (2)	GU		GU (2)	Zone VI (4)
		KJT	SHR	Mean	NWS	NWG	Mean	Mean
1301	26418	99	101	100	101	106	103	102
1303	Local Check	96	86	91	86	102	94	93
1308	27386	97	98	98	92	104	98	98
1315	27389	99	87	93	89	105	97	95
1320	NDR 359 (NC)	95	88	91	88	107	98	95
1321	US-312 – (HC)	97	88	93	84	107	96	94
1323	27705	101	85	93	98	115	107	100
1328	Zonal Check (ZC)	97	94	96	93	106	99	97
1330	HRI -174 – (HC)	96	92	94	92	108	100	97
	Exp Mean	98	91	94	92	107	99	97

Table 3.31 contd.: Days to 50% flowering of entries in AVT1 IM (Zone 7), Kharif 2019

Entry No.	IET NO	ZONE VII - SOUTHERN															
		AP		AP (2)	TE			TE (3)	TN		TN(2)	KE	KA		KA (1)	PU	Zone VII (8)
		MTU	RGL	Mean	RNR	WGL	JGL	Mean	ADT	CBT	Mean	@PTB	MND	@BRM	Mean	@KRK	Mean
1301	26418	110	98	104	112	108	100	107	100	94	97	83	106	93	106	88	104
1302	26118	107	98	103	112	112	101	108	99	100	100	83	114	96	114	92	105
1303	Local Check	111	94	102	107	104	105	105	105	107	106	85	113	104	113	87	106
1305	26086	113	93	103	110	103	98	104	99	99	99	87	111	96	111	87	103
1306	26420	102	98	100	113	110	105	109	105	102	104	83	114	97	114	91	106
1311	27686	108	107	108	113	111	108	111	103	105	104	84	113	93	113	93	108
1315	27389	95	89	92	103	97	93	98	94	96	95	82	104	93	104	85	96
1317	26819 (R)	112	105	108	113	112	108	111	112	102	107	84	112	102	112	95	109
1319	27703	110	105	108	111	113	108	111	101	101	101	85	112	96	112	92	108
1320	NDR 359 (NC)	91	89	90	102	100	94	99	97	93	95	81	107	100	107	88	97
1321	US-312 – (HC)	88	85	87	102	92	91	95	93	92	93	84	106	100	106	85	94
1323	27705	106	98	102	109	109	107	108	100	100	100	86	113	96	113	93	105
1328	Zonal Check (ZC)	92	87	90	102	93	93	96	93	98	96	85	113	93	113	84	96
1329	26535(R)	91	87	89	102	98	92	97	95	96	96	80	106	93	106	86	96
1330	HRI -174 – (HC)	97	93	95	105	99	95	100	98	100	99	83	105	93	105	85	99
1331	27280	98	98	98	111	103	106	107	112	103	108	83	112	95	112	84	105
1332	Akshyadhan (RP)	96	92	94	108	101	95	101	99	96	98	83	106	93	106	87	99
1336	28790	116	112	114	117	116	114	116	105	108	107	86	113	107	113	93	113
1337	28791	104	112	108	117	121	113	117	106	108	107	95	113	109	113	92	112
1338	28789	112	112	112	117	120	114	117	97	109	103	85	108	112	108	93	111
1339	ADT 46 (RP)	117	112	114	117	120	96	111	95	109	102	84	113	112	113	93	110
1340	28017	100	92	96	99	99	95	98	99	93	96	84	102	93	102	86	97
1341	28782	83	75	79	93	89	112	98	90	89	90	79	96	89	96	75	91
1342	28018	93	86	90	93	99	93	95	96	96	96	82	107	96	107	81	96
1343	Pusa 44 (RP)	94	90	92	99	100	94	97	99	96	98	84	106	95	106	92	97
	Exp Mean	102	96	99	107	105	101	105	100	100	100	84	109	98	109	88	103

Table 3.32: Plant Height (cm) of entries of AVT1 IM (Zone II), Kharif 2019

Entry No.	IET NO	Zone II					
		UK	PU	HA	JK(1)	RA(1)	Zone II (2)
		@PNT	@LDN	@KUL	CHT	KTA	Mean
1301	26418	98.00	78.67	67.00		98.00	98.00
1302	26118	104.00	92.00	83.00	94.20	102.67	98.43
1303	Local Check	106.00	70.67	81.00	101.00	100.67	100.83
1313	27662	101.00	79.33		91.30	97.00	94.15
1314	27667	147.00		91.00	125.30	113.67	119.48
1315	27389	100.00	88.67	73.00	91.80	97.00	94.40
1318	27661	97.00	85.33	74.00	75.50	95.00	85.25
1320	NDR 359 (NC)	100.00	79.67	77.00	83.60	91.00	87.30
1321	US-312 – (HC)	103.00	89.33		97.20	98.67	97.93
1323	27705	102.00	90.00	84.00	88.10	103.67	95.88
1327	27691	105.00	85.00	64.00	95.20	91.00	93.10
1328	Zonal Check (ZC)	80.00	67.67	75.00	74.80	86.00	80.40
1330	HRI -174 – (HC)	105.00	89.00	66.00	87.50	91.33	89.42
1340	28017	86.00	67.67	78.00	73.20	83.00	78.10
1341	28782	93.00	84.00	62.00		92.67	92.67
1342	28018	100.00	73.00	73.00	68.30	82.00	75.15
1343	Pusa 44 (RP)	87.00	74.33	93.00	82.30	94.00	88.15
	Exp Mean	100.82	80.90	76.07	88.62	95.14	92.27

Table 3.32 contd.: Plant Height (cm) of entries in AVT1 IM (Zone 3), Kharif, 2019

Entry No.	IET NO	ZONE III							
		OD				OD (3)	BI		
		@BBN	CTK	JYP	CHP	Mean	@BKG	SBR	PTN
1301	26418	114.00	113.60	95.40	103.43	104.14	107.00	93.56	95.71
1303	Local Check	113.00	94.10	94.53	104.20	97.61	108.00	80.67	79.13
1304	27263	132.00	114.70	106.87	113.17	111.58	120.00	108.33	101.60
1307	27384	99.00	102.70	89.67	95.83	96.07	110.00	85.78	89.37
1309	27390	95.00	102.30	94.07	96.03	97.47	122.00	102.11	102.27
1310	26847(R)	100.00	111.20	99.87	105.63	105.57	112.00	106.56	103.13
1312	27689	86.00	105.90	97.33	99.13	100.79	108.00	95.22	95.89
1315	27389	100.00	101.70	92.25	103.63	99.19	119.00	99.11	95.22
1320	NDR 359 (NC)	105.00	91.80	80.27	89.87	87.31	105.00	90.78	90.86
1321	US-312 – (HC)	115.00	110.20	97.07	101.27	102.84	125.00	118.44	100.61
1322	27712	130.00	121.20	122.73	111.50	118.48	138.00	106.89	115.22
1323	27705	121.00	116.10	97.93	106.87	106.97	115.00	104.44	105.84
1324	27387	114.00	105.00	91.93	97.40	98.11	113.00	93.67	94.04
1326	27380	104.00	104.60	83.73	94.77	94.37	115.00	98.22	94.10
1328	Zonal Check (ZC)	114.00	107.80	102.20	100.73	103.58	120.00	98.78	92.30
1330	HRI -174 – (HC)	100.00	101.00	98.33	103.50	100.94	121.00	96.44	102.61
1331	27280	114.00	124.80	113.60	110.13	116.18	139.00	118.33	98.44
1332	Akshyadhan (RP)	98.00	103.60	105.97	108.90	106.16	125.00	110.22	116.16
1333	28792	81.00	94.00	79.17	81.27	84.81	106.00	83.11	102.87
1334	28783	98.00	98.00	88.07	95.30	93.79	123.00	94.33	100.47
1335	Sarjoo 52 (RP)	101.00	98.40	96.00	90.63	95.01	120.00	97.00	97.18
1340	28017	92.00	90.80	78.20	83.97	84.32	98.00	83.11	84.28
1341	28782	105.00	100.80	88.27	92.33	93.80	114.00	85.00	91.89
1342	28018	100.00	92.10	77.80	89.40	86.43	98.00	78.67	84.16
1343	Pusa 44 (RP)	90.00	82.80	81.40	87.43	83.88	100.00	98.00	79.90
	Exp Mean	104.84	103.57	94.11	98.65	98.78	115.24	97.07	96.53

Table 3.32 contd.: Plant Height (cm) of entries in AVT1 IM (Zone 3), Kharif, 2019

Entry No.	IET NO	ZONE III					
		JH	WB(1)	UP		UP (2)	Zone III (8)
		@RCI	CHN	MSD	VRN	Mean	Mean
1301	26418	76.00	108.33	81.00	110.30	95.65	100.17
1303	Local Check	80.00	123.33	98.00	106.53	102.27	97.56
1304	27263	91.00	124.33	95.00	127.87	111.43	111.48
1307	27384	73.00	103.33	86.00	101.20	93.60	94.23
1309	27390	86.00	111.33	74.00	117.10	95.55	99.90
1310	26847(R)	79.00	120.67	83.00	110.60	96.80	105.08
1312	27689	59.00	109.67	80.00	108.90	94.45	99.01
1315	27389	77.00	123.33	75.00	117.40	96.20	100.96
1320	NDR 359 (NC)	70.00	101.67		107.50	107.50	93.25
1321	US-312 – (HC)	77.00	117.33	90.00	123.50	106.75	107.30
1322	27712	92.00	151.00	77.00	139.20	108.10	118.09
1323	27705	76.00	122.33	80.00	122.80	101.40	107.04
1324	27387	73.00	120.67	74.00	113.80	93.90	98.81
1326	27380	80.00	103.33	83.00	116.10	99.55	97.23
1328	Zonal Check (ZC)	83.00	118.00	75.00	113.00	94.00	100.98
1330	HRI -174 – (HC)	84.00	110.00	78.00	114.50	96.25	100.55
1331	27280	92.00	135.33		126.70	126.70	118.19
1332	Akshyadhan (RP)	98.00	127.33		128.60	128.60	114.40
1333	28792	67.00	96.33		99.10	99.10	90.83
1334	28783	74.00	118.67		111.50	111.50	100.90
1335	Sarjoo 52 (RP)	76.00	118.00		110.00	110.00	101.03
1340	28017	59.00	106.67		95.10	95.10	88.87
1341	28782	82.00	100.67		107.40	107.40	95.19
1342	28018	83.00	95.67		97.50	97.50	87.90
1343	Pusa 44 (RP)	72.00	98.00		94.30	94.30	88.83
	Exp Mean	78.36	114.61	81.93	112.82	102.54	100.71

Table 3.32 contd.: Plant Height (cm) of entries in AVT1 IM, Kharif 2019 (Zone 4)

Entry No.	IET NO	ZONE IV					
		AS		AS (1)	TR	TR (1)	Zone IV (2)
		TTB	@GER	Mean	LMB	Mean	Mean
1301	26418	95.00	101.30	101.30	115.33	115.33	105.17
1303	Local Check	101.75	106.30	106.30	114.42	114.42	108.08
1315	27389	91.83	98.55	98.55	110.50	110.50	101.17
1320	NDR 359 (NC)	85.33	91.80	91.80	116.50	116.50	100.92
1321	US-312 – (HC)	93.33	100.27	100.27	113.08	113.08	103.21
1323	27705	92.83	105.60	105.60	117.92	117.92	105.38
1328	Zonal Check (ZC)	93.75	104.40	104.40	111.25	111.25	102.50
1330	HRI -174 – (HC)	95.33	101.80	101.80	108.00	108.00	101.67
	Exp Mean	93.65	101.25	101.25	113.38	113.38	103.51

Table 3.32 contd.: Plant Height (cm) of entries in AVT1 IM, Kharif,2019 Zone V

Entry No.	IET NO	ZONE-V								Zone V (6)
		MP	CH			CH(3)	MA		MA (2)	
		WRS	RPR	JDP	BLP	Mean	SKL	SND	Mean	Mean
1301	26418	118.00	96.39	81.33	109.00	95.57	113.80	123.00	118.40	106.92
1303	Local Check	116.00	102.20	94.93	100.00	99.04	96.80	95.00	95.90	100.82
1307	27384	110.00	87.19	82.60	96.00	88.60	95.40	104.00	99.70	95.87
1308	27386	116.40	106.18	87.60	112.00	101.93	107.60	125.00	116.30	109.13
1315	27389	113.00	105.49	83.53	105.00	98.01	95.00	119.00	107.00	103.50
1316	27378	114.00	104.65	93.00	118.00	105.22	94.00	126.00	110.00	108.28
1320	NDR 359 (NC)	113.00	88.81	84.80	104.00	92.54	96.40	105.00	100.70	98.67
1321	US-312 – (HC)	114.40	103.99	86.87	111.00	100.62	97.20	131.00	114.10	107.41
1322	27712	126.00	116.04	96.13	127.00	113.06	129.60	141.00	135.30	122.63
1323	27705	116.00	117.32	96.87	118.00	110.73	112.40	127.00	119.70	114.60
1324	27387	119.00	105.31	84.33	111.00	100.21	111.80	128.00	119.90	109.91
1325	27385	129.60	108.05	90.60	107.00	101.88	110.40	136.00	123.20	113.61
1326	27380	110.20	96.99	83.80	108.00	96.26	98.20	121.00	109.60	103.03
1328	Zonal Check (ZC)	110.00	87.80	69.27	98.00	85.02	74.60	122.00	98.30	93.61
1329	26535(R)	111.80	87.56	88.20	108.00	94.59	98.20	124.00	111.10	102.96
1330	HRI -174 – (HC)	121.20	96.21	90.13	112.00	99.45	96.00	138.00	117.00	108.92
	Exp. Mean	116.16	100.64	87.13	109.00	98.92	101.71	122.81	112.26	106.24

Table 3.32 contd.: Plant Height (cm) of entries in AVT1 IM (Zone 6), Kharif 2019

Entry No.	IET NO	ZONE VI						
		MA		MA (2)	GU		GU (2)	Zone VI (4)
		KJT	SHR	Mean	NVS	NWG	Mean	Mean
1301	26418	120.75	109.85	115.30	104.90	116.40	110.65	112.98
1303	Local Check	112.75	104.05	108.40	101.90	93.20	97.55	102.98
1308	27386	117.80	111.60	114.70	99.30	109.40	104.35	109.53
1315	27389	112.35	111.50	111.93	96.10	97.60	96.85	104.39
1320	NDR 359 (NC)	113.35	106.65	110.00	92.10	94.60	93.35	101.68
1321	US-312 – (HC)	119.25	111.45	115.35	101.30	100.80	101.05	108.20
1323	27705	125.30	119.00	122.15	101.10	110.40	105.75	113.95
1328	Zonal Check (ZC)	129.70	129.55	129.63	110.70	106.40	108.55	119.09
1330	HRI -174 – (HC)	119.35	119.80	119.58	95.00	109.80	102.40	110.99
	Exp Mean	118.96	113.72	116.34	100.27	104.29	102.28	109.31

Table 3.32 contd.: Plant Height (cm) of entries in AVT1 IM (Zone 7), Kharif 2019

Entry No.	IET NO	ZONE VII - SOUTHERN									
		AP		AP (2)	TE			TE (3)	TN		TN(2)
		MTU	RGL	Mean	RNR	WGL	JGL	Mean	ADT	CBT	Mean
1301	26418	120.13	126.30	123.22	98.93	131.80	118.30	116.34	114.00	100.10	107.05
1302	26118	127.13	122.90	125.02	101.00	133.20	122.20	118.80	94.33	111.10	102.72
1303	Local Check	127.07	99.80	113.43	90.07	129.53	112.70	110.77	102.00	124.90	113.45
1305	26086	132.87	140.00	136.43	100.53	136.27	112.70	116.50	104.30	106.60	105.45
1306	26420	147.20	141.80	144.50	103.53	150.60	137.10	130.41	112.33	121.20	116.77
1311	27686	125.40	119.70	122.55	100.00	130.60	119.70	116.77	96.00	113.10	104.55
1315	27389	125.33	113.20	119.27	96.93	119.00	109.90	108.61	105.00	107.50	106.25
1317	26819 (R)	125.40	113.70	119.55	102.40	133.07	116.80	117.42	104.67	105.90	105.28
1319	27703	156.13	150.50	153.32	106.93	148.07	147.40	134.13	113.67	122.10	117.88
1320	NDR 359 (NC)	110.93	106.40	108.67	99.33	104.50	98.70	100.84	104.67	106.30	105.48
1321	US-312 – (HC)	130.40	122.30	126.35	100.40	123.80	117.80	114.00	108.67	106.70	107.68
1323	27705	133.53	130.60	132.07	101.53	131.13	123.80	118.82	109.67	105.35	107.51
1328	Zonal Check (ZC)	124.20	93.20	108.70	95.07	105.40	109.90	103.46	101.00	104.40	102.70
1329	26535(R)	120.93	116.00	118.47	100.07	119.80	111.20	110.36	110.00	111.40	110.70
1330	HRI -174 – (HC)	129.20	118.40	123.80	99.60	126.73	118.10	114.81	102.33	105.60	103.97
1331	27280	149.00	140.30	144.65	114.67	153.73	123.30	130.57	112.30	133.00	122.65
1332	Akshyadhan (RP)	135.60	127.00	131.30	125.00	141.40	123.70	130.03	113.20	124.00	118.60
1336	28790	138.20	130.30	134.25	101.93	132.27	125.90	120.03	105.33	112.60	108.97
1337	28791	142.40	125.70	134.05	101.40	133.00	126.10	120.17	111.33	119.00	115.17
1338	28789	139.40	132.00	135.70	101.73	133.27	132.70	122.57	121.33	113.10	117.22
1339	ADT 46 (RP)	139.60	113.10	126.35	98.20	139.47	121.50	119.72	107.67	118.00	112.83
1340	28017	98.60	90.60	94.60	81.53	102.60	94.90	93.01	93.67	88.00	90.83
1341	28782	124.73	106.10	115.42	96.53	121.23	109.10	108.96	81.00	108.40	94.70
1342	28018	106.13	93.80	99.97	92.47	106.20	92.80	97.16	93.00	85.20	89.10
1343	Pusa 44 (RP)	111.53	88.90	100.22	84.33	98.80	94.30	92.48	92.33	83.00	87.67
	Exp Mean	128.84	118.50	123.67	99.77	127.42	116.82	114.67	104.55	109.46	107.01

Table 3.32 contd.: Plant Height (cm) of entries in AVT1 IM (Zone 7), Kharif 2019

Entry No.	IET NO	ZONE VII - SOUTHERN					
		KE	KA		KA (1)	PU	Zone VII (8)
		PTB	MND	@BRM	Mean	@KRK	Mean
1301	26418	115.80	100.93	67.00	100.93	142.30	113.81
1302	26118	118.20	94.60	68.00	94.60	144.50	113.31
1303	Local Check	133.93	117.53	56.50	117.53	133.10	112.95
1305	26086	129.40	101.93	46.50	101.93	132.50	116.90
1306	26420	128.73	114.07	85.50	114.07	135.00	128.48
1311	27686	118.80	107.53	81.50	107.53	130.50	114.00
1315	27389	111.47	98.13	71.00	98.13	115.40	109.38
1317	26819 (R)	107.33	100.53	67.50	100.53	141.70	112.81
1319	27703	126.60	122.80	78.50	122.80	160.30	133.45
1320	NDR 359 (NC)	109.93	98.93	70.50	98.93	138.60	103.72
1321	US-312 – (HC)	110.87	97.93	81.00	97.93	145.30	113.50
1323	27705	120.33	102.33	76.50	102.33	142.50	117.24
1328	Zonal Check (ZC)	108.13	89.07	70.00	89.07	120.60	102.78
1329	26535(R)	120.00	105.13	91.50	105.13	133.60	111.82
1330	HRI -174 – (HC)	107.93	102.67	83.00	102.67	122.10	112.83
1331	27280	122.20	107.73	90.00	107.73	150.50	129.25
1332	Akshyadhan (RP)	120.13	124.13	85.00	124.13	156.40	126.75
1336	28790	131.27	109.87	63.00	109.87	155.30	119.55
1337	28791	129.67	109.60	65.50	109.60	150.40	121.07
1338	28789	130.73	110.40	74.50	110.40	116.20	122.99
1339	ADT 46 (RP)	124.07	106.73	69.50	106.73	115.10	118.03
1340	28017	89.47	90.60	62.00	90.60	100.20	92.56
1341	28782	96.40	99.60	69.00	99.60	115.40	105.84
1342	28018	104.53	92.67	72.50	92.67	160.50	95.28
1343	Pusa 44 (RP)	95.07	86.47	68.00	86.47	110.20	92.46
	Exp Mean	116.44	103.68	72.54	103.68	134.73	113.63

Table 3.33: Panicles/m2 of entries in AVT1 IM (Zone II), Kharif 2019

Entry No.	IET NO	Zone II					
		UK	PU	HA	JK(1)	RA(1)	Zone II (2)
		@PNT	@LDN	@KUL	CHT	KTA	Mean
1301	26418	292	240	304		292	292
1302	26118	307	242	310	321	268	295
1303	Local Check	306	264	263	296	303	300
1313	27662	262	216		307	222	265
1314	27667	301		264	303	210	257
1315	27389	281	255	326	309	210	259
1318	27661	320	251	274	302	198	250
1320	NDR 359 (NC)	291	242	281	286	245	266
1321	US-312 – (HC)	312	264		288	175	232
1323	27705	243	251	277	312	152	232
1327	27691	280	246	281	289	152	220
1328	Zonal Check (ZC)	290	264	272	292	187	239
1330	HRI -174 – (HC)	323	268	292	310	257	283
1340	28017	310	290	293	294	163	229
1341	28782	252	293	221		198	198
1342	28018	270	299	293	291	175	233
1343	Pusa 44 (RP)	265	279	251	299	210	255
	Exp. Mean	289	260	280	300	213	253

Table 3.33 contd.: Panicles/m2 of entries in AVT1 IM (Zone 3), Kharif, 2019

Entry No.	IET NO	ZONE III														
		OD				OD (3)	BI			BI (2)	JH	WB(1)	UP		UP (2)	Zone III (8)
		@BBN	CTK	JYP	CHP	Mean	@BKG	SBR	PTN	Mean	@RCI	CHN	MSD	VRN	Mean	Mean
1301	26418	263	308	395	238	314	284	238	263	250	180	231	328	271	300	284
1303	Local Check	246	267	349	219	278	455	271	321	296	203	187	340	271	306	278
1304	27263	248	266	280	210	252	248	253	229	241	205	220	349	216	282	253
1307	27384	262	320	384	261	321	317	344	251	298	240	220	356	241	299	297
1309	27390	237	224	297	217	246	283	239	275	257	188	176	357	251	304	255
1310	26847(R)	222	266	382	248	299	286	264	226	245	189	209	311	229	270	267
1312	27689	244	275	535	251	354	352	306	289	297	298	242	322	276	299	312
1315	27389	257	300	308	229	279	282	261	250	255	226	242	312	254	283	269
1320	NDR 359 (NC)	226	279	473	222	325	388	275	212	244	240	220		218	218	271
1321	US-312 – (HC)	251	291	275	202	256	380	245	225	235	207	220	320	223	271	250
1322	27712	224	343	386	239	323	353	242	260	251	179	308	316	240	278	292
1323	27705	230	295	378	258	310	317	249	288	269	175	264	303	262	282	287
1324	27387	243	262	317	237	272	273	269	216	242	205	198	304	281	293	261
1326	27380	263	324	373	214	304	280	226	239	233	196	242	313	262	288	274
1328	Zonal Check (ZC)	253	289	353	222	288	318	222	235	229	171	209	323	276	300	266
1330	HRI -174 – (HC)	275	301	337	237	292	350	282	259	271	211	253	296	254	275	277
1331	27280	240	259	326	268	285	358	247	275	261	199	286		277	277	277
1332	Akshyadhan (RP)	224	235	271	227	244	317	255	206	230	190	209		216	216	231
1333	28792	211	243	257	255	252	272	263	274	269	210	220		274	274	255
1334	28783	292	327	301	312	313	388	296	332	314	272	286		333	333	312
1335	Sarjoo 52 (RP)	286	358	311	246	305	351	372	299	335	262	264		286	286	305
1340	28017	257	339	326	249	305	250	255	263	259	227	286		298	298	288
1341	28782	212	272	382	265	306	737	206	255	230	244	209		281	281	267
1342	28018	257	312	304	234	283	317	280	284	282	229	231		264	264	273
1343	Pusa 44 (RP)	274	259	333	266	286	248	189	292	241	206	231		320	320	270
	Exp Mean	248	289	345	241	292	336	262	261	261	214	235	323	263	284	275

Table 3.33 contd.: Panicles/m2 of entries in AVT1 IM, Kharif 2019 Zone IV

Entry No.	IET NO	ZONE IV					
		AS		AS (1)	TR	TR (1)	Zone IV (2)
		TTB	@GER	Mean	LMB	Mean	Mean
1301	26418	246	282	246	273	273	259
1303	Local Check	196	300	196	238	238	217
1315	27389	221	276	221	235	235	228
1320	NDR 359 (NC)	202	288	202	290	290	246
1321	US-312 – (HC)	200	263	200	267	267	233
1323	27705	212	239	212	279	279	246
1328	Zonal Check (ZC)	219	267	219	275	275	247
1330	HRI -174 – (HC)	192	279	192	256	256	224
	Exp Mean	211	274	211	264	264	237

Table 3.33 contd.: Panicles/m² of entries in AVT1 IM, Kharif,2019 Zone V

Entry No.	IET NO	ZONE-V							
		MP	CH		CH(2)	MA		MA(2)	Zone V (5)
		WRS	RPR	JDP	Mean	SKL	SND	Mean	Mean
1301	26418	328	213	175	194	243	251	247	242
1303	Local Check	250	212	215	214	245	257	251	236
1307	27384	338	224	194	209	217	284	250	251
1308	27386	348	209	191	200	279	266	273	259
1315	27389	484	200	180	190	239	260	249	273
1316	27378	308	202	194	198	246	263	254	242
1320	NDR 359 (NC)	344	238	210	224	227	236	231	251
1321	US-312 – (HC)	262	234	189	212	192	237	215	223
1322	27712	279	237	208	222	247	246	247	243
1323	27705	334	219	186	203	247	249	248	247
1324	27387	328	213	174	194	230	294	262	248
1325	27385	277	220	190	205	183	240	212	222
1326	27380	264	213	214	213	205	253	229	230
1328	Zonal Check (ZC)	299	214	198	206	295	254	275	252
1329	26535(R)	277	213	194	204	217	210	214	222
1330	HRI -174 – (HC)	383	220	182	201	217	275	246	255
	Exp. Mean	319	218	193	205	233	255	244	244

Table 3.33 contd.: Panicles/m² of entries in AVT1 IM (Zone 6), Kharif 2019

Entry No.	IET NO	ZONE VI						
		MA		MA(2)	GU		GU (2)	Zone VI (4)
		KJT	SHR	Mean	NVS	NWG	Mean	Mean
1301	26418	236	153	195	225	275	250	222
1303	Local Check	239	132	185	183	282	233	209
1308	27386	244	175	210	212	277	244	227
1315	27389	230	165	197	205	283	244	221
1320	NDR 359 (NC)	226	204	215	196	277	237	226
1321	US-312 – (HC)	226	173	200	305	281	293	246
1323	27705	260	223	241	302	284	293	267
1328	Zonal Check (ZC)	216	287	252	293	282	287	269
1330	HRI -174 – (HC)	214	163	188	285	282	284	236
	Exp Mean	232	186	209	245	280	263	236

Table 3.33 contd.: Panicles/m2 of entries in AVT1 IM (Zone 7), Kharif 2019

Entry No.	IET NO	ZONE VII - SOUTHERN									
		AP		AP (2)	TE			TE (3)	TN		TN(2)
		MTU	RGL	Mean	RNR	WGL	JGL	Mean	ADT	CBT	Mean
1301	26418	321	288	305	462	426	376	421	387	303	345
1302	26118	295	280	287	601	387	462	484	412	318	365
1303	Local Check	297	296	297	539	415	339	431	423	420	422
1305	26086	341	257	299	516	416	455	462	404	290	347
1306	26420	293	256	274	506	428	493	476	376	291	333
1311	27686	295	271	283	450	405	425	427	375	407	391
1315	27389	295	266	280	596	417	418	477	357	342	349
1317	26819 (R)	288	259	274	471	403	429	434	391	305	348
1319	27703	312	282	297	433	421	429	428	452	302	377
1320	NDR 359 (NC)	293	257	275	471	391	394	418	289	315	302
1321	US-312 – (HC)	306	261	283	495	410	464	456	417	283	350
1323	27705	308	259	284	533	406	398	446	381	295	338
1328	Zonal Check (ZC)	299	263	281	480	385	422	429	379	280	330
1329	26535(R)	310	268	289	453	385	427	422	308	277	292
1330	HRI -174 – (HC)	354	258	306	539	404	427	457	392	312	352
1331	27280	271	298	284	498	409	451	453	434	355	395
1332	Akshyadhan (RP)	293	250	271	447	415	392	418	461	273	367
1336	28790	304	292	298	607	421	493	507	382	313	348
1337	28791	312	297	305	596	421	455	491	483	297	390
1338	28789	293	280	286	596	435	431	487	430	285	358
1339	ADT 46 (RP)	339	261	300	631	426	438	498	378	367	372
1340	28017	306	317	311	507	403	409	439	354	292	323
1341	28782	328	263	295	436	420	477	444	377	383	380
1342	28018	310	304	307	524	424	438	462	354	312	333
1343	Pusa 44 (RP)	277	281	279	527	409	455	464	384	335	360
	Exp Mean	306	275	290	517	411	432	453	391	318	355

Table 3.33 contd.: Panicles/m2 of entries in AVT1 IM (Zone 7), Kharif 2019

Entry No.	IET NO	ZONE VII - SOUTHERN					
		KE	KA		KA (1)	PU	Zone VII (8)
		PTB	MND	@BRM	Mean	@KRR	Mean
1301	26418	422	427	258	427	357	374
1302	26118	338	410	297	410	477	396
1303	Local Check	317	407	276	407	495	392
1305	26086	322	443	316	443	367	390
1306	26420	224	400	225	400	310	380
1311	27686	394	433	238	433	366	383
1315	27389	322	453	288	453	289	393
1317	26819 (R)	345	413	304	413	360	370
1319	27703	308	460	298	460	424	386
1320	NDR 359 (NC)	273	380	313	380	378	349
1321	US-312 – (HC)	357	407	245	407	435	380
1323	27705	418	447	286	447	306	378
1328	Zonal Check (ZC)	303	477	245	477	324	373
1329	26535(R)	271	430	324	430	474	357
1330	HRI -174 – (HC)	264	427	268	427	364	389
1331	27280	285	393	301	393	486	389
1332	Akshyadhan (RP)	268	390	269	390	384	365
1336	28790	441	480	314	480	455	412
1337	28791	366	493	218	493	466	419
1338	28789	376	450	298	450	485	400
1339	ADT 46 (RP)	432	507	340	507	475	418
1340	28017	329	500	287	500	433	386
1341	28782	579	387	268	387	384	384
1342	28018	348	517	266	517	393	398
1343	Pusa 44 (RP)	313	420	188	420	324	386
	Exp Mean	345	438	277	438	400	386

Table 3.34: Grain Quality characteristics of entries in AVT 1 – IM, Kharif 2019

Entry No.	IET NO.	HULL	MILL	HRR	KL	KB	L/B	GT	Grain Chalk	ASV	AC	GC
1301	26418	80.0	71.7	66.3	6.75	2.27	2.97	LB	OC	4.0	20.73	57
1302	26118	77.3	67.2	53.6	5.91	1.77	3.33	SS	A	4.0	21.47	24
1304	27263	79.1	69.3	52.2	6.42	2.34	2.74	LB	VOC	5.0	25.13	65
1305	26086	77.6	68.8	61.4	5.32	2.19	2.42	SB	VOC	5.0	25.66	22
1306	26420	78.9	67.6	60.4	6.80	2.19	3.10	LS	A	5.0	26.95	35
1307	27384	79.7	68.6	53.2	6.36	2.18	2.91	LB	A	4.0	27.10	33
1308	27386	78.6	67.7	43.9	5.35	2.3	2.32	SB	VOC	5.0	24.78	42
1309	27390	79.2	70.8	64.8	6.52	2.24	2.91	LB	VOC	5.0	24.75	58
1310	26847	78.0	68.8	61.8	5.99	1.97	3.04	SS	VOC	5.0	23.34	22
1311	27686	77.9	68.3	58.3	5.62	2.04	2.75	MS	VOC	4.0	25.75	25
1312	27689	78.1	70.1	64.6	5.45	1.99	2.73	MS	VOC	5.0	24.08	22
1313	27662	78.9	69.6	65.6	5.41	2.02	2.67	MS	A	3.0	17.71	77
1314	27667	77.1	69.7	66.3	5.46	2.02	2.70	MS	VOC	5.0	20.50	37
1315	27389	80.1	70.5	46.4	5.40	2.34	2.30	SB	VOC	4.0	26.04	41
1316	27378	79.4	70.8	63.8	5.90	2.24	2.63	MS	VOC	6.0	23.29	53
1317	26819	76.9	66.9	61.1	5.55	2.04	2.72	MS	A	5.0	23.37	25
1318	27661	77.5	68.1	62.7	5.53	2.08	2.65	MS	A	4.0	27.36	22
1319	27703	77.4	69.9	66.6	5.45	2.26	2.41	SB	A	4.0	24.40	24
1320	NDR-359	79.4	70.6	61.9	6.40	2.44	2.62	LB	VOC	5.0	24.58	22
1321	US-312	78.5	70.4	63.5	5.79	2.12	2.73	MS	VOC	5.1	25.93	43
1322	27712	79.4	72.1	62.9	5.52	2.57	2.14	SB	VOC	7.0	22.35	23
1323	27705	78.2	69.9	66.2	6.11	2.34	2.61	LB	VOC	7.0	22.82	25
1324	27387	78.3	68.1	54.6	5.77	2.16	2.67	MS	VOC	5.0	26.57	37
1325	27385	78.9	71.0	63.4	5.99	2.19	2.73	MS	VOC	5.3	25.66	38
1326	27380	82.7	74.0	62.4	6.31	2.35	2.68	LB	VOC	5.3	21.58	37
1327	27691	79.0	69.2	58.6	5.66	1.94	2.91	MS	A	4.0	25.90	48
1328	Jaya	77.6	69.2	67.3	5.54	2.50	2.21	SB	VOC	7.0	25.96	22
1329	26535	80.1	65.4	33.0	6.30	2.33	2.70	LB	VOC	4.5	26.86	46
1330	HRI-174	79.8	71.1	58.5	6.24	2.14	2.91	LB	VOC	4.8	25.75	48
1331	27280	80.2	72.3	66.8	6.63	2.24	2.95	LB	VOC	5.0	26.51	43
1332	Akshyadhan	77.8	69.1	62.3	6.36	2.32	2.74	LB	VOC	5.0	23.76	22
1333	28792	77.2	67.2	64.2	5.53	2.26	2.44	SB	VOC	7.0	26.69	24
1334	28783	76.7	68.9	64.6	5.52	2.38	2.31	SB	A	5.0	26.66	22
1335	Sarjoo-52	77.6	70.2	67.1	5.40	2.34	2.30	SB	VOC	5.0	26.31	43
1336	28790	79.3	71.9	66.2	6.27	2.13	2.94	LB	VOC	7.0	27.01	22
1337	28791	80.5	73.8	71.3	6.39	1.91	3.34	LS	VOC	7.0	26.42	24
1338	28789	80.0	73.8	72.5	6.31	2.14	2.94	LB	A	7.0	26.54	22
1339	ADT-46	78.7	70.9	67.2	6.23	2.11	2.95	LB	VOC	7.0	25.22	22
1340	28017	79.6	72.2	69.6	6.30	2.32	2.71	LB	VOC	7.0	26.42	22
1341	28782	77.7	68.5	57.6	6.22	2.06	3.01	LS	VOC	5.0	25.66	57
1342	28018	77.2	67.8	64.3	6.37	2.19	2.90	LB	VOC	7.0	25.99	25
1343	Pusa-44	77.2	70.1	68.0	5.73	2.18	2.62	MS	VOC	7.0	27.33	24

HULL: Hulling (%); Milling (%): HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB::Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

Table 3.35: Composition of entries in Initial Variety Trial - Irrigated Medium (IVT -IM), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
1st Year of testing:				
1401	28439	OR 2487-13	OR 2076-2 / Ashoka 228	LS
1402	28440	AD 13280	CO (R) 50 / AD 08132	SB
1403	28441	BRR 2135	Sita / Rajendra Swetha	MS
1404	28442	Pusa 1824-12-84-17-7-2	Pusa 44 / PAU 201	LS
1405	27749	MTU 1266 (MTU 2344-60-2-1-1)	MTU 3626 / MTU 1010	SB
1406	27877	Pusa 5268-2-11-1-112-40	Pusa 44 / CN 1406-10-2-2	MS
1407	28443	RP 6167-R 232	Swarna / O.rufipogon	SB
1408	28444	ORR 1803-OR2573-4-1	Birupa / IR 76561-AC-8-8	LS
1409	28445	CB 15138	CB 09153 / BG 358	MS
1410	28446	OR (CZ)-76-18-1	PB-1 Mutant	MS
1411	28447	IRRI 186 (TP Code-26783)		LS
1412	28448	NVSR 6214	IR71907-3R-2-1-1 / IET-18710	LB
1413	27776	BMR-US-1-24-2	Varient selection from Uma	SB
1414	28449	UPR 4109-26-2-1-1	Narendra 359 / Pant Dhan 18	LS
1415	28450	NWGR 14084	GR 11 / NWGR 97116	LS
1416	28451	CR 4030-15-2-2-1-1-1-1	Reeta / CR 2324-4-1	LB
1417	28452	R *(DH 16-5)	Safri-17 / RP Bio 226	SB
1418	28453	RNR 28397	BPT 5204 / IR 79216-141-1-3-3-3	LB
1419	28454	WGL 1272	WGL-14 / JGL 13595	MS
1420	28455	RGL 7014	RGL 2538 / NLR 34449	LS
1421	28456	CR 2905-255-6	IR20 / Dandi	MS
1422	28457	MSN 108	IET 20919 / MSN 99	LS
1423	28458	RP 6348-22-13-48-15	Swarna / ST12 // Swarna / Habataki /// Swarna	LB
1424	28459	NWGR 13055	Gurjari / IET 17126	LS
1425	28460	CR 2829-197-1	Naveen / ARC10075	MS
1426	28461	HKR 15-22	CSR 36 / IR 64	LS
1427	28462	MTU 1314 (MTU 2493-3-3-2)	MTU 5249 / BM 71	MS
1428	27771	KMP 230	Jaya / CR 2711-76-1	SB
1429	28463	RNR 25979	RP Bio 226 / JGL 1798	MB
1430	28464	KAU PTB JS-2-1-1-1	Cul JS-1	SB
1431	NDR 359 (NC)			
1432	28465	BRR 0131 (IR 125026-52-1-1)	Akshayadhan / PAU-201	MB
1433	28466	CR 3549-6-1-2-3-1-1	ADT 43 / Annapurna	MB
1434	28467	PAU 2K10-23-54-14-52-20-0-4 (RYT 3437)	PAU 201 / PAU 3699-13-2-3-1 // PAU 201	LS
1435	28468	KJT-3-6-8-7-5	PLG 1 / RP Bio 170	LS
1436	28469	UPR 4116-17-1-1-3	Govind / Pant Dhan 19	LS
1437	28470	CR 3856-44-22-2-1-9-1	IR 73963-86-1-5-2-2 / CR 2324-1-1	MS
1438	28471	AD 13253	AD 01246 / CO 49	MS
1439	28472	ORR 1806-OR 2577-41-1	IR 43 / Jogesh	MB
1440	27900	MTU 1276 (MTU 2578-56-1)	MTU 1156 / MT U 1081	MS

Entry No.	IET No.	Designation	Cross combination	Grain Type
1441	28473	BRR 0129 (TRC-2017-42)	CT 9993-5-10-1-M / 2* Sambha Mahsuri	MS
1442	28474	RP 5507-JBB 680-3	Swarna / IRGC 63248 // Swarna Sub1	LS
1443	28475	Pusa 2070-10-2	BPT 5204 / Swarna	MS
1444	28476	RP 5599-240-B-15-3	MTU 1010 / KMR3	LS
1445	28477	CRAC 3998-104-2	Doubled haploid of 27P 63	LS
1446	28478	PAU 6264-7-2-1 (RYT 3787)	PAU 3842-62-5-1 / PAU 3371-26-1-3	LS
1447	PR 121 (Northern), CR Dhan 300 (Eastern and North Eastern), Karma Mahsuri (Central), Akshyadhan (Western), Jaya (Southern)—(ZC)			
1448	28479	RP 6329-65-9-2-2	MTU 1081 / Sinnasivappu	MS
1449	28480	RP 5964-92	KMR 3R / Swarna*1	MB
1450	28481	OR 2573-7	Birupa / IR 76561-AC-8-8	LS
1451	28482	BPT 3072	BPT 5204 / MTU 1075	MS
1452	28483	CR 3759-1-1-2-1-1	Sambha Mahsuri / Vijetha	MS
1453	28484	NVSR 6217	IR 71907-3R-2-1-1 / IR 77664-B-25-1-2-1-3-12-4-AJY1	LB
1454	28485	CR 4114-3-1-1-2-2	CR 3848-1-1-2-1-1	LS
1455	28486	RP 6358-RAF-33 -GSR-IR2-1-Y16-S1-R2	Weed Tol Rice / Haoannong	LB
1456	28487	CR 4004-14228-2-1-3-2-1	BS-6444G / C460-3-2	LS
1457	28488	RP 6334-201-9-4-3	JGL 3844 / KAUM 166-2	MS
1458	28489	BRR 2141	TTB 680-2-35-2 Selection	LS
1459	28490	CN 2123	Bhudeb / IR 85260-148	MS
1460	28491	CR 4202 -298-2-2-1	Naveen / IRBB 66	MS
1461	28492	RP Bio 4918-10-2S	Swarna / O.nivara	SB
1462	28493	R 2299-367-1-254-1	Karma Mahsuri / Bamaleshwari	SB
1463	28494	WGL 1252	KMP 150 / JGL 17025	MS
1464	Local Check			

Table 3.36: Grain Yield (Kg/ha) of entries in IVT IM, Kharif 2019

Entry No.	IET No.	Zone II									
		UT		PU		HA		HA (1)		JK	
		@PNT		@LDN		KUL		Mean		CHT	Mean
1401	28439	5625				5100		5100			
1402	28440	356									
1403	28441	3711		988		5350		5350			
1404	28442	5879		2062							
1405	27749	5539		2306		5500		5500			
1406	27877	435				5750	10	5750	10		
1407	28443	1735		3142	9	3450		3450	3950		3950
1408	28444	4741				4500		4500			
1409	28445	4789				2750		2750			
1410	28446	3985		2563		4250		4250	4250	6	4250
1411	28447	6000		2648		5550		5550	3600		3600
1412	28448	3996		1383		5600		5600	4050		4050
1413	27776	4004		1357		4500		4500			
1414	28449	5172		3188	8				4050		4050
1415	28450	3103		1107		4600		4600			
1416	28451	6011	10	1653		2000		2000	4150		4150
1417	28452	6050	8	1627		4250		4250	4250	6	4250
1418	28453	4989		2273		5200		5200			
1419	28454	2884				5350		5350			
1420	28455	4213				2250		2250			
1421	28456	5916		3636	2	3750		3750	4200	10	4200
1422	28457	4976		3011		3600		3600	4550	4	4550
1423	28458	5569		1858		2750		2750			
1424	28459	6043	9	1950		3250		3250			
1425	28460	4599		1937					3200		3200
1426	28461	3778		3465	5	5500		5500	3750		3750
1427	28462	2677				6150	4	6150	4		
1428	27771	5302		1910		4250		4250	4100		4100
1429	28463	4407				2150		2150			
1430	28464	5866		1986		4650		4650			
1431	NDR 359 (NC)	4262		2688		4750		4750	4000		4000
1432	28465	6851	4	2016		5900	6	5900	6	3450	3450
1433	28466	4571		1462		4050		4050	4250	6	4250
1434	28467	5524		3498	3	4500		4500	3750		3750
1435	28468	4399				4350		4350			
1436	28469	7086	2	1910		5750	8	5750	8	4700	4700
1437	28470	5474		2220		4750		4750			
1438	28471	3584		1166		4750		4750	4800	1	4800
1439	28472	6220	7	1350		5350		5350			
1440	27900	5172				4750		4750			
1441	28473	4733		1416		3600		3600			
1442	28474	5940		4354	1	3050		3050	4250	6	4250
1443	28475	6739	5	1746		3050		3050			
1444	28476	7039	3	1673		5850	7	5850	7	3850	3850
1445	28477	3039		1877		4150		4150	4100		4100
1446	28478	5073		2892		3000		3000			
1447	Zonal Check (ZC)	5155		1950		4250		4250			
1448	28479	4250		2286		3750		3750	3600		3600
1449	28480	2916				4250		4250			
1450	28481	4841		1423		4250		4250	4600	3	4600
1451	28482	1093				4050		4050			
1452	28483	3925		2075		5250		5250			
1453	28484	2733		1140		3400		3400	4500	5	4500
1454	28485	5017		3472	4	4250		4250			
1455	28486	5435		3373	7	3300		3300	3650		3650
1456	28487	4558		1957		5750	8	5750	8		
1457	28488	5640		1772		6000	5	6000	5		
1458	28489	4629				6600	2	6600	2		
1459	28490	2856				5050		5050			
1460	28491	7252	1	3030	10	4250		4250	4000		4000
1461	28492	2588		2543		6250	3	6250	3	3550	3550
1462	28493	3461		1871		3850		3850			
1463	28494	5873		1410		4200		4200			
1464	Local Check	6246	6	3426	6	7050	1	7050	1	4200	4200
	Exp. Mean	4633.2		2205.02		4489.17		4489.17	4049.09		4049.09
	CD	2209.1		857.64		633.75		633.75	1305.85		1305.85
	CV%	23.86		19.34		7.06		7.06	15.72		15.72
	D/S	10-07-2019		07-09-2019		08-07-2019			11-07-2019		
	D/P	29-07-2019		08-05-2019					02-08-2019		
	Local Check Name	Pant Dhan 4		PR 126		HKR-128			SJR-5		

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 3.36 contd.: Grain Yield (Kg/ha) of entries in IVT IM, Kharif 2019

Entry No.	IET No.	Zone II				Zone II (3)		Zone III		
		RA		RA (1)		Mean		OD		
		KTA			Mean		Mean	CTK		JYP
1401	28439	5386		5386		5243		6090		4659
1402	28440	4455		4455		4455		7710	2	8587 8 13%
1403	28441	5785		5785		5568		4730		8810 5 16%
1404	28442	6649		6649		6649	1 * 16%	4845		7106
1405	27749	6908		6908		6204	3 9%	5930		6397
1406	27877	4122		4122		4936		4100		6308
1407	28443	5519		5519		4306		4775		9032 2 19%
1408	28444	4588		4588		4544		6050		8608 7 13%
1409	28445	6283		6283		4517		5540		6455
1410	28446	7114		7114		5205		5020		5185
1411	28447	6383		6383		5178		6255		6718
1412	28448	6370		6370		5340		5020		5336
1413	27776	6981		6981		5741		5150		5723
1414	28449	7281	8	7281	8	5666		5720		6731
1415	28450	6948		6948		5774		4200		7591
1416	28451	7048		7048		4399		6380		7156
1417	28452	7314	7	7314	7	5271		6500		5371
1418	28453	6496		6496		5848	10	6670	9	7077
1419	28454	5951		5951		5651		4585		6746
1420	28455	5818		5818		4034		7460	4	6141
1421	28456	6809		6809		4920		6410		5544
1422	28457	6882		6882		5011		4460		4647
1423	28458	6184		6184		4467		4860		3885
1424	28459	7008		7008		5129		4290		8095 10 6%
1425	28460	5718		5718		4459		5940		5471
1426	28461	6496		6496		5249		4840		6722
1427	28462	4023		4023		5087		5625		7635
1428	27771	6915		6915		5088		5910		7615
1429	28463	6543		6543		4347		5830		5018
1430	28464	6848		6848		5749		5500		8855 4 16%
1431	NDR 359 (NC)	7041		7041		5264		4870		6922
1432	28465	7493	4	7493	4	5614		5700		6821
1433	28466	6782		6782		5027		7155	6	4805
1434	28467	6277		6277		4842		6050		6082
1435	28468	7513	3	7513	3	5932	6	4335		5609
1436	28469	7181		7181		5877	9	4715		8060 6%
1437	28470	7081		7081		5916	7	4700		8288 9 9%
1438	28471	5718		5718		5089		6350		7604
1439	28472	6516		6516		5933	5	7020	7	5718
1440	27900	5519		5519		5135		7578	3	6269
1441	28473	6051		6051		4826		4840		5037
1442	28474	7547	2 5%	7547	2 5%	4949		5980		6627
1443	28475	5951		5951		4501		6710	8	6173
1444	28476	7247	9	7247	9	5649		5620		7391
1445	28477	5984		5984		4745		5420		5628
1446	28478	7447	5	7447	5	5224		5710		6064
1447	Zonal Check	7181	10	7181	10	5716		7970	1	4231
1448	28479	6915		6915		4755		4550		7679
1449	28480	5419		5419		4835		5330		5217
1450	28481	7380	6	7380	6	5410		6555	10	5753
1451	28482	3524		3524		3787		6380		8808 6 16%
1452	28483	6217		6217		5734		6320		7444
1453	28484	5751		5751		4550		4940		9654 1 * 27%
1454	28485	6416		6416		5333		5725		4027
1455	28486	7633	1 6%	7633	1 6%	4861		5620		6064
1456	28487	6582		6582		6166	4 8%	5530		5006
1457	28488	5771		5771		5886	8	4970		5800
1458	28489	6649		6649		6625	2 * 16%	7400	5	4568
1459	28490	6449		6449		5750		6130		6227
1460	28491	4920		4920		4390		5400		9014 3 18%
1461	28492	4488		4488		4763		5395		6205
1462	28493	5785		5785		4818		5780		7487
1463	28494	6549		6549		5375		5860		6715
1464	Local Check	5685		5685		5645		5770		5923
	Exp. Mean	6304		6304.44		5203.26		5699.56		6533.49
	CD	1399		1398.5		707.33		1081.7		2457.73
	CV%	11.1		11.1		6.8		9.5		18.82
	D/S	11-07-2019						12-07-2019		24-06-2019
	D/P	07-08-2019						19-08-2019		14-07-2019
	Local Check Nar	Ratna						Tapaswini		Pratikshya

Table 3.36 contd.: Grain Yield (Kg/ha) of entries in IVT IM, Kharif 2019

Entry No.	IET No.			OD (3)		BI					
		CHP		Mean		BKG		SBR		@PTN	
1401	28439	7607	3 * 14%	6119		7424	6	6233	10 * 20%	7460	8
1402	28440	6873		7723	1 * 26%	6364		5093		3850	
1403	28441	2767		5436		7172		4170		6160	
1404	28442	5420		5790		7727	4 7%	4745		5950	
1405	27749	5767		6031		7576	5 5%	5288		7650	4
1406	27877	4460		4956		5253		3540		3830	
1407	28443	1593		5133		1970		2654		4190	
1408	28444	7493	5 12%	7384	2 * 21%	8990	1 * 24%	6496	8 * 25%	4310	
1409	28445	6507		6167		6212		5057		5960	
1410	28446	5833		5346		3788		3760		5670	
1411	28447	6160		6378		6768		5768	11%	5980	
1412	28448	3233		4530		3737		2886		4750	
1413	27776	5793		5555		5960		4940		4380	
1414	28449	3507		5319		6919		4610		5940	
1415	28450	4653		5481		5657		3520		6620	
1416	28451	6413		6650	9%	7323	8	4600		5230	
1417	28452	6687		6186		8081	3 12%	6736	7 * 30%	7090	10
1418	28453	6027		6591	8%	6616		4618		5660	
1419	28454	6947		6093		6667		5283		5970	
1420	28455	6207		6603	8%	7172		7072	1 * 36%	5540	
1421	28456	5600		5851		4141		4157		4970	
1422	28457	4680		4596		5657		4739		6480	
1423	28458	4340		4362		6313		4307		6000	
1424	28459	4420		5602		5657		5572	* 7.42%	7470	7
1425	28460	5873		5761		4596		2523		5640	
1426	28461	5867		5810		5101		5030		7560	5
1427	28462	7907	2 * 18%	7056	3 15%	7222	9	7029	3 * 35%	5410	
1428	27771	6007		6511	6%	6919		6229	* 20%	5540	
1429	28463	7093	7 6%	5980		6818		6067	17%	5290	
1430	28464	4680		6345		6364		5808	12%	5110	
1431	NDR 359 (NC)	5373		5722		6162		4486		7950	2
1432	28465	6573		6365		6515		4746		7520	6
1433	28466	5493		5818		5505		6975	5 * 34%	6280	
1434	28467	6647		6260		6313		3734		3290	
1435	28468	5160		5035		6364		5846	* 13%	4260	
1436	28469	6193		6323		7374	7	5241		8180	1
1437	28470	5387		6125		4040		3535		6570	
1438	28471	6960	10	6971	4 14%	6667		5397		5350	
1439	28472	6860		6533	7%	6010		6194	* 19%	6980	
1440	27900	7007	9 5%	6951	5 13%	8384	2 16%	7043	2 * 36%	5900	
1441	28473	4087		4655		4899		5258		3090	
1442	28474	6467		6358		4848		3436		3890	
1443	28475	6573		6485	6%	6263		6762	6 * 30%	7030	
1444	28476	7547	4 13%	6853	9 12%	4192		2705		4550	
1445	28477	5467		5505		4798		3257		4020	
1446	28478	6520		6098		4747		5939	14%	4090	
1447	Zonal Check	5980		6060		6818		5187		4490	
1448	28479	5247		5825		5606		3943		5730	
1449	28480	5313		5287		6212		5895	14%	4430	
1450	28481	7053	8 6%	6454	5%	6818		4852		4130	
1451	28482	5633		6940	6 13%	3990		3020		3680	
1452	28483	5373		6379		5051		6231	* 20%	5650	
1453	28484	5660		6751	10 10%	4040		3026		6950	
1454	28485	5873		5208		5354		3308		6260	
1455	28486	5293		5659		6515		3618		4160	
1456	28487	3527		4688		6667		5242		6390	
1457	28488	6727		5832		6162		3898		7370	9
1458	28489	8747	1 * 30%	6905	8 13%	6465		7025	4 * 35%	6840	
1459	28490	5360		5906		4596		6467	9 * 25%	6570	
1460	28491	6313		6909	7 13%	5152		6175	19%	6100	
1461	28492	2740		4780		4040		3390		3820	
1462	28493	5967		6411		6818		5872	13%	5640	
1463	28494	7300	6 9%	6625	8%	5000		5447	5%	7830	3
1464	Local Check	6687		6127		7222	9	3576		4670	
	Exp. Mean	5773.75		6002.27		5965.12		4925.91		5645.63	
	CD	880.58		966.15		1766.54		999.05		524.61	
	CV%	7.63		8.05		14.82		10.15		4.65	
	D/S	10-07-2019				02-07-2019		21-06-2019		04-07-2019	
	D/P	05-08-2019				09-08-2019		16-07-2019		02-08-2019	
	Local Check Name	Pratikshya				Sabour Shree		Rajendra Sweta		Rajendra Sweta	

Table 3.36 contd.: Grain Yield (Kg/ha) of entries in IVT IM, Kharif 2019

Entry No.	IET No.	BI (2)		JH		WB		WB (1)		UP	
		Mean		@RCI	CHN			Mean	MSD		@VRN
1401	28439	6829	6 14%	3273	5729			5729		4920	3781
1402	28440	5729		1697	5060			5060		5585	
1403	28441	5671		1758	5022			5022		4721	3356
1404	28442	6236		2424	5432			5432		5685	5025
1405	27749	6432	7%	2000	5766			5766		5485	4388
1406	27877	4397		1576	4911			4911		5851	5
1407	28443	2312		1697	4055			4055		5485	4594
1408	28444	7743	1 * 29%	3758	5618			5618		4854	3825
1409	28445	5635		3879	4725			4725		5186	3281
1410	28446	3774		1636	4762			4762		5785	9 4143
1411	28447	6268		4121	6101			6101		4920	4588
1412	28448	3312		1152	4167			4167		5253	2306
1413	27776	5450		1455	5208			5208		5984	3 6% 4081
1414	28449	5765		2303	6027			6027		4455	3775
1415	28450	4589		1697	5655			5655		4721	2561
1416	28451	5962		2667	6473			6473		5186	4896
1417	28452	7409	3 * 23%	3515	7515	3 11%		7515	3 11%	5718	6100 4
1418	28453	5617		1758	4799			4799		5951	4 5.29% 4029
1419	28454	5975		2303	6138			6138		6051	1 7.05% 3969
1420	28455	7122	5 * 19%	3212	4688			4688		5718	4331
1421	28456	4149		1455	5320			5320		5253	5115
1422	28457	5198		1152	5804			5804		4721	5213
1423	28458	5310		2545	5729			5729		6051	1 7.05% 4106
1424	28459	5615		1818	4129			4129		5485	3988
1425	28460	3560		2424	5729			5729		5186	4131
1426	28461	5066		4242	5878			5878		4588	3669
1427	28462	7126	4 * 19%	1697	4725			4725		5785	9 3919
1428	27771	6574	8 10%	3030	5729			5729		5718	5894 9
1429	28463	6443	10 7%	3091	5804			5804		5519	5636
1430	28464	6086		1758	5990			5990		4787	5110
1431	NDR 359 (NC)	5324		1697	6771			6771		4820	4113
1432	28465	5631		3455	6362			6362		4455	4943
1433	28466	6240		1515	7143	5 5%		7143	5 5%	4920	6225 3
1434	28467	5024		1636	8110	1 20%		8110	1 20%	5452	4613
1435	28468	6105		2727	6176			6176		5386	4556
1436	28469	6308	5%	3152	4539			4539		5585	4619
1437	28470	3788		1394	7813	2 15%		7813	2 15%	5652	6913 1
1438	28471	6032		2545	6622			6622		4787	6031 5
1439	28472	6102		4000	6808	8		6808	8	4388	5456
1440	27900	7714	2 * 29%	3758	6213			6213		4920	3838
1441	28473	5079		2485	6324			6324		4455	3294
1442	28474	4142		2424	6027			6027		4255	4044
1443	28475	6513	9 8%	1879	5804			5804		4455	6663 2
1444	28476	3449		2242	5766			5766		4654	5463
1445	28477	4028		1818	5469			5469		4787	5241
1446	28478	5343		3636	4650			4650		5386	5325
1447	Zonal Check (ZC)	6003		3273	4167			4167		5452	2513
1448	28479	4775		2182	5506			5506		5818	7 3944
1449	28480	6054		2364	4539			4539		5452	3991
1450	28481	5835		3455	6845	7		6845	7	4721	4981
1451	28482	3505		2424	4539			4539		5851	5
1452	28483	5641		2909	6808	8		6808	8	5585	3838
1453	28484	3533		2485	7217	4 7%		7217	4 7%	5519	3544
1454	28485	4331		1818	6696			6696		5818	7 4150
1455	28486	5067		2182	6622			6622		4521	5991 7
1456	28487	5955		2121	6659			6659		4721	5463
1457	28488	5030		2303	4278			4278		4056	3188
1458	28489	6745	7 12%	3636	5320	7		5320		4721	5913 8
1459	28490	5532		1939	6510			6510		4521	3656
1460	28491	5664		1273	6771	10		6771	10	5485	5663
1461	28492	3715		1758	5543			5543		5585	5025
1462	28493	6345	6%	1697	7031	6		7031	6	5652	5650
1463	28494	5224		2364	5915			5915		5718	5669 10
1464	Local Check	5399		3212	5432			5432		5652	5994 6
	Exp. Mean	5445.51		2419.51	5776.25			5776.25		5215.78	4595.29
	CD	934.53		934.05	2174.16			2174.16		574.33	418.22
	CV%	8.59		19.32	18.84			18.84		5.51	4.55
	D/S			25-06-2019	25-06-2019					05-07-2019	19-06-2019
	D/P			01-08-2019	30-07-2019					04-08-2019	03-07-2019
	Local Check Name			Akshaydhan	Kaushalya					Sarjoo-52	HUR 105

Table 3.36 contd.: Grain Yield (Kg/ha) of entries in IVT IM, Kharif 2019

Entry No.	IET No.	UP (1)		Zone III (7)		Zone IV				Zone IV (1)	
		Mean		Mean		AS		AS (1)		Mean	
						TTB					
1401	28439	4920		6095	6%	5170		5170		5170	
1402	28440	5585		6467	5 * 12%	5408		5408		5408	
1403	28441	4721		5342		2863		2863		2863	
1404	28442	5685		5851		4211		4211		4211	
1405	27749	5485		6030	5%	5327		5327		5327	
1406	27877	5851	5	4918		3259		3259		3259	
1407	28443	5485		4223		3095		3095		3095	
1408	28444	4854		6873	1 * 19%	4848		4848		4848	
1409	28445	5186		5669		5884	7	5884	8	5884	7
1410	28446	5785	9	4876		3577		3577		3577	
1411	28447	4920		6099	6%	5404		5404		5404	
1412	28448	5253		4233		2909		2909		2909	
1413	27776	5984	3 6%	5537		4690		4690		4690	
1414	28449	4455		5424		5327		5327		5327	
1415	28450	4721		5142		3738		3738		3738	
1416	28451	5186		6219	8%	4214		4214		4214	
1417	28452	5718		6658	3 * 16%	6836	1 7.48%	6836	1 * 7%	6836	1 7%
1418	28453	5951	4 5.29%	5965		5723	9	5723	10	5723	9
1419	28454	6051	1 7.05%	6060	5%	4372		4372		4372	
1420	28455	5718		6351	7 10%	6517	3	6517	3	6517	3
1421	28456	5253		5204		5327		5327		5327	
1422	28457	4721		4958		4134		4134		4134	
1423	28458	6051	1 7.05%	5069		5170		5170		5170	
1424	28459	5485		5378		5170		5170		5170	
1425	28460	5186		5045		4291		4291		4291	
1426	28461	4588		5432		4928		4928		4928	
1427	28462	5785	9	6561	4 * 14%	6678	2 5%	6678	2	6678	2 5%
1428	27771	5718		6304	10%	5408		5408		5408	
1429	28463	5519		6021	5%	5646		5646		5646	
1430	28464	4787		5998		4928		4928		4928	
1431	NDR 359 (NC)	4820		5629		5884	7	5884	7	5884	7
1432	28465	4455		5882		4848		4848		4848	
1433	28466	4920		5999		4767		4767		4767	
1434	28467	5452		6055	5%	4610		4610		4610	
1435	28468	5386		5554		4533		4533		4533	
1436	28469	5585		5958		4295		4295		4295	
1437	28470	5652		5631		3976		3976		3976	
1438	28471	4787		6341	8 10%	5327		5327		5327	
1439	28472	4388		6143	7%	4851		4851		4851	
1440	27900	4920		6773	2 * 18%	6435	4	6435	4	6435	4
1441	28473	4455		4986		5009		5009		5009	
1442	28474	4255		5377		4771		4771		4771	
1443	28475	4455		6106	6%	5723	9	5723	9	5723	9
1444	28476	4654		5411		4375		4375		4375	
1445	28477	4787		4975		4291		4291		4291	
1446	28478	5386		5574		4053		4053		4053	
1447	Zonal Check (ZC)	5452		5686		6360	5	6360	5	6360	5
1448	28479	5818	7	5478		4610		4610		4610	
1449	28480	5452		5423		3735		3735		3735	
1450	28481	4721		6085	6%	5485		5485		5485	
1451	28482	5851	5	5460		5166		5166		5166	
1452	28483	5585		6116	6%	5485		5485		5485	
1453	28484	5519		5722		4211		4211		4211	
1454	28485	5818	7	5257		4372		4372		4372	
1455	28486	4521		5465		4134		4134		4134	
1456	28487	4721		5336		4529		4529		4529	
1457	28488	4056		5127		4690		4690		4690	
1458	28489	4721		6321	10 10%	5565		5565		5565	
1459	28490	4521		5687		6202	6	6202	6	6202	6
1460	28491	5485		6330	9 10%	4928		4928		4928	
1461	28492	5585		4700		3976		3976		3976	
1462	28493	5652		6372	6 * 11%	4449		4449		4449	
1463	28494	5718		5994		5485		5485		5485	
1464	Local Check	5652		5752		5247		5247		5247	
	Exp. Mean	5215.78		5698.55		4865.81		4865.81		4865.81	
	CD	574.33		604.55		1124.11		1124.11		1124.11	
	CV%	5.51		5.31		11.56		11.56		11.56	
	D/S					07-08-2019					
	D/P					31-07-2019					
	Local Check Name					Shraboni					

Table 3.36 contd.: Grain Yield (Kg/ha) of entries in IVT IM, Kharif 2019

Entry No.	IET No.	Zone V									
		MP		MP (1)		CH				CH (2)	
		WRS		Mean		RPR		JDP		Mean	
1401	28439	6686	6 * 30%	6686	6 * 30%	5055	8%	7533		6294	
1402	28440	7582	2 * 47%	7582	2 * 47%	5678	5 21%	7598	8	6638	5 9%
1403	28441	3756		3756		2766		5612		4189	
1404	28442	4956		4956		4897		6706		5802	
1405	27749	5297		5297		5646	7 21%	7415		6531	7 8%
1406	27877	4564		4564		4300		4792		4546	
1407	28443	2917		2917		3691		3223		3457	
1408	28444	5612	9%	5612	9%	5943	3 * 27%	7826	5 5%	6885	2 14%
1409	28445	5309		5309		4741		6999		5870	
1410	28446	4463		4463		3420		6517		4969	
1411	28447	5202		5202		5278	13%	5970		5624	
1412	28448	2980		2980		4292		5397		4845	
1413	27776	5044		5044		4631		7096		5864	
1414	28449	3687		3687		5084	9%	6699		5892	
1415	28450	3946		3946		3720		5436		4578	
1416	28451	6035	* 17%	6035	* 17%	5047	8%	7962	3 7%	6505	8 7%
1417	28452	5556	8%	5556	8%	5311	13%	5911		5611	
1418	28453	5051		5051		4504		6764		5634	
1419	28454	5069		5069		5140	10%	6888		6014	
1420	28455	6307	10 * 23%	6307	10 * 23%	5492	10 17%	7799	6	6646	4 10%
1421	28456	3529		3529		4328		5365		4847	
1422	28457	3194		3194		3828		5625		4727	
1423	28458	5126		5126		3348		6283		4816	
1424	28459	2519		2519		3292		5820		4556	
1425	28460	5385		5385		4405		5853		5129	
1426	28461	5044		5044		5034	7.56%	6921		5978	
1427	28462	5145		5145		5538	9 18%	8021	2 8%	6780	3 12%
1428	27771	5840	* 14%	5840	* 14%	4425		6328		5377	
1429	28463	5069		5069		4179		6367		5273	
1430	28464	4129		4129		4879		6048		5464	
1431	NDR 359 (NC)	5145		5145		4680		7448		6064	
1432	28465	5808	13%	5808	13%	4923	5%	6745		5834	
1433	28466	4628		4628		3653		7135		5394	
1434	28467	4836		4836		4785		6510		5648	
1435	28468	4741		4741		4821		6322		5572	
1436	28469	4867		4867		4818		7598	8	6208	
1437	28470	5145		5145		3297		7051		5174	
1438	28471	5758	12%	5758	12%	5010	7%	7344		6177	
1439	28472	5120		5120		4929	5%	6940		5935	
1440	27900	8378	1 * 63%	8378	1 * 63%	5693	4 22%	8092	1 9%	6893	1 14%
1441	28473	3289		3289		3602		5762		4682	
1442	28474	4754		4754		4259		7331		5795	
1443	28475	4962		4962		4335		5951		5143	
1444	28476	4104		4104		4186		3717		3952	
1445	28477	4356		4356		4462		5326		4894	
1446	28478	4571		4571		4813		7493		6153	
1447	Zonal Check	4457		4457		4223		6354		5289	
1448	28479	4501		4501		3644		6076		4860	
1449	28480	6452	7 * 25%	6452	7 * 25%	3880		5983		4932	
1450	28481	6982	3 * 36%	6982	3 * 36%	5974	1 * 28%	5475		5725	
1451	28482	6774	5 * 32%	6774	5 * 32%	5545	8 18%	6042		5794	
1452	28483	5505	7%	5505	7%	4603		7884	4 6%	6244	
1453	28484	3876		3876		5149	10%	6673		5911	
1454	28485	4413		4413		5091	9%	6667		5879	
1455	28486	5114		5114		4986	6.53%	5195		5091	
1456	28487	5088		5088		5117	9%	6387		5752	
1457	28488	4482		4482		3921		7207		5564	
1458	28489	6888	4 * 34%	6888	4 * 34%	5967	2 * 27.5%	7285		6626	6 9%
1459	28490	6383	9 * 24%	6383	9 * 24%	5254	12%	7702	7	6478	10 7%
1460	28491	5669	10%	5669	10%	5298	13%	7253		6276	
1461	28492	3801		3801		3488		6706		5097	
1462	28493	6414	8 * 25%	6414	8 * 25%	5665	6 215	7298		6482	9 7%
1463	28494	3706		3706		4467		7539	10	6003	
1464	Local Check	4179		4179		4478		7142		5810	
	Exp. Mean	5002.27		5002.27		4639.26		6568.83		5604.04	
	CD	750.78		750.78		1226.69		1698.36		951.82	
	CV%	7.51		7.51		13.23		12.94		8.5	
	D/S	24-06-2019				28-06-2019		19-06-2019			
	D/P	23-07-2019				26-07-2019		10-07-2019			
	Local Check Name	JRB 1				IGKV R 1244		IGKVR 1244			

Table 3.36 contd.: Grain Yield (Kg/ha) of entries in IVT IM, Kharif 2019

Entry No.	IET No.											Zone V1						
		MA1				MA1 (2)		Zone V (5)				MA2						
		SKL		SND		Mean		Mean				KJT		SHR				
1401	28439	5212	6	6570	3	16%	5891	1	6%	6211	2 *	15%	4344		3770			
1402	28440	5212	6	3558			4385			5926	6 *	10%	3196		4061			
1403	28441	3411		4957			4184			4100			3082		3347			
1404	28442	3282		4986			4134			4965			5663	6%	3902			
1405	27749	4376		4986			4681			5544			6169	16%	3704			
1406	27877	3050		3736			3393			4088			2890		5198	6		
1407	28443	2284		5746	10		4015			3572			3383		3135			
1408	28444	4620		5014			4817			5803	10	8%	5856	10%	4458			
1409	28445	4505		4723			4614			5255			6114	15%	4206			
1410	28446	3153		4744			3949			4459			3335		3823			
1411	28447	5573	3	2635			4104			4932			5482		5238	5		
1412	28448	3024		3793			3409			3897			4243		3439			
1413	27776	5277	5	3942			4610			5198			6192	10	16%	4907	9	
1414	28449	3012		2273			2643			4151			5735	7%	4378			
1415	28450	3082		4943			4013			4225			4703		4074			
1416	28451	4505		6527	4	16%	5516	5		6015	3 *	12%	6867	3 *	29%	4656		
1417	28452	5470	4	1889			3680			4827			5629	5%	3955			
1418	28453	3764		4936			4350			5004			5462		3399			
1419	28454	4955	10	4183			4569			5247			4023		3942			
1420	28455	4080		6264	7	11%	5172	8		5988	5 *	11%	7640	1 *	43%	3664		
1421	28456	4633		2308			3471			4033			3838		3955			
1422	28457	3089		1783			2436			3504			4099		4180			
1423	28458	3346		1733			2540			3967			4969		3188			
1424	28459	2889		2372			2631			3378			5630	5%	3995			
1425	28460	3411		2741			3076			4359			5430		3730			
1426	28461	3996		5234			4615			5246			5465		5198	6		
1427	28462	4054		3267			3661			5205			4203		3690			
1428	27771	3758		3920			3839			4854			4243		3399			
1429	28463	5785	2	2266			4026			4733			5274		3519			
1430	28464	3282		5156			4219			4699			5146		4788			
1431	NDR 359 (NC)	3797		5646			4722			5343			5337		4114			
1432	28465	5142	9	3764			4453			5276			5953	12%	4167			
1433	28466	3990		3125			3558			4506			5085		4259			
1434	28467	3346		2578			2962			4411			5123		4775			
1435	28468	4176		6861	2 *	21%	5519	4		5384			5163		4511			
1436	28469	4440		1918			3179			4728			5429		4934	8		
1437	28470	3024		4822			3923			4668			4405		3386			
1438	28471	4505		5284			4895			5580			6546	5 *	23%	3849		
1439	28472	4801		4851			4826			5328			4527		3743			
1440	27900	4311		6463	5	14%	5387	7		6587	1 *	22%	5560		4524			
1441	28473	3668		3629			3649			3990			4546		4021			
1442	28474	4440		3608			4024			4878			3885		4365			
1443	28475	3121		4808			3965			4635			4987		3175			
1444	28476	4118		4709			4414			4167			4358		4616			
1445	28477	3063		2599			2831			3961			2588		4087			
1446	28478	3282		4205			3744			4873			6332	8	19%	4907	9	
1447	Zonal Check	5180	8	5092			5136	9		5061			5142		4722			
1448	28479	3861		3310			3586			4278			4174		2897			
1449	28480	3797		4503			4150			4923			5005		4616			
1450	28481	4440		6342	6	12%	5391	6		5843	8 *	9%	7412	2 *	39%	3624		
1451	28482	3900		4901			4401			5432			6295	9	18%	2646		
1452	28483	4376		5050			4713			5484			5684	6%	4021			
1453	28484	3024		2955			2990			4335			4532		3677			
1454	28485	4376		4688			4532			5047			4728		5503	4		
1455	28486	3314		2763			3039			4274			4081		3770			
1456	28487	4054		5107			4581			5151			6471	6 *	21%	6283	2	13%
1457	28488	4118		5753	9		4936			5096			3907		3730			
1458	28489	4543		5305			4924			5998	4 *	11%	6336	7	19%	4868		
1459	28490	4054		6193	8	10%	5124	10		5917	7 *	10%	6673	4 *	25%	6362	1 *	14.50%
1460	28491	3861		3075			3468			5031			5986	12%	4616			
1461	28492	2638		2152			2395			3757			4667		3664			
1462	28493	4762		4879			4821			5804	9	8%	5489		3214			
1463	28494	4543		7024	1 *	24%+BR23	5784	2		5456			4417		3704			
1464	Local Check	6036	1	5078			5557	3		5383			5176		5556	3		
	Exp. Mean	4034.25		4284.78			4159.51			4905.88			5067.26		4153.23			
	CD	903.01		1067.37			674.79			483.86			1106.58		767.04			
	CV%	11.2		12.47			8.12			4.94			10.93		9.24			
	D/S	03-07-2019		26-06-2019								25-06-2019		19-06-2019				
	D/P	01-08-2019		04-08-2019								19-07-2019		12-07-2019				
	Local Check Name	PDKV Kisan		PKV HMT								Karjat 5		Ratnagiri 4				

Table 3.36 contd.: Grain Yield (Kg/ha) of entries in IVT IM, Kharif 2019

Entry No.	IET No.	Zone VI									
		MA 2 (2)		MA (4)		GU					
		Mean		Mean		NVS		NWG		DBI	
1401	28439	4057		4974		5251	10	6349		5153	9 * 22%
1402	28440	3629		4007		4465		6096		4706	11%
1403	28441	3215		3699		3979		5784		4564	8%
1404	28442	4783		4458		4245		6642		4451	
1405	27749	4937		4809		3905		7475		4716	11%
1406	27877	4044		3719		4175		4943		4571	
1407	28443	3259		3637		3501		5308		3853	
1408	28444	5157		4987		5176		6702		3961	
1409	28445	5160		4887		4648		5766		5657	5 *
1410	28446	3579		3764		4421		6458		4493	6%
1411	28447	5360	10	4732		4842		7570		4407	
1412	28448	3841		3625		3645		5244		4711	11%
1413	27776	5550	7	5080	10	4723		7601		3928	
1414	28449	5057		3850		4244		6548		3926	
1415	28450	4389		4201		3421		5569		3946	
1416	28451	5762	3 7%	5639	2	4471		7899	8	4181	
1417	28452	4792		4236		5321	7	6968		4657	10%
1418	28453	4431		4390		5634	2	6990		4265	
1419	28454	3983		4276		4215		6637		5539	7 * 31%
1420	28455	5652	4 5%	5412	6	5686	1	9281	1 17%	5588	6 * 32%
1421	28456	3897		3684		5043		7480		3505	
1422	28457	4140		3288		5040		7068		4201	
1423	28458	4079		3309		3674		6093		4412	
1424	28459	4813		3722		4254		7450		4926	16%
1425	28460	4580		3828		4214		6888		4475	6%
1426	28461	5332		4973		4247		7700		3917	
1427	28462	3947		3804		3013		5636		4995	10 * 18%
1428	27771	3821		3830		4107		6712		3951	
1429	28463	4397		4211		5194		6972		3402	
1430	28464	4967		4593		4783		6360		3284	
1431	NDR 359 (NC)	4726		4724		4974		5437		3314	
1432	28465	5060		4757		5308	8	7474		3446	
1433	28466	4672		4115		5284	9	8285	5	3809	
1434	28467	4949		3956		4372		6953		3500	
1435	28468	4837		5178	9	4556		7635		3794	
1436	28469	5182		4180		4400		8127	6	3966	
1437	28470	3896		3909		4122		6133		3588	
1438	28471	5198		5046		4158		8349	4 5%	3676	
1439	28472	4135		4481		4042		7665		3216	
1440	27900	5042		5215	8	4713		8382	3 6%	4279	
1441	28473	4284		3966		5435	5	4322		3471	
1442	28474	4125		4075		3882		6724		3218	
1443	28475	4081		4023		4822		6946		3549	
1444	28476	4487		4450		4871		6093		3696	
1445	28477	3338		3084		4263		5842		3284	
1446	28478	5620	5	4682		4735		6122		3206	
1447	Zonal Check (ZC)	4932		5034		5578	4	7921	7	3137	
1448	28479	3536		3561		4468		6202		3196	
1449	28480	4811		4480		3841		4875		3647	
1450	28481	5518	8	5455	5	5582	3	8761	2 11%	4706	11%
1451	28482	4471		4436		4701		5904		5784	4 * 36%
1452	28483	4853		4783		4958		7197		4054	
1453	28484	4105		3547		4637		4981		4922	165
1454	28485	5116		4824		4090		4846		3770	
1455	28486	3926		3482		5324	6	7760	9	3480	
1456	28487	6377	2 * 19%	5479	3	4982		5631		3583	
1457	28488	3819		4377		4178		5558		3542	
1458	28489	5602	6	5263	7	4839		7385		7025	1 * 66%
1459	28490	6518	1 * 21%	5821	1 7%	4718		6974		5799	3 * 37%
1460	28491	5301		4385		4454		6470		5328	8 * 26%
1461	28492	4166		3280	4	3901		3489		3713	
1462	28493	4352		4586		4887		6729		6206	2 * 46%
1463	28494	4061		4922		4651		7066		4314	
1464	Local Check	5366	9	5462	4	4134		7730	10	4240	
	Exp. Mean	4610.25		4385		4553.05		6658.79		4215.6	
	CD	668.8		451.81		969.86		1823.15		753.33	
	CV%	7.26		5.11		10.66		13.7		8.94	
	D/S					19-06-2019		24-06-2019		20-06-2019	
	D/P					13-07-2019		01-08-2019		20-07-2019	
	Local Check Name					GNR-5		GAR-13		Mahi Sagar	

Table 3.36 contd.: Grain Yield (Kg/ha) of entries in IVT IM, Kharif 2019

Entry No.	IET No.			Zone VI (5)		Zone VII					
		GU (3)				AP				AP (2)	
		Mean		Mean		MTU		RGL		Mean	
1401	28439	5584		4973		6888		8370	5 7%	7629	4
1402	28440	5089		4505		6934		7730	10	7332	10
1403	28441	4776		4151		1832		3345		2589	
1404	28442	5113		4981		6692		6010		6351	
1405	27749	5365		5194		6365		5818		6092	
1406	27877	4563		4355		7980	2 * 16%	5269		6625	
1407	28443	4221		3836		2082		1870		1976	
1408	28444	5280		5231		7005		8529	4 9%	7767	3 6%
1409	28445	5357		5278		6910		6631		6771	
1410	28446	5124		4506		3227		4146		3687	
1411	28447	5606	10	5508	6	7752	5 13%	6320		7036	
1412	28448	4533		4256		3086		3918		3502	
1413	27776	5417		5470	8	5964		7180		6572	
1414	28449	4906		4966		4448		6082		5265	
1415	28450	4312		4343		2578		3740		3159	
1416	28451	5517		5615	5	6316		8795	1 12%	7556	6
1417	28452	5649	8	5306		6150		7264		6707	
1418	28453	5630	9	5150		6582		6697		6640	
1419	28454	5464		4871		8109	1 * 18%	6827		7468	7
1420	28455	6852	1 * 24%	6372	1 * 19%	6389		7611		7000	
1421	28456	5343		4764		4217		6834		5526	
1422	28457	5436		4918		3030		4839		3935	
1423	28458	4726		4467		4345		4968		4657	
1424	28459	5543		5251		2672		5456		4064	
1425	28460	5192		4947		3397		6585		4991	
1426	28461	5288		5305		5503		6906		6205	
1427	28462	4548		4307		7760	4 13%	6213		6987	
1428	27771	4923		4482		4623		5818		5221	
1429	28463	5189		4872		5822		6129		5976	
1430	28464	4809		4872		4929		5460		5195	
1431	NDR 359 (NC)	4575		4635		5470		6278		5874	
1432	28465	5409		5270		5497		5914		5706	
1433	28466	5793	6	5344		4922		6738		5830	
1434	28467	4942		4945		4441		6260		5351	
1435	28468	5328		5132		6033		4475		5254	
1436	28469	5498		5371		4149		6789		5469	
1437	28470	4614		4327		2388		7443		4916	
1438	28471	5394		5316		7490	8 9%	5902		6696	
1439	28472	4974		4639		3246		7037		5142	
1440	27900	5791	7	5492	7	7545	6 10%	8686	2 11%	8116	1 10%
1441	28473	4409		4359		2810		5902		4356	
1442	28474	4608		4415		4545		2533		3539	
1443	28475	5106		4696		7266	9 6%	7943	7	7605	5
1444	28476	4887		4727		3099		5358		4229	
1445	28477	4463		4013		3556		6921		5239	
1446	28478	4688		5060		5046		6535		5791	
1447	Zonal Check	5545		5300		5068		6647		5858	
1448	28479	4622		4187		4219		5698		4959	
1449	28480	4121		4397		7194	10	5902		6548	
1450	28481	6350	3 * 15%	6017	4 * 12%	7846	3 14%	8065	6	7956	2 8%
1451	28482	5463		5066		6201		7025		6613	
1452	28483	5403		5183		4959		6440		5700	
1453	28484	4847		4550		4603		4332		4468	
1454	28485	4235		4587		5096		7204		6150	
1455	28486	5521		4883		3193		5335		4264	
1456	28487	4732		5390	9	4929		5069		4999	
1457	28488	4426		4183		2947		5320		4134	
1458	28489	6416	2 * 16%	6091	3 * 13%	4998		8665	3 11%	6832	
1459	28490	5830	5 5%	6105	2 * 14%	7522	7 9%	7288		7405	8
1460	28491	5417		5371	10	3635		7742	9	5689	
1461	28492	3701		3887		3036		3670		3353	
1462	28493	5941	4 7%	5305		5148		7037		6093	
1463	28494	5344		4830		5680		7168		6424	
1464	Local Check	5368		5367		6884		7821	8	7353	9
	Exp. Mean	5142.48		4929.59		5160.12		6226.64		5693.38	
	CD	769		503.23		1048.3		1503.26		882.2	
	CV%	7.48		5.11		10.17		12.08		7.75	
	D/S					05-07-2019		15-07-2019			
	D/P					02-08-2019		13-08-2019			
	Local Check Name					MTU 1075		RGL 2538			

Table 3.36 contd.: Grain Yield (Kg/ha) of entries in IVT IM, Kharif 2019

Entry No.	IET No.	TE				TE (2)		TN			
		RNR		WGL		Mean		ADT		CBT	
1401	28439	5353		5947		5650		7750	4	5%	6238
1402	28440	3548		2353		2951		6591			7021
1403	28441	3453		3348		3401		4735			7786
1404	28442	6731	10	5034		5883		6667			5349
1405	27749	7774	1	7%	7104	11%	7439	7	9%	6174	5046
1406	27877	7021	7	4902		5962		4667			3761
1407	28443	3801		3341		3571		5341			2115
1408	28444	7121	6	7790	8	21%	7456	6	9%	7371	7
1409	28445	4923		7180		6052		6894			4969
1410	28446	3909		3695		3802		3803			6702
1411	28447	5955		7640	9	19%	6798	6038			6463
1412	28448	4651		4148		4400		5265			3953
1413	27776	4039		6327		5183		6402			4884
1414	28449	7491	2	4509		6000		7561	5		5496
1415	28450	2850		4593		3722		3871			3420
1416	28451	5985		9917	1	*	55%	7951	1	17%	4424
1417	28452	5451		6485		5968		5386			4295
1418	28453	5692		6810	6%	6251		5439			5954
1419	28454	5010		7572	10	18%	6291				7126
1420	28455	6290		9140	3	*	43%	7715	3	13%	4606
1421	28456	5298		4329		4814		5966			6360
1422	28457	3698		3613		3656		6106			5355
1423	28458	5218		3959		4589		6379			7246
1424	28459	3026		4419		3723		5492			5965
1425	28460	5193		4675		4934		7197	10		5796
1426	28461	5712		7383	15%	6548		5970			6685
1427	28462	6759	9	6825	6%	6792		5780			7376
1428	27771	5649		7191	12%	6420		5708			2193
1429	28463	5209		3808		4509		4750			1555
1430	28464	5542		2376		3959		4962			4241
1431	NDR 359 (NC)	6762	8	6225		6494		5288			5440
1432	28465	5953		5505		5729		7803	2	6%	6310
1433	28466	3372		3612		3492		4758			5546
1434	28467	5786		4826		5306		5629			3731
1435	28468	5866		5233		5550		4871			3235
1436	28469	7427	3	7994	7	25%	7711	4	13%	4848	5096
1437	28470	4560		4728		4644		6614			5776
1438	28471	3640		5445		4543		4583			5965
1439	28472	2183		2813		2498		6250			7318
1440	27900	6038		8997	4	*	40%	7518	5	10%	7235
1441	28473	3672		5656		4664		7083	9		6772
1442	28474	5605		3801		4703		6136			2868
1443	28475	5960		8537	5	*	33%	7249	8	6%	6136
1444	28476	3483		4374		3929		5515			5810
1445	28477	4037		4125		4081		4583			4561
1446	28478	5464		6561		6013		6894			4284
1447	Zonal Check	4808		6327		5568		5720			4759
1448	28479	4059		5031		4545		5795			6062
1449	28480	6554		4329		5442		5265			3571
1450	28481	7217	5	6938	8%	7078	10	6167			5552
1451	28482	6112		9412	2	*	47%	7762	2	14%	5265
1452	28483	4649		4721		4685		5568			6004
1453	28484	2795		3733		3264		7765	3	6%	5513
1454	28485	6704		6983	9%	6844		5606			6582
1455	28486	6369		8122	6	*	27%	7246	9	6%	4796
1456	28487	4421		4250		4336		8030	1	9%	6451
1457	28488	5422		6780	6%	6101		3379			7404
1458	28489	5076		7391	15%	6234		6561			5543
1459	28490	3963		4804		4384		4992			4980
1460	28491	5623		5777		5700		7462	6		6660
1461	28492	4214		6765	5.52%	5490		4886			4550
1462	28493	5934		5392		5663		6174			1583
1463	28494	4810				4810		5303			5389
1464	Local Check	7236	4	6411		6824		7348	8		7414
	Exp. Mean	5220.73		5682.73		5444.91		5818			6673
	CD	1557.61		1632.91		1155.39		1270.96			5488.75
	CV%	14.93		14.37		10.62		10.93			1028.6
	D/S	22-06-2019		24-06-2019				21-08-2019			9.38
	D/P	30-07-2019		31-07-2019				25-09-2019			01-08-2019
	Local Check Name	MTU 1001		SOMNATH							04-09-2019
											CO (R) 50

Table 3.36 contd.: Grain Yield (Kg/ha) of entries in IVT IM, Kharif 2019

Entry No.	IET No.								
		TN (2)		KE		KE (1)		KA	
		Mean		PTB		Mean		MND	
1401	28439	6994	7	4757		4757		8665	4 12%
1402	28440	6806	9	5226		5226		7832	
1403	28441	6261		4619		4619		7266	
1404	28442	6008		7655	6 * 46%	7655	6 * 46%	6992	
1405	27749	5610		4765		4765		8249	10 7%
1406	27877	4214		4613		4613		6048	
1407	28443	3728		2967		2967		4036	
1408	28444	7168	3	7572	7 * 44%	7572	7 * 44%	9408	1 * 22%
1409	28445	5932		6341	* 21%	6341	* 21%	8444	6 9%
1410	28446	5253		4922		4922		7702	
1411	28447	6251		6605	8 * 26%	6605	8 * 26%	8158	5%
1412	28448	4609		4817		4817		6074	
1413	27776	5643		4558		4558		6458	
1414	28449	6529		3003		3003		7025	
1415	28450	3646		3599		3599		6296	
1416	28451	5414		4549		4549		6458	
1417	28452	4841		4876		4876		7129	
1418	28453	5697		4608		4608		5768	
1419	28454	6404		4780		4780		6094	
1420	28455	6377		4588		4588		8405	7 9%
1421	28456	6163		6356	* 21%	6356	* 21%	6035	
1422	28457	5731		3772		3772		6276	
1423	28458	6813	8	4682		4682		6452	
1424	28459	5729		3010		3010		4382	
1425	28460	6497		6419	10 * 22%	6419	10 * 22%	6641	
1426	28461	6328		6442	9 * 23%	6442	9 * 23%	6211	
1427	28462	6578		5243		5243		5527	
1428	27771	3951		4602		4602		6589	
1429	28463	3153		8003	2 * 52%	8003	2 * 52%	7507	
1430	28464	4602		4597		4597		6354	
1431	NDR 359 (NC)	5364		4765		4765		7741	
1432	28465	7057	4	7881	5 * 50%	7881	5 * 50%	8906	2 15%
1433	28466	5152		3072		3072		3906	
1434	28467	4680		4569		4569		5970	
1435	28468	4053		6142	* 17%	6142	* 17%	6458	
1436	28469	4972		6018	* 14%	6018	* 14%	8861	3 14%
1437	28470	6195		5056		5056		6882	
1438	28471	5274		4866		4866		6621	
1439	28472	6784	10	4926		4926		6198	
1440	27900	7004	6	4825		4825		8294	9 7%
1441	28473	4976		4503		4503		2988	
1442	28474	5973		4630		4630		7799	
1443	28475	4381		4441		4441		7005	
1444	28476	4900		4590		4590		2370	
1445	28477	4671		7984	3 * 52%	7984	3 * 52%	6738	
1446	28478	6478		4757		4757		7936	
1447	Zonal Check	4646		3110		3110		6315	
1448	28479	5674		4588		4588		6478	
1449	28480	5635		4451		4451		4805	
1450	28481	5840		4725		4725		8314	8 7%
1451	28482	6526		4594		4594		5749	
1452	28483	5886		7942	4 * 51%	7942	4 * 51%	6608	
1453	28484	7174	2	6170	* 17%	6170	* 17%	8561	5 11%
1454	28485	5201		8079	1 * 54%	8079	1 * 54%	6882	
1455	28486	6237		4585		4585		8021	
1456	28487	7717	1 10%	4713		4713		3509	
1457	28488	4461		4996		4996		6784	
1458	28489	5771		4926		4926		7650	
1459	28490	5826		4819		4819		7585	
1460	28491	6006		4773		4773		7936	
1461	28492	3235		4442		4442		5775	
1462	28493	5782		4347		4347		7559	
1463	28494	6359		4643		4643		7793	
1464	Local Check	7011	5	5258		5258		7695	
	Exp. Mean	5653.38		5105.2		5105.2		6768.29	
	CD	858.85		526.53		526.53		1218.81	
	CV%	7.6		5.16		5.16		9.01	
	D/S			05-07-2019				15-07-2019	
	D/P			24-07-2019				14-08-2019	
	Local Check Name			Swetha				BR-2655	

Table 3.36 contd.: Grain Yield (Kg/ha) of entries in IVT IM, Kharif 2019

Entry No.	IET No.							Zone VII (8)		Overall (29)	
		KA		KA (1)							
		@BRM		Mean		Mean		Mean		Mean	
1401	28439	4818	7	8665	4	12%	6746	7	6007	6	
1402	28440	2970		7832			5904		5723		
1403	28441	4152		7266			4548		4608		
1404	28442	3727		6992			6391		5655		
1405	27749	3333		8249	10	7%	6412		5890	10	
1406	27877	2848		6048			5533		4787		
1407	28443	2697		4036			3194		3730		
1408	28444	5485	3	9408	1 *	22%	7720	1 *	6392	2 *	8%
1409	28445	4061		8444	6	9%	6537	10	5699		
1410	28446	3394		7702			4763		4699		
1411	28447	4303		8158	5%		6866	5	5888		
1412	28448	2970		6074			4489		4319		
1413	27776	5848	1	6458			5727		5503		
1414	28449	3727		7025			5702		5208		
1415	28450	3303		6296			3868		4467		
1416	28451	3576		6458			6606	9	5929	7	
1417	28452	3727		7129			5880		5757		
1418	28453	3606		5768			5944		5625		
1419	28454	3303		6094			6400		5710		
1420	28455	3667		8405	7	9%	6897	4	6286	3 *	6%
1421	28456	3333		6035			5674		5031		
1422	28457	3333		6276			4586		4575		
1423	28458	3364		6452			5406		4822		
1424	28459	4061		4382			4303		4666		
1425	28460	3848		6641			5738		5034		
1426	28461	4333		6211			6352		5595		
1427	28462	2879		5527			6435		5779		
1428	27771	3485		6589			5297		5305		
1429	28463	3667		7507			5348		5261		
1430	28464	3333		6354			4808		5169		
1431	NDR 359 (NC)	4727	9	7741			5996		5481		
1432	28465	4121		8906	2	15%	6721	8	5840		
1433	28466	3758		3906			4491		5070		
1434	28467	3152		5970			5152		5156		
1435	28468	4545		6458			5289		5363		
1436	28469	5242	5	8861	3	14%	6398		5700		
1437	28470	4758	8	6882			5431		5130		
1438	28471	4424		6621			5564		5654		
1439	28472	3909		6198			4996		5340		
1440	27900	3576		8294	9	7%	7299	2 *	6532	1 *	10%
1441	28473	3515		2988			4435		4528		
1442	28474	3545		7799			5107		4986		
1443	28475	3667		7005			6239		5501		
1444	28476	3909		2370			4134		4715		
1445	28477	3545		6738			5338		4687		
1446	28478	4121		7936			6157		5444		
1447	Zonal Check (ZC)	4485		6315			5196		5392		
1448	28479	4000		6478			5178		4861		
1449	28480	3242		4805			5563		5088		
1450	28481	4667	10	8314	8	7%	6848	6	6152	5	
1451	28482	2576		5749			6518		5557		
1452	28483	3424		6608			5886		5721		
1453	28484	3818		8561	5	11%	5568		5065		
1454	28485	3667		6882			6419		5406		
1455	28486	3879		8021			6012		5202		
1456	28487	3909		3509			5291		5330		
1457	28488	4242		6784			5146		4997		
1458	28489	5515	2	7650			6281		6205	4*	
1459	28490	5303	4	7585			5954		5902	9	
1460	28491	4485		7936			5937		5583		
1461	28492	3667		5775			4296		4267		
1462	28493	4061		7559			5873		5758		
1463	28494	3758		7793			6116		5646		
1464	Local Check	5000	6	7695			6916	3	5914	8	
	Exp. Mean	3896.31		6768.29			5684.65		5348.75		
	CD	711.68		1218.81			407.32		247.58		
	CV%	9.14		9.01			3.59		2.32		
	D/S	21-06-2019									
	D/P	23-07-2019									
	Local Check Name	MO-4									

Table 3.37: Days to 50% flowering of entries in IVT IM, Kharif 2019

Entry No.	IET NO	ZONE II					Zone II (3)
		UT	PU	HA	JK	RA	
		@PNT	@LDN	KUL	CHT	KTA	Mean
1401	28439	130		103		108	105
1402	28440	132				115	115
1403	28441	110	99	109		105	107
1404	28442	99	100			109	109
1405	27749	110	103	96		106	101
1406	27877	131		97		115	106
1407	28443	85	100	110	83	98	97
1408	28444	129		111		113	112
1409	28445	114		72		112	92
1410	28446	99	100	89	101	106	99
1411	28447	118	106	95	102	106	101
1412	28448	87	88	93	99	105	99
1413	27776	125	105	114		109	111
1414	28449	94	100		100	104	102
1415	28450	112	106	111		107	109
1416	28451	107	101	110	94	109	104
1417	28452	126	107	97	104	108	103
1418	28453	109	106	96		106	101
1419	28454	127		86		109	97
1420	28455	127		113		115	114
1421	28456	94	90	113	95	106	104
1422	28457	96	96	106	101	108	105
1423	28458	97	96	93		104	98
1424	28459	110	104	96		106	101
1425	28460	94	87		99	107	103
1426	28461	111	101	98	105	104	102
1427	28462	133		87		114	100
1428	27771	109	102	108	110	104	107
1429	28463	125		114		111	112
1430	28464	109	105	108		113	110
1431	NDR 359 (NC)	109	95	106	102	108	105
1432	28465	100	96	98	95	110	101
1433	28466	92	101	94	108	106	103
1434	28467	101	96	93	100	102	98
1435	28468	126		112		103	107
1436	28469	96	91	113	104	102	106
1437	28470	105	96	98		111	105
1438	28471	126	104	110	110	111	110
1439	28472	118	106	101		113	107
1440	27900	129		92		110	101
1441	28473	115	98	111		105	108
1442	28474	96	92	114	99	102	105
1443	28475	110	105	90		104	97
1444	28476	90	86	83	99	102	94
1445	28477	97	89	112	96	105	104
1446	28478	110	101	91		109	100
1447	Zonal Check (ZC)	111	100	94		102	98
1448	28479	91	89	97	100	103	100
1449	28480	131		112		110	111
1450	28481	129	108	106	110	109	108
1451	28482	131		112		114	113
1452	28483	109	108	98		113	106
1453	28484	87	93	90	99	106	98
1454	28485	99	97	111		102	106
1455	28486	89	86	108	103	108	106
1456	28487	93	104	106		101	103
1457	28488	109	101	84		103	93
1458	28489	126		104		111	107
1459	28490	126		112		104	108
1460	28491	102	101	113	111	102	108
1461	28492	96	99	109	105	101	105
1462	28493	110	101	108		105	106
1463	28494	113	104	93		105	99
1464	Local Check	98	89	99	103	104	102
	Exp Mean	109	98	101	101	107	104

Table 3.37 contd.: Days to 50% flowering of entries in IVT IM, Kharif 2019

Entry No.	IET NO	ZONE III							
		OD			OD (3)	BI			BI (2)
		CTK	JYP	CHP	Mean	BKG	SBR	@PTN	
1401	28439	97	101	102	100	114	120	109	117
1402	28440	95	94	120	103	113	131	123	122
1403	28441	101	109	98	103	105	111	101	108
1404	28442	105	108	98	104	101	100	101	100
1405	27749	106	106	100	104	106	105	98	106
1406	27877	97	91	106	98	114	133	122	123
1407	28443	62	115	97	91	77	74	82	76
1408	28444	101	107	104	104	110	107	104	109
1409	28445	106	99	110	105	107	123	111	115
1410	28446	106	96	96	99	101	95	98	98
1411	28447	101	93	98	97	114	102	102	108
1412	28448	103	104	87	98	103	94	96	98
1413	27776	95	98	100	98	105	109	107	107
1414	28449	101	94	98	98	100	94	101	97
1415	28450	95	103	97	98	104	114	105	109
1416	28451	99	90	98	96	104	127	103	115
1417	28452	101	96	100	99	102	106	104	104
1418	28453	97	112	99	102	104	100	106	102
1419	28454	97	107	109	104	115	125	117	120
1420	28455	113	109	108	110	114	122	117	118
1421	28456	96	96	91	94	98	97	96	97
1422	28457	106	101	95	101	102	95	101	98
1423	28458	99	78	98	92	105	100	96	102
1424	28459	103	103	92	99	103	102	102	103
1425	28460	97	84	91	91	99	92	93	96
1426	28461	106	111	98	105	103	103	101	103
1427	28462	110	121	114	115	115	126	90	120
1428	27771	109	105	100	105	108	107	108	107
1429	28463	96	105	100	100	104	105	105	105
1430	28464	101	101	100	101	105	107	108	106
1431	NDR 359 (NC)	97	97	97	97	100	96	99	98
1432	28465	101	100	99	100	101	100	104	100
1433	28466	106	95	97	99	106	107	103	106
1434	28467	92	99	96	95	100	91	99	95
1435	28468	96	101	98	98	105	120	111	112
1436	28469	105	109	93	102	98	96	99	97
1437	28470	99	108	98	101	101	94	97	97
1438	28471	99	109	105	104	114	111	116	113
1439	28472	97	103	101	100	108	109	100	109
1440	27900	111	109	111	110	113	120	115	117
1441	28473	103	110	96	103	101	107	108	104
1442	28474	91	97	92	93	98	92	94	95
1443	28475	108	112	100	106	105	112	104	108
1444	28476	97	120	88	102	101	87	86	94
1445	28477	97	110	93	100	99	92	94	95
1446	28478	101	108	100	103	104	103	109	104
1447	Zonal Check (ZC)	97	90	111	99	116	128	115	122
1448	28479	101	101	93	98	101	97	95	99
1449	28480	121	113	109	114	111	110	108	111
1450	28481	97	107	104	103	112	106	108	109
1451	28482	99	108	119	109	115	129	122	122
1452	28483	107	100	104	104	105	115	108	110
1453	28484	97	100	92	96	102	91	98	96
1454	28485	97	103	98	99	104	97	100	100
1455	28486	96	93	87	92	101	88	88	94
1456	28487	97	94	100	97	105	104	104	105
1457	28488	101	104	98	101	101	105	100	103
1458	28489	99	114	106	106	116	122	109	119
1459	28490	97	109	108	104	114	119	111	117
1460	28491	110	88	97	98	105	98	104	101
1461	28492	111	102	92	102	103	96	96	100
1462	28493	97	95	94	95	106	118	105	112
1463	28494	95	98	100	98	108	120	104	114
1464	Local Check	102	102	108	104	109	107	105	108
	Exp Mean	100	102	100	101	105	106	103	106

Table 3.37 contd.: Days to 50% flowering of entries in IVT IM, Kharif 2019

Entry No.	IET NO	ZONE III					Zone III (8)
		JH	WB	UP		UP (1)	
		@RCI	CHN	MSD	@VRN	Mean	
1401	28439	115	113	114	114	114	109
1402	28440	120	119	119		119	114
1403	28441	107	111	105	101	105	106
1404	28442	105	105	102	91	102	102
1405	27749	106	109	106	105	106	105
1406	27877	120	120	113		113	111
1407	28443	102	75	89	66	89	85
1408	28444	113	117	113	112	113	109
1409	28445	115	112	107	115	107	109
1410	28446	104	108	99	91	99	100
1411	28447	114	113	101	91	101	103
1412	28448	98	102	100	85	100	99
1413	27776	112	113	106	112	106	104
1414	28449	103	103	102	91	102	99
1415	28450	115	115	101	120	101	104
1416	28451	112	103	101	94	101	103
1417	28452	111	111	109	111	109	104
1418	28453	107	105	99	100	99	102
1419	28454	117	118	113	126	113	112
1420	28455	118	115	115	120	115	114
1421	28456	96	97	97	80	97	96
1422	28457	101	102	99	91	99	100
1423	28458	104	105	114	89	114	102
1424	28459	104	106	103	108	103	102
1425	28460	102	92	98	83	98	94
1426	28461	113	105	107	90	107	105
1427	28462	122	123	120	126	120	118
1428	27771	107	107	105	105	105	106
1429	28463	114	109	108	108	108	104
1430	28464	114	106	112	106	112	105
1431	NDR 359 (NC)	105	103	102	86	102	99
1432	28465	108	108	102	95	102	101
1433	28466	113	110	105	106	105	104
1434	28467	105	101	101	91	101	97
1435	28468	114	109	109	114	109	106
1436	28469	106	102	99	83	99	100
1437	28470	109	104	100	85	100	100
1438	28471	114	114	112	106	112	109
1439	28472	109	108	102	98	102	104
1440	27900	114	112	124	124	124	115
1441	28473	107	107	99	103	99	103
1442	28474	104	96	102	86	102	96
1443	28475	108	109	107	108	107	107
1444	28476	96	95	98	81	98	98
1445	28477	101	97	98	73	98	98
1446	28478	116	107	104	103	104	104
1447	Zonal Check (ZC)	116	117	114	127	114	111
1448	28479	102	110	102	118	102	101
1449	28480	115	113	113	107	113	113
1450	28481	113	113	111	109	111	107
1451	28482	120	119	112		112	114
1452	28483	107	112	104	114	104	106
1453	28484	100	103	99	85	99	98
1454	28485	106	100	98	85	98	99
1455	28486	107	96	98	81	98	94
1456	28487	107	114	110	100	110	104
1457	28488	106	104	104	92	104	102
1458	28489	117	113	111	116	111	111
1459	28490	117	112	112	118	112	110
1460	28491	108	105	99	100	99	100
1461	28492	103	104	103	86	103	102
1462	28493	104	111	103	105	103	103
1463	28494	110	112	113	112	113	107
1464	Local Check	104	115	101	106	101	105
	Exp Mean	109	107	105	100	105	104

Table 3.37 contd.: Days to 50% flowering of entries in IVT IM, Kharif 2019

Entry No.	IET NO	ZONE IV	ZONE-V							Zone V (5)
		AS	MP	CH		CH (2)	MA1		MA1 (2)	
		TTB	WRS	RPR	JDP	Mean	SKL	SND	Mean	
1401	28439	106	106	111	108	109	107	111	109	108
1402	28440	124	124	118	128	123	113	127	120	122
1403	28441	99	100	111	106	108	94	108	101	104
1404	28442	96	98	100	111	105	95	106	100	102
1405	27749	97	105	99	103	101	92	106	99	101
1406	27877	117	123	111	120	115	111	121	116	117
1407	28443	79	73	85	82	83	115	87	101	88
1408	28444	98	105	107	106	106	97	108	102	104
1409	28445	106	116	109	111	110	101	107	104	109
1410	28446	95	98	100	106	103	95	104	99	100
1411	28447	115	102	102	99	100	96	105	100	100
1412	28448	97	92	93	98	96	86	105	95	95
1413	27776	101	103	107	107	107	99	110	104	105
1414	28449	93	93	97	97	97	92	100	96	96
1415	28450	101	106	108	107	107	99	111	105	106
1416	28451	95	101	102	107	104	99	107	103	103
1417	28452	99	108	103	103	103	96	107	101	103
1418	28453	95	100	105	107	106	96	106	101	103
1419	28454	113	114	114	116	115	111	119	115	115
1420	28455	112	122	111	115	113	110	119	114	115
1421	28456	87	93	90	94	92	90	95	92	92
1422	28457	94	95	102	100	101	91	103	97	98
1423	28458	99	97	96	98	97	90	98	94	96
1424	28459	93	100	97	103	100	89	98	93	97
1425	28460	91	121	92	94	93	89	97	93	98
1426	28461	95	103	104	110	107	93	104	98	102
1427	28462	122	122	117	96	106	114	126	120	115
1428	27771	99	100	104	107	105	96	109	102	103
1429	28463	98	111	108	111	109	97	108	102	107
1430	28464	98	105	105	111	108	107	111	109	108
1431	NDR 359 (NC)	93	99	99	100	99	92	103	97	98
1432	28465	97	98	103	101	102	96	104	100	100
1433	28466	101	102	105	106	105	97	109	103	104
1434	28467	93	97	96	107	102	89	103	96	98
1435	28468	95	81	109	115	112	106	113	110	105
1436	28469	90	96	96	101	98	91	99	95	96
1437	28470	92	99	96	101	98	97	104	100	99
1438	28471	103	111	111	116	113	101	116	108	111
1439	28472	100	101	102	103	102	89	103	96	99
1440	27900	114	92	110	115	112	110	120	115	109
1441	28473	98	101	100	106	103	94	106	100	101
1442	28474	98	94	92	98	95	85	96	91	93
1443	28475	94	105	104	108	106	99	106	102	104
1444	28476	93	92	89	92	91	94	94	94	92
1445	28477	93	90	93	94	93	96	95	96	93
1446	28478	98	107	104	111	107	94	106	100	104
1447	Zonal Check (ZC)	106	97	98	106	102	96	106	101	100
1448	28479	89	97	93	98	95	93	100	96	96
1449	28480	103	114	103	115	109	108	107	107	109
1450	28481	100	111	103	95	99	97	111	104	103
1451	28482	122	126	120	107	113	113	126	119	118
1452	28483	104	105	101	100	100	97	106	101	102
1453	28484	89	98	91	94	93	88	99	93	94
1454	28485	96	97	95	103	99	97	102	99	98
1455	28486	84	91	89	97	93	94	90	92	92
1456	28487	98	106	97	102	99	101	106	103	102
1457	28488	93	98	95	103	99	91	102	97	98
1458	28489	111	112	105	107	106	110	114	112	109
1459	28490	102	110	105	111	108	111	111	111	109
1460	28491	99	99	101	100	101	97	108	102	101
1461	28492	92	93	93	96	94	89	95	92	93
1462	28493	100	95	97	98	97	92	102	97	97
1463	28494	92	105	101	107	104	98	107	102	103
1464	Local Check	97	92	100	107	103	95	103	99	99
	Exp Mean	99	102	101	104	103	97	106	102	102

Table 3.37 contd.: Days to 50% flowering of entries in IVT IM, Kharif 2019

Entry No.	IET NO	ZONE VI								Zone VI (5)
		MA 2		MA 2 (2)	MA (4)	GU			GU (3)	
		KJT	SHR	Mean		NVS	NWG	DBI	Mean	
1401	28439	106	111	109	109	112	112	116	113	111
1402	28440	111	90	100	110	127	110	124	120	112
1403	28441	99	102	101	101	97	100	155	117	110
1404	28442	98	107	102	101	99	102	156	119	112
1405	27749	99	101	100	99	99	102	155	119	111
1406	27877	118	111	114	115	122	102	125	116	115
1407	28443	73	85	79	90	70	97	153	106	95
1408	28444	103	109	106	104	100	107	61	89	96
1409	28445	93	118	105	105	112	113	115	113	110
1410	28446	91	95	93	96	98	97	117	104	100
1411	28447	98	100	99	100	99	100	104	101	100
1412	28448	95	97	96	96	101	93	105	100	98
1413	27776	99	108	103	104	108	103	95	102	102
1414	28449	93	95	94	95	100	101	110	103	100
1415	28450	97	90	93	99	103	102	99	101	98
1416	28451	95	105	100	101	98	103	105	102	101
1417	28452	99	109	104	102	101	103	109	104	104
1418	28453	97	108	102	102	99	101	98	99	100
1419	28454	100	122	111	113	114	108	112	111	111
1420	28455	103	111	107	111	117	109	117	114	111
1421	28456	103	100	101	97	91	95	90	92	96
1422	28457	95	96	95	96	94	96	91	94	94
1423	28458	93	95	94	94	100	99	98	99	97
1424	28459	94	99	97	95	93	97	98	96	96
1425	28460	91	90	90	91	94	95	95	95	93
1426	28461	95	97	96	97	97	100	96	97	97
1427	28462	98	114	106	113	115	106	115	112	109
1428	27771	97	109	103	103	99	105	107	103	103
1429	28463	99	109	104	103	100	109	111	107	106
1430	28464	99	107	103	106	99	106	105	103	103
1431	NDR 359 (NC)	95	100	97	97	97	100	96	98	97
1432	28465	95	107	101	100	98	101	103	100	100
1433	28466	97	107	102	102	101	103	105	103	102
1434	28467	91	101	96	96	92	100	100	97	97
1435	28468	104	105	105	107	78	104	97	93	97
1436	28469	94	101	98	96	92	97	104	98	98
1437	28470	93	100	97	98	97	99	100	99	98
1438	28471	106	110	108	108	99	106	111	105	106
1439	28472	96	105	100	98	97	102	103	100	100
1440	27900	106	122	114	114	121	107	121	116	115
1441	28473	96	109	103	101	99	105	104	103	103
1442	28474	91	100	95	93	92	99	95	95	95
1443	28475	99	109	104	103	108	105	95	102	103
1444	28476	82	91	86	90	86	93	95	91	89
1445	28477	93	92	92	94	91	100	94	95	94
1446	28478	98	106	102	101	97	105	99	100	101
1447	Zonal Check (ZC)	95	100	98	99	97	100	99	98	98
1448	28479	91	102	96	96	93	100	91	94	95
1449	28480	99	109	104	105	107	110	117	111	108
1450	28481	102	103	102	103	106	114	111	110	107
1451	28482	101	124	112	116	121	110	121	117	115
1452	28483	95	101	98	100	97	109	105	103	101
1453	28484	91	90	91	92	87	101	90	92	92
1454	28485	93	107	100	99	84	103	100	95	97
1455	28486	80	92	86	89	85	93	90	89	88
1456	28487	94	107	100	102	99	102	114	105	103
1457	28488	95	95	95	96	91	101	97	96	96
1458	28489	102	110	106	109	108	108	117	111	109
1459	28490	99	109	104	107	111	110	115	112	109
1460	28491	98	107	103	102	97	104	105	102	102
1461	28492	93	93	93	92	90	96	99	95	94
1462	28493	93	107	100	98	96	101	111	103	101
1463	28494	101	112	106	104	97	111	108	105	106
1464	Local Check	96	101	98	98	97	104	111	104	102
	Exp Mean	97	103	100	101	99	102	107	103	102

Table 3.37 contd.: Days to 50% flowering of entries in IVT IM, Kharif 2019

Entry No.	IET NO	ZONE VII							
		AP		AP (2)	TE		TE (2)	TN	
		MTU	RGL		RNR	WGL		ADT	CBT
1401	28439	100	93	97	118	115	117	102	103
1402	28440	119	114	117	124	131	127	105	118
1403	28441	90	88	89	115	107	111	105	106
1404	28442	92	88	90	119	110	115	101	103
1405	27749	94	91	92	116	110	113	90	98
1406	27877	107	99	103	120	124	122	87	98
1407	28443	58	50	54	85	76	81	77	80
1408	28444	93	93	93	116	111	113	99	105
1409	28445	104	102	103	113	115	114	101	105
1410	28446	90	89	89	112	109	110	106	105
1411	28447	92	93	93	111	112	111	106	103
1412	28448	84	84	84	109	97	103	98	94
1413	27776	99	93	96	113	111	112	98	103
1414	28449	86	88	87	109	103	106	93	103
1415	28450	93	87	90	109	109	109	84	91
1416	28451	96	87	92	112	112	112	85	106
1417	28452	98	93	95	110	113	112	91	97
1418	28453	96	89	92	114	108	111	98	112
1419	28454	111	105	108	117	114	116	102	101
1420	28455	107	102	105	117	121	119	98	104
1421	28456	84	77	81	102	95	99	89	91
1422	28457	87	83	85	99	98	99	89	102
1423	28458	89	86	87	105	100	102	88	103
1424	28459	89	83	86	99	98	98	99	91
1425	28460	85	86	85	99	104	102	89	100
1426	28461	92	87	90	110	107	109	96	105
1427	28462	108	110	109	123	95	109	84	103
1428	27771	94	93	94	111	107	109	99	99
1429	28463	98	97	97	112	108	110	105	105
1430	28464	102	91	97	115	105	110	106	105
1431	NDR 359 (NC)	91	87	89	113	107	110	99	98
1432	28465	94	91	93	114	109	111	98	104
1433	28466	95	89	92	111	109	110	92	99
1434	28467	90	87	89	110	102	106	99	98
1435	28468	98	87	92	107	108	107	87	91
1436	28469	88	83	85	107	96	101	96	100
1437	28470	92	88	90	109	109	109	109	111
1438	28471	100	93	96	114	114	114	112	112
1439	28472	92	94	93	114	116	115	114	105
1440	27900	110	105	107	122	94	108	109	106
1441	28473	93	86	89	109	104	106	95	104
1442	28474	85	82	83	109	105	107	117	99
1443	28475	97	93	95	110	102	106	86	110
1444	28476	81	77	79	101	95	98	81	88
1445	28477	87	87	87	107	106	106	95	92
1446	28478	98	89	93	109	104	107	99	100
1447	Zonal Check (ZC)	94	87	91	105	100	103	96	101
1448	28479	84	81	83	105	97	101	92	98
1449	28480	101	102	101	115	117	116	112	111
1450	28481	96	94	95	114	112	113	96	103
1451	28482	112	110	111	125	99	112	107	111
1452	28483	99	92	96	121	115	118	110	103
1453	28484	86	83	85	108	98	103	92	94
1454	28485	89	90	89	110	106	108	114	104
1455	28486	80	75	77	104	93	98	88	94
1456	28487	95	93	94	110	115	113	96	99
1457	28488	88	87	87	108	98	103	97	99
1458	28489	104	102	103	117	115	116	109	104
1459	28490	108	102	105	115	96	105	113	105
1460	28491	95	89	92	110	107	108	99	101
1461	28492	86	86	86	108	97	103	87	91
1462	28493	95	86	91	107	108	108	93	102
1463	28494	98	93	96	114		114	95	101
1464	Local Check	112	93	103	114	108	111	107	107
	Exp Mean	94	90	92	111	106	109	98	101

Table 3.37 contd.: Days to 50% flowering of entries in IVT IM, Kharif 2019

Entry No.	IET NO	ZONE VII					Zone VII (8)	Overall (29)
		TN (2)	KE	KA		KA (1)		
		Mean	PTB	MND	@BRM	Mean	Mean	
1401	28439	102	113	105	113	105	106	108
1402	28440	111	102	113	125	113	116	116
1403	28441	105	109	108	111	108	103	105
1404	28442	102	104	106	110	106	103	104
1405	27749	94	103	97	108	97	100	103
1406	27877	92	104	98	119	98	104	111
1407	28443	78	101	87	112	87	77	86
1408	28444	102	108	105	113	105	104	104
1409	28445	103	107	103	113	103	106	107
1410	28446	105	107	97	108	97	102	100
1411	28447	104	111	105	108	105	104	102
1412	28448	96	90	96	103	96	94	96
1413	27776	100	101	98	112	98	102	104
1414	28449	98	106	92	103	92	97	98
1415	28450	87	100	95	107	95	96	101
1416	28451	95	106	107	105	107	101	102
1417	28452	94	105	94	105	94	100	102
1418	28453	105	110	108	108	108	104	102
1419	28454	101	109	114	113	114	109	110
1420	28455	101	114	104	115	104	108	112
1421	28456	90	99	88	101	88	91	94
1422	28457	95	107	97	101	97	95	98
1423	28458	95	111	98	101	98	97	98
1424	28459	95	104	95	102	95	94	97
1425	28460	94	104	93	100	93	95	95
1426	28461	100	109	116	108	116	103	102
1427	28462	93	113	114	120	114	106	111
1428	27771	99	104	102	113	102	101	103
1429	28463	105	101	106	114	106	104	105
1430	28464	105	106	113	108	113	105	105
1431	NDR 359 (NC)	98	101	101	106	101	100	99
1432	28465	101	99	103	108	103	101	101
1433	28466	95	102	96	108	96	99	102
1434	28467	98	105	97	109	97	98	97
1435	28468	89	105	103	114	103	98	101
1436	28469	98	98	103	111	103	96	98
1437	28470	110	101	106	114	106	103	100
1438	28471	112	103	113	117	113	107	108
1439	28472	109	102	98	113	98	104	103
1440	27900	107	109	103	119	103	107	110
1441	28473	99	106	96	114	96	99	102
1442	28474	108	98	96	100	96	99	97
1443	28475	98	111	98	111	98	101	103
1444	28476	84	105	87	99	87	89	92
1445	28477	93	103	88	100	88	95	96
1446	28478	99	104	104	108	104	101	102
1447	Zonal Check (ZC)	98	102	106	106	106	99	102
1448	28479	95	99	95	104	95	94	96
1449	28480	111	103	104	116	104	108	109
1450	28481	99	109	98	116	98	103	105
1451	28482	109	103	111	120	111	110	114
1452	28483	106	107	97	107	97	105	104
1453	28484	93	100	96	100	96	95	95
1454	28485	109	101	98	104	98	101	100
1455	28486	91	104	94	99	94	91	93
1456	28487	97	97	95	113	95	100	102
1457	28488	98	106	98	107	98	98	98
1458	28489	106	103	94	116	94	106	109
1459	28490	109	98	102	117	102	105	108
1460	28491	100	117	103	114	103	102	102
1461	28492	89	103	91	106	91	94	97
1462	28493	97	113	95	110	95	100	101
1463	28494	98	99	96	110	96	99	103
1464	Local Check	107	110	106	113	106	107	104
	Exp Mean	99	104	100	109	100	101	102

Table 3.38: Plant Height (cm) of entries in IVT IM, Kharif 2019

Entry No.	IET NO	ZONE II					Zone II (3)
		UT	PU	HA	JK	RA	
		@PNT	@LDN	KUL	CHT	KTA	
1401	28439	113		86		116	101
1402	28440	91				104	104
1403	28441	97	80	105		110	107
1404	28442	98	76			99	99
1405	27749	91	75	86		102	94
1406	27877	75		85		99	92
1407	28443	129	107	92	110	103	102
1408	28444	122		102		103	103
1409	28445	124		96		100	98
1410	28446	131	108	87	110	128	108
1411	28447	89	85	95	78	111	95
1412	28448	125	92	115	91	101	102
1413	27776	115	81	95		103	99
1414	28449	117	90		89	108	98
1415	28450	116	93	86		110	98
1416	28451	131	97	101	93	115	103
1417	28452	115	89	96	89	101	95
1418	28453	117	88	116		98	107
1419	28454	116		115		98	107
1420	28455	111		97		100	98
1421	28456	134	105	103	124	100	109
1422	28457	128	107	109	114	107	110
1423	28458	116	80	87		105	96
1424	28459	124	90	100		119	110
1425	28460	113	106		96	105	100
1426	28461	109	96	102	81	99	94
1427	28462	96		115		102	109
1428	27771	105	88	85	81	111	92
1429	28463	116		75		107	91
1430	28464	122	87	96		104	100
1431	NDR 359 (NC)	99	87	105	87	106	99
1432	28465	129	107	106	90	114	103
1433	28466	120	98	95	95	100	97
1434	28467	99	87	104	86	107	99
1435	28468	105		95		103	99
1436	28469	111	93	87	91	110	96
1437	28470	122	108	94		111	102
1438	28471	127	90	102	90	106	99
1439	28472	114	97	120		118	119
1440	27900	120		86		109	98
1441	28473	100	92	85		118	102
1442	28474	102	92	96	86	107	96
1443	28475	99	77	113		106	110
1444	28476	118	94	94	93	109	99
1445	28477	135	116	70	96	109	91
1446	28478	106	91	86		115	100
1447	Zonal Check (ZC)	85	73	71		110	91
1448	28479	122	88	86	81	115	94
1449	28480	91		95		104	99
1450	28481	125	100	101	91	108	100
1451	28482	96		74		115	94
1452	28483	141	112	99		120	109
1453	28484	123	96	87	88	113	96
1454	28485	125	105	111		114	113
1455	28486	119	83	106	85	116	102
1456	28487	130	107	85		103	94
1457	28488	99	90	108		121	115
1458	28489	99		89		107	98
1459	28490	131		110		118	114
1460	28491	125	106	109	97	115	107
1461	28492	101	81	79	77	114	90
1462	28493	132	107	116		97	107
1463	28494	125	99	73		98	85
1464	Local Check	100	81	99	116	101	105
	Exp Mean	113	93	96	93	108	101

Table 3.38 contd.: Plant Height (cm) of entries in IVT IM, Kharif 2019

		ZONE III						
Entry No.	IET NO	OD			OD (3)	BI		
		CTK	JYP	CHP	Mean	BKG	SBR	@PTN
1401	28439	117	97	126	113	119	130	122
1402	28440	112	99	109	106	131	119	91
1403	28441	99	111	100	103	107	115	102
1404	28442	97	95	93	95	105	106	86
1405	27749	108	101	96	101	105	107	95
1406	27877	99	104	105	103	107	101	83
1407	28443	80	110	94	95	122	100	82
1408	28444	125	106	125	118	125	125	124
1409	28445	114	101	126	114	120	127	114
1410	28446	131	98	125	118	130	131	130
1411	28447	107	102	112	107	122	111	109
1412	28448	103	93	104	100	113	120	93
1413	27776	112	91	106	103	115	112	85
1414	28449	99	102	100	100	120	116	101
1415	28450	99	100	110	103	130	126	109
1416	28451	128	89	119	112	122	124	109
1417	28452	110	101	117	109	120	124	104
1418	28453	121	102	115	113	123	126	110
1419	28454	115	106	122	114	123	125	105
1420	28455	108	106	115	110	126	116	87
1421	28456	108	99	118	109	136	119	109
1422	28457	114	101	119	111	128	127	117
1423	28458	103	93	94	96	104	113	94
1424	28459	104	100	105	103	118	120	105
1425	28460	117	100	114	110	126	121	114
1426	28461	110	106	120	112	112	113	94
1427	28462	118	100	106	108	97	106	88
1428	27771	110	100	113	108	116	122	98
1429	28463	102	104	119	108	120	118	97
1430	28464	105	108	107	107	116	110	95
1431	NDR 359 (NC)	104	97	99	100	105	110	90
1432	28465	109	101	121	110	111	130	113
1433	28466	119	97	115	111	122	121	105
1434	28467	91	101	93	95	115	107	88
1435	28468	90	95	99	94	110	109	85
1436	28469	105	103	101	103	102	116	106
1437	28470	141	99	120	120	101	138	137
1438	28471	104	109	115	109	123	115	247
1439	28472	110	101	112	107	94	118	109
1440	27900	112	103	114	110	112	118	102
1441	28473	104	85	108	99	112	119	78
1442	28474	103	103	115	107	107	105	91
1443	28475	104	95	100	99	113	111	97
1444	28476	101	95	109	102	116	104	91
1445	28477	113	101	107	107	132	123	108
1446	28478	105	99	109	104	115	115	85
1447	Zonal Check (ZC)	116	99	123	113	113	122	97
1448	28479	104	107	99	103	118	106	92
1449	28480	96	103	105	101	111	119	70
1450	28481	106	103	119	109	122	123	108
1451	28482	111	114	121	115	107	114	99
1452	28483	123	101	127	117	124	142	121
1453	28484	112	108	106	109	121	119	113
1454	28485	121	111	122	118	123	125	110
1455	28486	96	122	101	106	99	104	103
1456	28487	121	106	120	116	124	131	115
1457	28488	99	103	103	101	126	110	96
1458	28489	105	96	106	102	116	115	97
1459	28490	127	119	132	126	134	143	103
1460	28491	114	91	120	108	122	131	104
1461	28492	87	102	83	91	94	113	81
1462	28493	122	112	129	121	134	137	107
1463	28494	118	111	123	117	122	124	127
1464	Local Check	101	101	113	105	115	98	84
	Exp Mean	109	102	111	107	117	118	103

Table 3.38 contd.: Plant Height (cm) of entries in IVT IM, Kharif 2019

Entry No.	IET NO	ZONE III						Zone III (8)
		BI (2)	JH	WB	UP		UP (1)	
			@RCI	CHN	MSD	@VRN	Mean	
1401	28439	125	107	135	100	117	100	115
1402	28440	125	85	134	91		91	111
1403	28441	111	93	131	112	108	112	111
1404	28442	106	83	111	83	102	83	97
1405	27749	106	82	107	100	100	100	103
1406	27877	104	79	113	88		88	101
1407	28443	111	83	123	95	127	95	102
1408	28444	125	107	138	100	130	100	118
1409	28445	123	108	133	104	118	104	116
1410	28446	130	108	144	132	146	132	128
1411	28447	116	95	116	107	118	107	110
1412	28448	117	98	121	109	114	109	109
1413	27776	114	84	121	95	103	95	106
1414	28449	118	85	120	118	117	118	112
1415	28450	128	101	128	110	127	110	114
1416	28451	123	100	148	100	139	100	116
1417	28452	122	100	142	108	123	108	116
1418	28453	125	95	133	107	115	107	117
1419	28454	124	97	134	94	116	94	114
1420	28455	121	97	125	85	112	85	108
1421	28456	127	108	134	88	126	88	111
1422	28457	127	106	139	109	129	109	118
1423	28458	108	84	112	95	112	95	101
1424	28459	119	98	124	100	123	100	109
1425	28460	124	100	131	95	136	95	112
1426	28461	112	94	131	104	115	104	113
1427	28462	102	81	127	102	101	102	107
1428	27771	119	92	133	105	120	105	113
1429	28463	119	98	120	99	116	99	110
1430	28464	113	92	120	94	117	94	107
1431	NDR 359 (NC)	107	92	121	100	112	100	104
1432	28465	121	108	136	107	132	107	115
1433	28466	122	81	130	109	127	109	115
1434	28467	111	82	104	95	108	95	100
1435	28468	110	73	105	91	118	91	99
1436	28469	109	75	117	97	113	97	105
1437	28470	120	83	141	115	137	115	121
1438	28471	119	92	121	90	121	90	108
1439	28472	106	81	131	112	131	112	111
1440	27900	115	76	124	85	118	85	106
1441	28473	115	82	118	91	114	91	104
1442	28474	106	80	107	84	113	84	101
1443	28475	112	71	112	99	103	99	104
1444	28476	110	79	114	80	107	80	100
1445	28477	127	92	142	112	138	112	118
1446	28478	115	88	128	102	108	102	109
1447	Zonal Check (ZC)	118	83	144	104	113	104	116
1448	28479	112	70	116	94	104	94	105
1449	28480	115	74	124	90	102	90	105
1450	28481	123	97	139	107	128	107	116
1451	28482	110	79	132	93		93	110
1452	28483	133	87	151	135	134	135	130
1453	28484	120	86	123	93	115	93	109
1454	28485	124	105	135	105	122	105	118
1455	28486	102	75	111	90	102	90	102
1456	28487	127	108	142	105	137	105	119
1457	28488	118	81	104	104	111	104	107
1458	28489	116	77	118	100	110	100	107
1459	28490	138	87	142	113	137	113	128
1460	28491	127	83	132	121	140	121	119
1461	28492	103	71	98	77	105	77	91
1462	28493	135	102	145	125	141	125	129
1463	28494	123	90	129	109	129	109	118
1464	Local Check	107	104	127	95	121	95	106
	Exp Mean	117	90	126	101	119	101	111

Table 3.38 contd.: Plant Height (cm) of entries in IVT IM, Kharif 2019

Entry No.	IET NO	ZONE IV	ZONE-V							Zone V (5)
		AS	MP	CH		CH (2)	MA 1		MA 1 (2)	
		TTB	WRS	RPR	JDP	Mean	SKL	SND	Mean	
1401	28439	118	122	124	112	118	106	117	112	116
1402	28440	111	122	115	96	106	103	121	112	111
1403	28441	100	112	97	93	95	85	102	93	98
1404	28442	98	98	95	88	92	83	90	87	91
1405	27749	103	107	107	81	94	84	96	90	95
1406	27877	101	108	113	91	102	96	102	99	102
1407	28443	46	96	117	84	101	74	76	75	90
1408	28444	120	130	134	120	127	118	102	110	121
1409	28445	66	129	126	112	119	105	118	111	118
1410	28446	134	142	137	118	128	121	116	119	127
1411	28447	108	108	104	101	102	102	101	101	103
1412	28448	114	117	106	108	107	87	95	91	102
1413	27776	112	125	105	99	102	109	99	104	107
1414	28449	112	115	107	91	99	87	99	93	100
1415	28450	115	112	131	114	122	101	104	102	112
1416	28451	118	138	132	125	128	109	132	121	127
1417	28452	119	122	116	103	110	101	128	114	114
1418	28453	117	116	116	111	114	107	113	110	113
1419	28454	57	123	118	98	108	104	118	111	112
1420	28455	97	114	117	112	114	98	107	102	109
1421	28456	115	125	119	104	111	119	96	107	112
1422	28457	122	132	118	112	115	125	104	115	118
1423	28458	100	112	97	94	95	85	93	89	96
1424	28459	119	107	113	97	105	96	92	94	101
1425	28460	122	136	122	104	113	110	92	101	113
1426	28461	116	124	109	107	108	104	128	116	114
1427	28462	106	115	105	93	99	93	112	102	104
1428	27771	111	116	112	109	110	98	108	103	108
1429	28463	115	106	105	101	103	107	105	106	105
1430	28464	110	104	111	100	106	75	106	91	99
1431	NDR 359 (NC)	111	104	107	93	100	86	124	105	103
1432	28465	124	118	122	110	116	108	114	111	114
1433	28466	128	130	116	99	108	117	120	119	117
1434	28467	102	103	96	92	94	75	95	85	92
1435	28468	109	107	99	95	97	89	104	97	99
1436	28469	105	115	104	93	98	93	83	88	98
1437	28470	61	144	128	117	122	119	134	127	128
1438	28471	112	109	119	115	117	97	117	107	111
1439	28472	113	115	112	107	110	97	117	107	110
1440	27900	116	115	112	108	110	97	92	94	105
1441	28473	105	104	95	93	94	97	94	96	97
1442	28474	102	108	97	92	94	87	93	90	95
1443	28475	105	112	88	88	88	94	101	97	97
1444	28476	106	114	96	90	93	97	125	111	105
1445	28477	116	126	122	109	115	113	93	103	112
1446	28478	110	114	108	103	105	84	91	87	100
1447	Zonal Check (ZC)	115	104	95	85	90	82	89	85	91
1448	28479	104	105	97	95	96	94	105	99	99
1449	28480	101	108	89	96	92	92	89	91	95
1450	28481	122	127	120	94	107	99	132	115	114
1451	28482	113	126	116	117	116	101	102	101	112
1452	28483	137	135	123	119	121	113	105	109	119
1453	28484	105	115	94	96	95	84	89	87	96
1454	28485	122	113	94	108	101	106	94	100	103
1455	28486	101	115	109	92	100	95	82	88	98
1456	28487	127	128	125	119	122	116	124	120	122
1457	28488	108	104	97	94	96	95	102	99	98
1458	28489	106	114	96	103	100	100	103	102	103
1459	28490	140	132	109	120	115	123	141	132	125
1460	28491	118	130	120	118	119	113	129	121	122
1461	28492	91	94	88	78	83	78	73	75	82
1462	28493	141	144	124	122	123	116	103	109	122
1463	28494	63	127	107	112	110	120	124	122	118
1464	Local Check	124	117	106	105	106	122	94	108	109
	Exp Mean	109	117	110	102	106	100	105	103	107

Table 3.38 contd.: Plant Height (cm) of entries in IVT IM, Kharif 2019

Entry No.	IET NO	ZONE VI								Zone VI (5)
		MA 2		MA2 (2)	MA (4)	GU			GU (3)	
		KJT	SHR	Mean	Mean	NVS	NWG	DBI	Mean	Mean
1401	28439	142	134	138	125	124	139	127	130	133
1402	28440	122	110	116	114	128	120	113	120	119
1403	28441	113	109	111	102	119	120	111	117	114
1404	28442	104	105	104	96	95	97	102	98	101
1405	27749	114	98	106	98	83	116	110	103	104
1406	27877	120	119	119	109	96	104	103	101	108
1407	28443	130	88	109	92	110	107	105	107	108
1408	28444	147	122	134	122	103	137	96	112	121
1409	28445	155	136	145	128	133	128	134	132	137
1410	28446	146	131	139	129	131	160	139	143	142
1411	28447	124	113	118	110	118	124	151	131	126
1412	28448	109	120	114	103	88	121	123	110	112
1413	27776	129	116	122	113	114	116	118	116	119
1414	28449	123	119	121	107	117	123	120	120	120
1415	28450	143	117	130	116	94	135	115	115	121
1416	28451	154	133	143	132	94	148	133	125	133
1417	28452	131	122	126	120	122	127	144	131	129
1418	28453	135	128	131	121	133	145	123	134	133
1419	28454	140	117	129	120	128	135	139	134	132
1420	28455	137	122	130	116	122	124	128	125	127
1421	28456	132	112	122	115	122	142	134	133	128
1422	28457	137	129	133	124	127	141	134	134	134
1423	28458	107	104	105	97	122	118	120	120	114
1424	28459	118	112	115	104	127	138	129	131	125
1425	28460	125	118	122	111	116	146	138	133	129
1426	28461	127	117	122	119	122	130	125	126	124
1427	28462	118	108	113	108	127	106	116	116	115
1428	27771	118	122	120	111	125	121	125	124	122
1429	28463	141	120	131	118	114	124	122	120	124
1430	28464	120	118	119	105	117	107	114	112	115
1431	NDR 359 (NC)	107	112	109	107	124	103	106	111	110
1432	28465	134	128	131	121	134	137	132	134	133
1433	28466	142	136	139	129	127	140	139	135	137
1434	28467	113	103	108	96	114	102	105	107	107
1435	28468	125	120	122	109	121	116	115	118	119
1436	28469	123	111	117	102	120	120	110	117	117
1437	28470	141	130	135	131	127	141	131	133	134
1438	28471	137	124	131	119	125	131	111	122	125
1439	28472	136	118	127	117	115	139	125	126	127
1440	27900	131	124	128	111	128	122	115	122	124
1441	28473	115	112	113	104	120	107	122	116	115
1442	28474	113	99	106	98	114	113	114	114	111
1443	28475	113	110	111	104	123	111	119	118	115
1444	28476	116	114	115	113	116	119	118	118	117
1445	28477	143	127	135	119	128	141	134	134	134
1446	28478	133	115	124	106	116	124	120	120	122
1447	Zonal Check (ZC)	149	132	141	113	129	134	115	126	132
1448	28479	112	103	107	103	119	107	111	112	110
1449	28480	122	112	117	104	122	106	103	110	113
1450	28481	130	121	126	120	142	137	122	134	131
1451	28482	124	122	123	112	139	128	123	130	127
1452	28483	145	130	137	123	163	154	149	155	148
1453	28484	125	120	122	104	122	125	122	123	123
1454	28485	126	128	127	113	133	126	126	128	128
1455	28486	110	98	104	96	114	116	108	113	109
1456	28487	146	135	140	130	150	136	127	138	139
1457	28488	106	108	107	103	129	117	112	119	114
1458	28489	131	116	123	113	138	121	117	126	125
1459	28490	145	152	148	140	165	140	128	144	146
1460	28491	140	125	133	127	151	141	140	144	139
1461	28492	113	98	106	90	103	108	105	105	106
1462	28493	139	122	130	120	153	156	149	153	144
1463	28494	136	134	135	128	136	137	129	134	134
1464	Local Check	119	124	121	115	135	132	111	126	124
	Exp Mean	128	118	123	113	123	126	122	124	124

Table 3.38 contd.: Plant Height (cm) of entries in IVT IM, Kharif 2019

Entry No.	IET NO	ZONE VII								
		AP		AP (2)	TE		TE (2)	TN		TN (2)
		MTU	RGL		RNR	WGL		ADT	CBT	Mean
1401	28439	144	144	144	106	143	124	122	112	117
1402	28440	138	134	136	103	133	118	124	121	122
1403	28441	115	102	108	100	112	106	101	116	109
1404	28442	103	93	98	93	94	94	94	96	95
1405	27749	111	98	105	94	117	105	82	93	87
1406	27877	120	101	111	101	123	112	94	98	96
1407	28443	90	101	95	91	101	96	91	108	100
1408	28444	137	140	139	105	142	124	120	108	114
1409	28445	148	130	139	115	145	130	113	129	121
1410	28446	126	154	140	116	143	129	126	131	128
1411	28447	127	117	122	101	113	107	105	102	104
1412	28448	125	103	114	98	122	110	89	112	101
1413	27776	129	130	130	104	133	119	96	97	96
1414	28449	122	103	113	103	118	111	102	103	103
1415	28450	127	107	117	107	124	115	102	96	99
1416	28451	128	139	134	106	144	125	133	115	124
1417	28452	126	122	124	110	132	121	109	96	102
1418	28453	134	125	129	104	137	120	124	106	115
1419	28454	134	124	129	104	133	119	119	117	118
1420	28455	126	117	121	105	127	116	104	106	105
1421	28456	134	145	139	115	135	125	121	114	117
1422	28457	146	106	126	112	126	119	119	125	122
1423	28458	112	95	103	103	115	109	83	95	89
1424	28459	121	119	120	105	127	116	85	97	91
1425	28460	130	132	131	115	132	124	106	121	113
1426	28461	121	121	121	104	127	116	103	105	104
1427	28462	122	110	116	105	127	116	106	102	104
1428	27771	130	115	123	106	128	117	106	105	105
1429	28463	124	118	121	106	122	114	104	102	103
1430	28464	114	108	111	103	117	110	103	104	103
1431	NDR 359 (NC)	116	100	108	98	113	105	84	101	92
1432	28465	141	121	131	106	138	122	113	119	116
1433	28466	138	130	134	115	143	129	113	102	108
1434	28467	114	102	108	107	102	104	122	90	106
1435	28468	111	96	104	103	111	107	84	85	84
1436	28469	118	101	110	104	105	105	96	106	101
1437	28470	123	139	131	125	133	129	136	121	129
1438	28471	122	111	116	117	124	120	104	120	112
1439	28472	121	120	120	107	114	110	125	108	116
1440	27900	124	111	118	124	141	132	105	106	105
1441	28473	129	107	118	102	109	106	107	93	100
1442	28474	117	101	109	102	122	112	101	97	99
1443	28475	110	104	107	105	115	110	101	92	97
1444	28476	114	95	104	95	111	103	93	91	92
1445	28477	115	131	123	125	134	129	110	113	112
1446	28478	117	105	111	104	113	108	94	103	98
1447	Zonal Check (ZC)	121	95	108	104	113	108	96	91	93
1448	28479	113	102	107	107	126	117	99	97	98
1449	28480	120	105	113	107	118	112	104	94	99
1450	28481	135	137	136	119	136	127	115	119	117
1451	28482	125	120	122	103	133	118	104	116	110
1452	28483	150	142	146	114	143	128	105	120	112
1453	28484	114	103	109	106	110	108	107	113	110
1454	28485	134	133	133	113	134	123	110	104	107
1455	28486	109	98	103	103	109	106	92	90	91
1456	28487	141	124	133	117	132	125	115	111	113
1457	28488	119	108	114	104	113	108	120	104	112
1458	28489	145	114	129	114	138	126	105	95	100
1459	28490	122	145	133	127	143	135	123	118	121
1460	28491	139	139	139	123	143	133	115	117	116
1461	28492	120	90	105	102	103	102	94	86	90
1462	28493	122	140	131	123	143	133	120	117	119
1463	28494	137	119	128	127		127	114	119	116
1464	Local Check	123	105	114	105	122	113	108	114	111
	Exp Mean	124.67	116.28	120.47	107.71	125.00	116.37	106.56	106.25	106.40

Table 3.38 contd.: Plant Height (cm) of entries in IVT IM, Kharif 2019

Entry No.	IET NO	ZONE VII				Zone VII (8)	Overall (29)
		KE	KA		KA (1)		
		PTB	MND	@BRM	Mean	Mean	
1401	28439	133	110	92	110	127	122
1402	28440	121	98	68	98	121	116
1403	28441	109	92	76	92	106	107
1404	28442	112	83	74	83	96	97
1405	27749	98	86	72	86	97	100
1406	27877	98	88	56	88	103	103
1407	28443	98	104	83	104	98	98
1408	28444	112	107	99	107	122	120
1409	28445	120	109	93	109	126	120
1410	28446	123	105	106	105	128	128
1411	28447	110	90	90	90	108	110
1412	28448	102	96	80	96	106	107
1413	27776	106	91	87	91	111	110
1414	28449	104	95	83	95	106	108
1415	28450	102	107	82	107	109	112
1416	28451	126	111	101	111	125	123
1417	28452	102	97	90	97	112	115
1418	28453	112	97	96	97	117	119
1419	28454	112	104	92	104	118	116
1420	28455	112	98	88	98	112	112
1421	28456	104	108	95	108	122	118
1422	28457	117	111	100	111	120	121
1423	28458	94	85	79	85	98	101
1424	28459	97	96	90	96	106	110
1425	28460	109	102	96	102	118	117
1426	28461	106	94	91	94	110	113
1427	28462	108	80	81	80	108	108
1428	27771	103	96	92	96	111	111
1429	28463	119	102	90	102	112	111
1430	28464	93	99	92	99	105	106
1431	NDR 359 (NC)	102	91	85	91	101	104
1432	28465	112	106	103	106	120	119
1433	28466	122	98	102	98	120	119
1434	28467	90	87	78	87	102	101
1435	28468	84	92	75	92	96	102
1436	28469	101	98	87	98	104	105
1437	28470	123	106	107	106	126	123
1438	28471	118	101	85	101	115	113
1439	28472	96	108	93	108	112	115
1440	27900	117	98	92	98	116	112
1441	28473	99	94	79	94	105	105
1442	28474	98	91	80	91	104	103
1443	28475	82	91	82	91	100	104
1444	28476	109	90	86	90	100	104
1445	28477	110	108	103	108	118	117
1446	28478	99	96	94	96	104	108
1447	Zonal Check (ZC)	100	93	84	93	101	109
1448	28479	96	86	69	86	103	103
1449	28480	102	89	74	89	105	104
1450	28481	126	104	96	104	124	119
1451	28482	115	101	72	101	115	115
1452	28483	129	107	107	107	126	129
1453	28484	98	105	78	105	107	108
1454	28485	122	92	86	92	118	117
1455	28486	86	102	78	102	99	102
1456	28487	136	109	102	109	123	123
1457	28488	110	85	89	85	108	108
1458	28489	108	108	74	108	116	112
1459	28490	132	118	95	118	128	131
1460	28491	118	108	103	108	125	123
1461	28492	87	80	74	80	95	93
1462	28493	122	105	99	105	124	128
1463	28494	124	99	96	99	120	117
1464	Local Check	132	112	73	112	115	113
	Exp Mean	109	98	87	98	112	112

Table 3.39: Panicles/m² of entries in IVT IM, Kharif 2019

Entry No.	IET NO	ZONE II						ZONE III			
		UT	PU	HA	JK	RA	Zone II (3)	OD			OD (3)
		@PNT	@LDN	KUL	CHT	KTA	Mean	CTK	JYP	CHP	Mean
1401	28439	285		284		198	241	292	226	159	226
1402	28440	244				175	175	278	293	219	263
1403	28441	262	271	277		203	240	253	417	177	282
1404	28442	270	277			245	245	246	355	204	268
1405	27749	246	333	297		245	271	260	393	210	288
1406	27877	276		271		182	226	260	286	221	256
1407	28443	235	314	280	290	228	266	231	360	215	269
1408	28444	276		243		201	222	226	223	200	216
1409	28445	286		218		207	212	245	360	198	268
1410	28446	247	294	288	277	280	282	260	332	188	260
1411	28447	274	297	272	287	194	251	290	340	201	277
1412	28448	263	241	246	284	207	246	287	320	135	247
1413	27776	310	337	307		196	252	242	366	258	289
1414	28449	276	274		283	263	273	311	366	204	294
1415	28450	282	254	318		236	277	326	306	240	291
1416	28451	294	228	249	280	289	273	269	276	168	237
1417	28452	260	218	257	275	236	256	206	333	154	231
1418	28453	279	281	266		222	244	231	270	193	231
1419	28454	281		280		201	241	237	386	220	281
1420	28455	242		237		214	225	382	303	168	284
1421	28456	242	205	288	283	256	275	241	313	163	239
1422	28457	234	215	300	285	243	276	213	370	155	246
1423	28458	254	238	319		201	260	316	343	179	279
1424	28459	223	215	297		235	266	247	379	229	285
1425	28460	238	277		277	207	242	304	400	172	292
1426	28461	264	264	292	279	173	248	298	266	179	248
1427	28462	271		282		158	220	302	433	215	317
1428	27771	220	238	247	277	222	249	215	413	187	271
1429	28463	245		293		201	247	257	270	213	246
1430	28464	288	257	318		210	264	216	386	198	267
1431	NDR 359 (NC)	221	215	318	285	285	296	282	276	206	255
1432	28465	274	297	283	282	275	280	275	390	188	284
1433	28466	277	284	272	278	186	245	267	256	190	238
1434	28467	257	281	293	274	184	250	297	423	217	312
1435	28468	259		273		282	277	226	303	183	237
1436	28469	292	254	269	281	193	248	263	420	215	299
1437	28470	255	218	280		224	252	193	339	138	223
1438	28471	255	244	290	277	222	263	259	253	202	238
1439	28472	320	257	271		208	239	357	340	213	303
1440	27900	286		301		172	236	302	293	209	268
1441	28473	290	274	283		270	276	342	430	187	319
1442	28474	262	264	356	282	271	303	317	333	155	268
1443	28475	229	271	346		187	267	393	342	195	310
1444	28476	251	267	328	271	187	262	306	373	259	312
1445	28477	263	290	330	281	191	267	243	419	209	290
1446	28478	222	330	336		266	301	252	296	158	235
1447	Zonal Check (ZC)	255	350	293		252	272	334	327	192	284
1448	28479	251	224	257	264	266	262	292	320	189	267
1449	28480	285		239		165	202	292	343	257	297
1450	28481	296	248	320	296	222	279	306	293	198	265
1451	28482	255		307		144	225	297	296	196	263
1452	28483	291	284	288		172	230	228	329	219	259
1453	28484	229	257	269	278	189	245	236	390	154	260
1454	28485	273	297	306		200	253	278	346	179	268
1455	28486	246	310	278	287	250	272	321	280	201	267
1456	28487	292	251	290		194	242	258	270	129	219
1457	28488	272	284	360		154	257	318	310	251	293
1458	28489	260		340		229	284	302	469	189	320
1459	28490	276		288		186	237	244	354	195	264
1460	28491	280	300	377	281	193	284	251	283	193	242
1461	28492	254	330	293	286	203	261	287	296	191	258
1462	28493	274	297	301		189	245	270	320	179	256
1463	28494	252	264	307		186	246	286	432	197	305
1464	Local Check	218	248	307	280	198	261	335	333	209	292
	Exp Mean	263	270	291	281	214	254	276	337	195	269

Table 3.39 contd.: Panicles/m² of entries in IVT IM, Kharif 2019

Entry No.	IET NO	ZONE III									Zone III (8)
		BI			BI (2)	JH	WB	UP		UP (1)	
		BKG	SBR	@PTN		@RCI	CHN	MSD	@VRN	Mean	Mean
1401	28439	290	313	276	302	200	231	328	234	328	271
1402	28440	275	320	254	298	243	248	347	#DIV/0!	347	291
1403	28441	247	362	237	304	229	182	320	224	320	285
1404	28442	218	245	240	231	177	215	321	231	321	265
1405	27749	288	269	312	278	171	248	327	276	327	290
1406	27877	208	289	261	248	210	264	331		331	274
1407	28443	241	316	239	279	206	248	241	244	241	261
1408	28444	245	322	235	283	152	198	323	226	323	257
1409	28445	205	373	221	289	178	215	242	228	242	260
1410	28446	283	259	317	271	178	248	272	289	272	264
1411	28447	321	350	272	336	204	314	344	223	344	313
1412	28448	252	230	216	241	229	231	313	223	313	260
1413	27776	280	318	320	299	173	281	328	273	328	300
1414	28449	283	227	170	255	170	215	290	225	290	273
1415	28450	358	310	309	334	227	297	330	248	330	312
1416	28451	240	257	181	249	129	231	339	209	339	265
1417	28452	280	252	189	266	142	198	360	201	360	268
1418	28453	288	248	238	268	135	198	302	259	302	254
1419	28454	313	314	227	313	206	281	330	261	330	301
1420	28455	248	314	275	281	133	231	328	257	328	288
1421	28456	321	222	186	271	175	231	354	217	354	275
1422	28457	256	208	211	232	135	314	354	227	354	278
1423	28458	209	240	290	224	226	347	322	251	322	284
1424	28459	213	235	229	224	169	248	357	237	357	283
1425	28460	180	200	229	190	201	281	259	245	259	257
1426	28461	216	260	270	238	171	248	239	211	239	243
1427	28462	278	246	272	262	207	264	340	284	340	302
1428	27771	254	230	235	242	168	198	358	202	358	277
1429	28463	314	263	249	289	178	281	378	256	378	294
1430	28464	293	265	225	279	175	297	280	246	280	277
1431	NDR 359 (NC)	288	240	272	264	178	248	252	223	252	255
1432	28465	250	265	257	257	173	248	253	227	253	265
1433	28466	288	287	206	287	179	248	230	237	230	249
1434	28467	256	233	210	244	140	248	370	250	370	302
1435	28468	314	314	265	314	179	264	330	250	330	283
1436	28469	247	238	191	242	123	149	326	221	326	273
1437	28470	245	206	147	225	127	165	357	170	357	250
1438	28471	215	238	224	226	139	231	348	210	348	262
1439	28472	283	341	255	312	136	314	375	215	375	325
1440	27900	280	273	252	276	141	314	358	261	358	298
1441	28473	288	291	241	289	148	264	252	258	252	288
1442	28474	424	325	292	374	167	314	182	290	182	279
1443	28475	256	384	212	320	164	248	328	221	328	309
1444	28476	214	203	227	209	175	330	379	221	379	305
1445	28477	453	229	172	341	178	264	331	223	331	310
1446	28478	252	240	219	246	148	248	359	238	359	270
1447	Zonal Check (ZC)	245	347	227	296	153	198	228	266	228	262
1448	28479	243	282	231	262	148	248	361	220	361	287
1449	28480	289	322	228	306	170	363	335	249	335	317
1450	28481	215	273	233	244	154	231	379	291	379	284
1451	28482	173	266	243	219	183	215	329		329	262
1452	28483	214	285	260	250	121	264	369	247	369	284
1453	28484	283	273	242	278	160	231	322	260	322	276
1454	28485	185	232	266	208	135	264	332	206	332	268
1455	28486	248	238	212	243	169	281	351	263	351	284
1456	28487	215	293	183	254	136	248	379	203	379	271
1457	28488	210	295	262	252	158	248	279	273	279	273
1458	28489	313	344	253	328	159	264	357	277	357	324
1459	28490	289	345	270	317	153	264	379	253	379	306
1460	28491	283	301	236	292	124	297	380	276	380	296
1461	28492	178	227	312	202	154	380	374	296	374	288
1462	28493	248	280	235	264	135	248	279	233	279	263
1463	28494	246	260	228	253	155	297	350	217	350	302
1464	Local Check	283	290	274	286	152	231	372	266	372	303
	Exp Mean	262	277	241	269	167	255	324	#DIV/0!	324	281

Table 3.39 contd.: Panicles/m² of entries in IVT IM, Kharif 2019

Entry No.	IET NO	ZONE IV	ZONE-V							Zone V (5)
		AS	MP	CH		CH (2)	MA		MA (2)	
		TTB	WRS	RPR	JDP	Mean	SKL	SND	Mean	
1401	28439	205	366	204	267	236	273	186	229	259
1402	28440	248	388	207	253	230	223	305	264	275
1403	28441	238	304	203	268	235	233	247	240	251
1404	28442	258	317	183	254	218	158	252	205	233
1405	27749	225	335	184	246	215	260	244	252	254
1406	27877	228	355	186	318	252	145	250	198	251
1407	28443	258	331	239	238	239	205	267	236	256
1408	28444	215	366	204	214	209	290	237	264	262
1409	28445	198	355	203	232	217	225	215	220	246
1410	28446	290	399	202	300	251	263	199	231	272
1411	28447	230	383	269	250	259	197	212	205	262
1412	28448	190	349	251	273	262	182	245	213	260
1413	27776	225	393	207	291	249	240	339	290	294
1414	28449	290	318	205	259	232	235	273	254	258
1415	28450	238	403	192	325	258	239	349	294	301
1416	28451	170	298	188	210	199	214	214	214	225
1417	28452	198	342	194	219	207	167	290	229	242
1418	28453	230	322	194	264	229	242	190	216	242
1419	28454	243	412	159	210	184	283	290	286	271
1420	28455	228	429	118	265	192	137	235	186	237
1421	28456	213	372	268	193	230	161	191	176	237
1422	28457	218	346	206	239	222	210	252	231	250
1423	28458	265	404	182	239	210	197	195	196	243
1424	28459	258	339	195	265	230	126	281	204	241
1425	28460	278	417	186	302	244	197	280	238	276
1426	28461	200	369	191	210	200	152	268	210	238
1427	28462	273	372	193	307	250	179	205	192	251
1428	27771	188	298	175	249	212	179	208	194	222
1429	28463	210	349	190	285	238	283	252	268	272
1430	28464	218	371	200	201	200	179	251	215	240
1431	NDR 359 (NC)	238	271	208	228	218	162	127	144	199
1432	28465	218	309	267	235	251	149	234	191	239
1433	28466	200	331	244	265	255	195	204	200	248
1434	28467	218	289	278	229	254	194	227	210	243
1435	28468	243	383	276	265	270	224	304	264	290
1436	28469	193	312	290	204	247	154	180	167	228
1437	28470	174	204	232	217	224	184	215	199	210
1438	28471	218	386	198	258	228	188	247	217	255
1439	28472	233	328	198	274	236	198	219	208	243
1440	27900	230	338	161	248	204	158	216	187	224
1441	28473	240	329	218	229	224	215	297	256	258
1442	28474	298	312	220	225	223	286	255	270	259
1443	28475	195	331	251	276	264	186	164	175	242
1444	28476	240	397	268	150	209	219	272	245	261
1445	28477	285	412	280	256	268	238	238	238	285
1446	28478	190	368	167	216	191	168	198	183	223
1447	Zonal Check (ZC)	240	313	286	254	270	267	342	304	292
1448	28479	240	296	205	226	215	278	291	284	259
1449	28480	205	368	152	273	212	213	203	208	241
1450	28481	248	441	202	208	205	261	205	233	263
1451	28482	210	317	203	248	225	143	250	196	232
1452	28483	233	341	268	294	281	180	237	208	264
1453	28484	300	346	210	231	220	205	189	197	236
1454	28485	215	376	184	270	227	238	175	206	248
1455	28486	245	384	191	199	195	235	299	267	261
1456	28487	183	268	207	210	208	223	208	215	223
1457	28488	258	304	210	241	225	245	265	255	253
1458	28489	235	389	224	296	260	288	209	248	281
1459	28490	253	420	242	270	256	185	267	226	276
1460	28491	260	311	218	263	240	230	222	226	249
1461	28492	290	371	271	296	284	227	340	284	301
1462	28493	213	425	283	229	256	219	159	189	263
1463	28494	196	247	208	248	228	224	249	236	235
1464	Local Check	230	309	289	224	256	339	333	336	299
	Exp Mean	231	349	215	248	232	212	241	227	253

Table 3.39 contd.: Panicles/m² of entries in IVT IM, Kharif 2019

Entry No.	IET NO	ZONE VI							Zone VI (5)
		MA 2		MA 2 (2)	GU			GU (3)	
		KJT	SHR	Mean	NVS	NWG	DBI	Mean	
1401	28439	257	189	223	242	280	231	251	240
1402	28440	260	182	221	260	280	248	262	246
1403	28441	242	151	196	241	279	166	229	216
1404	28442	315	187	251	283	284	197	254	253
1405	27749	246	152	199	285	287	226	266	239
1406	27877	318	276	297	287	270	246	268	279
1407	28443	186	155	170	230	274	189	231	207
1408	28444	281	216	248	313	282	159	251	250
1409	28445	293	245	269	288	279	253	273	271
1410	28446	302	181	241	283	280	272	278	263
1411	28447	288	219	254	289	287	227	268	262
1412	28448	248	139	193	275	271	211	252	229
1413	27776	284	296	290	229	283	194	235	257
1414	28449	305	263	284	259	278	234	257	268
1415	28450	297	261	279	282	275	204	254	264
1416	28451	263	259	261	253	286	193	244	251
1417	28452	242	214	228	272	284	170	242	236
1418	28453	265	186	226	294	285	207	262	247
1419	28454	282	214	248	272	284	188	248	248
1420	28455	261	145	203	231	295	215	247	229
1421	28456	253	165	209	256	288	234	259	239
1422	28457	248	197	222	242	286	178	235	230
1423	28458	301	179	240	235	275	236	249	245
1424	28459	291	204	247	263	288	202	251	249
1425	28460	276	154	215	263	286	224	258	241
1426	28461	278	281	279	245	289	249	261	268
1427	28462	277	206	241	272	274	238	261	253
1428	27771	282	197	240	235	280	210	242	241
1429	28463	296	242	269	272	278	219	256	261
1430	28464	260	267	263	267	281	231	259	261
1431	NDR 359 (NC)	260	197	229	251	277	201	243	237
1432	28465	263	215	239	275	288	203	255	248
1433	28466	300	270	285	242	290	223	251	265
1434	28467	260	217	238	291	285	243	273	259
1435	28468	278	235	256	261	289	247	266	262
1436	28469	297	255	276	277	292	192	254	262
1437	28470	237	160	198	238	281	191	236	221
1438	28471	294	173	234	238	293	198	243	239
1439	28472	279	178	228	252	288	209	250	241
1440	27900	252	225	238	271	288	214	258	250
1441	28473	248	197	222	283	272	218	257	243
1442	28474	284	226	255	265	283	243	264	260
1443	28475	259	196	227	217	285	214	238	234
1444	28476	247	221	234	268	279	187	245	240
1445	28477	297	255	276	240	279	188	235	252
1446	28478	276	231	253	246	280	184	237	243
1447	Zonal Check (ZC)	323	251	287	232	291	201	241	259
1448	28479	238	144	191	293	281	196	256	230
1449	28480	244	230	237	263	272	212	249	244
1450	28481	241	161	201	278	294	242	271	243
1451	28482	306	127	216	239	279	239	252	238
1452	28483	264	218	241	225	285	219	243	242
1453	28484	284	180	232	280	271	187	246	240
1454	28485	269	256	262	263	274	197	245	252
1455	28486	232	198	215	253	279	163	232	225
1456	28487	280	310	295	240	278	210	243	263
1457	28488	261	170	215	233	278	207	239	230
1458	28489	285	272	278	273	288	230	264	269
1459	28490	291	332	311	274	278	231	261	281
1460	28491	243	221	232	254	283	171	236	234
1461	28492	312	155	233	268	263	190	240	237
1462	28493	269	184	226	237	282	208	242	236
1463	28494	218	166	192	287	285	200	257	231
1464	Local Check	294	328	311	264	285	218	255	278
	Exp Mean	272	212	242	261	282	211	251	247

Table 3.39 contd.: Panicles/m² of entries in IVT IM, Kharif 2019

Entry No.	IET NO	ZONE VII								
		AP		AP (2)	TE		TE (2)	TN		TN (2)
		MTU	RGL		RNR	WGL		ADT	CBT	Mean
1401	28439	337	264	300	390	394	392	362	328	345
1402	28440	327	246	286	413	371	392	341	388	364
1403	28441	310	233	271	373	378	376	399	325	362
1404	28442	300	275	287	447	401	424	389	355	372
1405	27749	340	290	315	463	396	430	292	330	311
1406	27877	323	300	312	380	399	390	396	343	369
1407	28443	221	216	219	373	347	360	318	305	312
1408	28444	281	270	275	377	368	372	291	308	299
1409	28445	317	244	280	420	393	406	371	300	336
1410	28446	340	300	320	437	383	410	320	480	400
1411	28447	323	297	310	450	368	409	386	315	351
1412	28448	333	282	308	393	398	395	360	345	353
1413	27776	323	297	310	470	391	431	290	368	329
1414	28449	333	329	331	440	366	403	388	271	330
1415	28450	347	228	287	407	396	401	370	343	356
1416	28451	320	212	266	427	406	416	318	270	294
1417	28452	350	251	300	393	365	379	252	320	286
1418	28453	327	222	274	367	373	370	320	338	329
1419	28454	333	278	305	397	360	378	396	305	351
1420	28455	290	251	270	420	371	396	417	293	355
1421	28456	297	224	260	367	368	367	394	275	335
1422	28457	330	251	290	513	388	451	416	318	367
1423	28458	327	248	287	463	373	418	372	410	391
1424	28459	304	254	279	367	381	374	425	305	365
1425	28460	300	293	296	437	396	416	410	353	381
1426	28461	327	237	282	363	409	386	372	288	330
1427	28462	314	234	274	443	406	425	371	348	359
1428	27771	297	234	266	367	361	364	315	278	296
1429	28463	290	245	267	360	371	366	327	293	310
1430	28464	294	266	280	433	386	410	321	288	304
1431	NDR 359 (NC)	320	228	274	443	371	407	310	298	304
1432	28465	343	297	320	363	358	361	296	310	303
1433	28466	277	237	257	410	399	405	279	323	301
1434	28467	294	230	262	440	403	421	317	315	316
1435	28468	330	279	305	447	409	428	306	433	369
1436	28469	307	222	264	447	368	407	371	278	324
1437	28470	317	229	273	313	384	349	399	323	361
1438	28471	314	244	279	340	361	351	407	348	377
1439	28472	330	243	287	313	399	356	317	310	314
1440	27900	310	233	271	413	384	399	310	308	309
1441	28473	277	279	278	383	389	386	370	360	365
1442	28474	340	302	321	443	388	416	403	393	398
1443	28475	310	249	280	467	356	412	305	278	291
1444	28476	363	275	319	440	350	395	381	275	328
1445	28477	287	290	288	373	342	357	397	305	351
1446	28478	281	243	262	453	381	417	360	305	333
1447	Zonal Check (ZC)	314	293	303	377	399	388	288	280	284
1448	28479	323	225	274	340	375	357	319	300	310
1449	28480	340	273	306	480	373	426	315	370	343
1450	28481	314	254	284	397	381	389	381	283	332
1451	28482	323	221	272	413	358	386	400	345	373
1452	28483	320	257	288	400	391	396	261	348	304
1453	28484	300	275	287	510	371	441	322	333	327
1454	28485	317	264	290	483	384	434	320	293	306
1455	28486	274	248	261	333	394	364	319	278	298
1456	28487	277	227	252	407	373	390	286	275	281
1457	28488	274	230	252	367	356	362	375	323	349
1458	28489	284	282	283	427	411	419	361	345	353
1459	28490	307	287	297	403	409	406	370	325	348
1460	28491	300	282	291	397	376	386	350	355	353
1461	28492	238	330	284	480	389	435	319	313	316
1462	28493	320	245	282	460	380	420	321	318	319
1463	28494	330	243	287	283		283	360	338	349
1464	Local Check	320	294	307	453	384	419	319	370	345
	Exp Mean	311	259	285	410	381	395	347	324	335

Table 3.39 contd.: Panicles/m² of entries in IVT IM, Kharif 2019

Entry No.	IET NO	ZONE VII				Zone VII (8)	Overall (29)
		KE	KA		KA (1)		
		PTB	MND	@BRM	Mean	Mean	
1401	28439	345	510	310	510	366	284
1402	28440	344	640	362	640	384	299
1403	28441	441	540	334	540	375	286
1404	28442	430	485	431	485	385	289
1405	27749	381	435	363	435	366	291
1406	27877	312	515	345	515	371	291
1407	28443	317	440	323	440	317	267
1408	28444	518	485	342	485	362	280
1409	28445	424	430	356	430	362	284
1410	28446	286	440	378	440	373	298
1411	28447	372	520	288	520	379	303
1412	28448	393	470	323	470	372	280
1413	27776	305	480	318	480	365	303
1414	28449	301	450	306	450	360	294
1415	28450	280	540	363	540	364	310
1416	28451	284	460	363	460	337	270
1417	28452	273	490	299	490	337	270
1418	28453	326	470	291	470	343	273
1419	28454	291	440	302	440	350	293
1420	28455	294	430	331	430	346	277
1421	28456	455	370	343	370	344	276
1422	28457	305	420	351	420	367	285
1423	28458	413	520	320	520	391	297
1424	28459	248	510	372	510	349	284
1425	28460	361	540	302	540	386	294
1426	28461	316	430	277	430	343	273
1427	28462	390	465	351	465	371	296
1428	27771	385	500	332	500	342	270
1429	28463	458	485	279	485	354	292
1430	28464	335	480	223	480	350	285
1431	NDR 359 (NC)	386	440	252	440	350	272
1432	28465	456	410	339	410	354	282
1433	28466	257	480	339	480	333	273
1434	28467	269	450	337	450	340	284
1435	28468	392	540	313	540	392	308
1436	28469	396	440	251	440	353	278
1437	28470	312	350	313	350	328	254
1438	28471	330	500	236	500	355	278
1439	28472	301	500	300	500	339	288
1440	27900	308	450	242	450	339	279
1441	28473	309	420	211	420	348	291
1442	28474	344	410	297	410	378	306
1443	28475	265	440	371	440	334	283
1444	28476	352	390	261	390	353	290
1445	28477	449	490	358	490	367	305
1446	28478	360	440	346	440	353	277
1447	Zonal Check (ZC)	258	510	353	510	340	290
1448	28479	329	470	359	470	335	279
1449	28480	327	520	222	520	375	294
1450	28481	448	430	342	430	361	290
1451	28482	350	450	304	450	358	273
1452	28483	434	490	357	490	363	287
1453	28484	347	470	312	470	366	284
1454	28485	475	445	303	445	373	286
1455	28486	361	420	310	420	328	277
1456	28487	332	420	296	420	324	267
1457	28488	362	430	354	430	339	279
1458	28489	373	540	312	540	378	315
1459	28490	353	410	334	410	358	302
1460	28491	380	430	298	430	359	289
1461	28492	358	450	337	450	360	296
1462	28493	335	450	305	450	353	280
1463	28494	356	475	327	475	341	277
1464	Local Check	388	420	377	420	369	307
	Exp Mean	354	465	319	465	356	286

ADVANCE VARIETY TRIAL 1-LATE (AVT1-L)**Locations: 20****Test Entries: 35**

Checks: Swarna -National; NDR 8002 (Eastern & Central), Salivahana (Western), Pushyami (Southern)-Zonal, PA 6444 (Hybrid) and Local check; Swarna, Rajendra Mahsuri, Samba Mahsuri and Improved Samba Mahsuri (Recurrent Parents).

AVT1-L trial with 35 test entries was sent to 20 locations of 4 zones. Of the 35 test entries, 11 (10 varietal and 1 hybrid entries) are in 2nd year of testing, 4 (3 varietal and 1 hybrid entries) are in 3rd year of testing and remaining 20 are near isogenic lines (NILs) in the background of 4 different recurrent parents (RPs) (Swarna, Rajendra Mahsuri [RM], Samba Mahsuri [SM] and Improved Samba Mahsuri [ISM]). Swarna was also used as national check (NC). NDR 8002, Salivahana and Pushyami were used as zonal checks (ZC) in Eastern & Central, Western and Southern zones respectively and a local check from the respective centres was included in the trial. The data pertaining to yield, days to 50% flowering, plant height, number of panicles/m² and quality are presented in tables 3.41, 3.42, 3.43, 3.44 and 3.45. The status of the trial data from 20 locations is presented in the following table.

Trial data/Status	Location/State/Zone	Total
Data not received	Pundibari (WB), Varanasi (UP), Ambikapur and Bilaspur (CH)	4
Trial failed	Phondaghat (MA)	1
Data not included due to low/high CV%	Chinsurah (WB), Maruteru (AP)	2
Data not included due to low experimental mean	Bhubaneswar (OD), Sabour (BI), Masodha (UP), Raipur (CH), Nellore (AP), Sirsi and Ponnampet (KA)	7
Data included in the analysis	Jeypore and Cuttack-OD: Z-III (2); Jagdalpur-CH and Sakoli-MH: Z-V (2); Navsari-GU: Z-VI* (1) and Aduthurai-AP: Z-VII* (1)	6
Total no of locations		20

*only one location data is included in the analysis from zones VI & VII

Thus, only 15 locations data is considered in the analysis and a general over view of the observations at these locations across the zones is presented below.

Observation	Z-III		Z-V		Z-VI (Navsari)		Z-VII	
	Min	Max	Min	Max	Min	Max	Min	Max
Zonal mean yield (kg/ha)	2640 (IET 28802-NIL-ISM)	8443 (ZC)	2903- IET 28014 (NIL-SM)	5176 (IET 27637)	4431 (ISM-RP)	6121 (IET 27623)	4399 (IET 28805-NIL-ISM)	7298 (IET 26974)
Experimental mean yield (kg/ha)	3348 (MSD)	6577 (JYP)	3735 (RPR)	4182 (JDP)	5272		2704 (SRS)	6208 (MTU)
CV %	4.07 (CHN)	14.83 (BBN)	6.15 (RPR)	9.25 (SKL)	7.61		3.08 (MTU)	24.88 (PNP)
days to 50% flowering	85 (IET 28803-NIL-ISM)	116 (NC)	91 (IET 28799-NIL of ISM)	109 (IET 27637)	78 (IET 28801-NIL of ISM)	110 (IET 28797-NIL of SM)	96 (ISM and IET 28804-NIL-ISM)	120 (LC and IET 28797-NIL - SM)
plant height (cm)	76 (IET 28803-NIL-ISM)	124 (IET 27262)	70 (IET 28803)	115 (LC)	70 (IET 28803 (NIL-ISM)	136 (LC)	77 (IET 28803-NIL-ISM)	122 (LC)
panicles/m2	240 (HC)	361 (IET 28786)	187 (IET 28803)	257 (IETs 27640 and 28784)	185 (IET 27640)	342 (NC)	193 (IET 28014-NIL-ISM)	353 (ZC and NC)

None of the entries recorded required superiority of more than 5% over the best check across the zones (III, VI and VII) except in zone V wherein one varietal entry IET 27637 in 2nd year of testing ranked first and its performance across the states is detailed below. (to write about quality traits and NSN data). Moreover, in 6th and 7th zones, only single location data is available and as per 54th ARGM proceedings, entries cannot be considered for promotion based on single location data. As none of the entries in 3rd year recorded required superiority for promotion, performance of entries in 3rd year is not discussed here.

Zonal performance of the entries in AVT1-L during kharif 2019

IET No/Designation/ Cross combination	Zone V (2 locations)		State wise performance		
	Yield / DFF / GT	% Yield Adv	Rank	Yield (kg/ha)	%BC
IET 27637 (OR2438-2-1) OR 142-99/MTU1065	5176 109 SB	20.85 15.77 20.18	CH-1 MA--	5684	6.67
Zonal Check (ZC)	4283				
Swarna (NC)	4471				
Local Check (LC)	4307				

AVT1- L (NIL), 2019 entries were assessed based on similarity with recurrent parent for yield and morphological traits under normal irrigated conditions as given in the following table

S. No	IET No	CTK	JYP	JDP	SKL	NVS	ADT	Overall	DFP	PH (cm)	%RP	Remarks
1	27285	3099	4767	4917	4392		5775	4590	100	94	-20.38	Dropped - yield inferiority over RP
2	28785	4183	5013	5101	4280		5969	4909	101	90	-14.84	
3	27286	5433	4822	5337	3682		5698	4994	106	93	-13.37	
4	28786	3408	5768	5411	4310		4942	4768	98	94	-17.30	
Swarna (RP)		5735	7985	5329	3612		6163	5765	112	87		
5	28794	5732	9391					7562	104	116	18.97	Further considered for trait verification
6	28793	5553	7995					6774	108	108	6.58	
RM (RP)		4275	8437					6356	104	112		
7	28797	3537	6268	5227	3546	5342	6027	4991	110	90	2.93	Further considered for trait verification
8	27290 (R)	3691	6866	4418	3833	4897	4729	4739	102	91	-2.27	
9	28796	3799	6703	3226	3928	4978	5802	4739	101	94	-2.26	
10	28014 (R)	4940	4509	3050	2755	5326	6690	4545	106	89	-6.27	Dropped - yield inferiority over RP
SM (RP)		3635	6663	3061	4171	5421	6143	4849	101	91		
11	28784	5709	5792	3510	3920	5046	5329	4884	96	100	15.85	Further considered for trait verification
12	28799	3066	4196	3547	4855	6030	5174	4478	96	90	6.21	
13	28803	2872	2951	3456	3792	4547	4686	3717	90	72	-11.83	Dropped - yield inferiority over RP
14	28800	4396	4256	3475	3647	5248	4787	4302	102	88	2.03	Further considered for trait verification
15	28805	3629	5042	4364	3219	4837	4399	4248	104	88	0.77	
16	27294	5918	5741	4519	3385	5317	5504	5064	100	88	20.11	
17	28802	2326	2953	4354	3873	4502	4709	3786	92	78	-10.20	Dropped - yield inferiority over RP
18	28798	5046	6465	5270	3835	5056	5302	5162	101	86	22.45	Further considered for trait verification
19	28804	3969	5945	3884	3841	4828	5678	4691	95	90	11.26	
20	28801	4218	6222	3518	3328	4586	5833	4618	97	86	9.52	
ISM (RP)		3731	5990	3093	3252	4431	4798	4216	101	86		

Seven entries IETs 27285, 28785, 27286, 28786, 28014, 28803 and 28801 exhibited yield inferiority over the recurrent parent and hence dropped. Remaining 13 NILs with on par/superior yield performance over the RP are further considered for trait verification. For abiotic stress tolerance, on par performance with tolerant check and superior performance over recurrent parent and sensitive checks are considered for promotion.

S. No	IET No	Trait	Disease score		% Yield Adv under stress			Remarks
			BL	BB	%RP	%TC	%SC	
1	28794	Sub 1			52.55	40.71	77.73	Promoted*
2	28793	Sub 1			1.12	-6.72	17.81	Dropped -on par performance with RP and inferior performance as that of TC under stress
RM (RP)								
3	28797	Blast	5.5					Dropped-Blast susceptibility
4	27290 (R)	BL+BB	6.4	4.5				Dropped-Blast susceptibility
5	28796	Blast	6.1					
SM (RP)			6.7	6.0				
6	28784	CS		4.6	24.72	4.65	46.86	Promoted*
7	28799	BL+BB	5.7	4.1				Dropped-Blast susceptibility
8	28800	BB		4.2				Promoted*
9	28805	BL+BB	4.5	4.4				Promoted*
10	27294	BB		3.5				Promising
11	28798	BL+BB	6.5	3.9				Dropped-Blast susceptibility
12	28804	BL+BB	4.8	4.6				Promoted*
13	28801	BB		4.5				Promoted*
ISM (RP)/RC-BB			6.2	3.9				
Tetep (RC-BL)			2.8					

RP-recurrent parent; TC-tolerant check; SC-sensitive check; *promotions subject to grain quality data

NILs in the background of ISM:

In addition to similarity with RP in terms of yield and other morphological traits, to consider entries as NILs of ISM, essentially, they should have BB resistance (as ISM is resistant to BB with *xa5*, *xa13* and *Xa21* genes for resistance to BB) in addition to the trait under consideration.

Two years performance of the NILs

IET 27294 [RP-6113-Patho BB-9 (GSY-BB-IPB-2-9)] is derived from Improved Samba Mahsuri*3/PAU 3554. '*Xa38*' a dominant bacterial leaf blight resistant gene from the donor parent PAU 3554, is introgressed into BB resistant ISM possessing three genes *Xa21*, *xa13* and *xa5*. In 2018, it recorded on par yield advantage of +1.7% over RP, resistance reaction against bacterial blight with a severity index value of 4.2 and acceptable quality parameters. Further in 2019, it recorded yield advantage of +20.11% over RP, and DSI of 3.5 (ISM-recurrent parent cum resistant check recorded DSI of 3.9) for BB. Owing to BB resistance and yield superiority over recurrent parent, IET 27294 is promising for the ISM growing areas of the country.

NILs considered for promotion (promotions subject to grain quality data)

- **Promoted to AVT2-NIL (BL&BB): IETs 28800 and 28801 (BB); IETs 28804 and 28805 (BL+BB)**
- **Promoted to AVT2-NIL (Sub): IET 28794**
- **Promoted to AVT2-NIL (CS): IET 28784**

**The above 6 entries will be finally considered as promoted/dropped based on grain quality data*

INITIAL VARIETY TRIAL-LATE (IVT-L)**Locations: 22****Test Entries: 60**

Checks: Swarna -National; NDR 8002 (Eastern & Central), Ranjeet (North Eastern), Salivahana (Western), Pushyami (Southern)-Zonal, PA 6444 (Hybrid) and Local check.

The IVT-L trial comprised 57 varietal and 3 hybrid test entries and 4 checks with Swarna as national check (NC), NDR 8002 in the eastern and central, Ranjeet in the north eastern, Salivahana in the western and Pushyami in the southern zones as zonal check, PA 6444 as hybrid check and a local check. The trial was sent to 22 locations, however data was not received from 7 locations viz., Bhubaneswar, Cuttack, Varanasi, Titabar, Gerua, Bilaspur and Nellore and data was not included in the analysis from 5 locations due to low CV% (Chinsurah) and low experimental mean (Pundibari, Masodha, Sirsi and Ponnampet). Thus, data from only 10 locations (Jeypore and Sabour in Z-III, Raipur, Ambikapur, Jagdalpur and Sakoli in Z-V, Phondaghat and Navsari in Z-VI and Maruteru and Aduthurai in Z-VII) could be analyzed for assessment of the entries in IVT-L during kharif 2019.

CV% varied from as low as 2.73 at Chinsurah to as high as 23.83% at Pundibari, experimental mean from 2275 kg/ha at Sirsi to 6475 kg/ha at Maruteru. Overall mean ranged from 4045 kg/ha (IET 28537) to 6172 kg/ha (IET 28509), days to 50% flowering from 97 days (IET 28547) to 128 days (IET 28505), plant height from 89 cm (IET 28503) to 147 cm (IET 28511) and panicles/m² from 223 (IET 28537) to 293 (IET 28542). The data pertaining to yield, days to 50% flowering, plant height and number of panicles/m² are presented in tables 3.47, 3.48, 3.49 and 3.50.

On the basis of overall performance, required superiority of more than 5% over the best varietal check and with days to 50% flowering more than 110 days was shown by 7 varietal entries and their promotion on overall basis or shift to appropriate duration trial is mentioned in the remarks column in the below table based on days to 50% flowering. None of the hybrid entries were found with $\geq 10\%$ over BVC, hence not promoted on overall basis.

Performance of the entries on overall basis in IVT-L, Kharif 2019

Rank	IET No / Designation / Cross combination	Yield (kg/ha) / DFF / GT	% Yld Adv-NC / ZC/ LC	Rank	Yield	%BC	Remarks
1	IET 28509 [MTU 1317 (MTU 2404-25-2)] MTU1064/MTU1075	6172 119	14.36 25.2 12.83	CH-3 MA-10 TN-1	5958 5235 8208	8.84 15.04 17.96	Promoted- overall
3	IET 28551 (AD 16154) CR 1009/CR2942-68	5931 117	9.89 20.3 8.43	MA— AP-9	4906 8718	7.82 14.6	Promoted- overall
4	IET 28513 (RGL 7016) NLR34449/JGL 3855	5896 118	9.25 19.6 7.79	AP-2	9842	29.38	Promoted- overall
5	IET 28498 (RCPR 67-RP5484) Swarna/IRGC63248// RP Bio226	5895 107	9.23 19.6 7.77	MA-9 GU-5	5244 6463	15.24 8.93	Shift to IVT-IM

Rank	IET No / Designation / Cross combination	Yield (kg/ha) / DFF / GT	% Yld Adv-NC / ZC / LC	Rank	Yield	%BC	Remarks
6	IET 28538 (OR 2436-10) Indravati/Namsagui 19	5890 119	9.13 19.5 7.68	OD-1	9005	14.89	Promoted-overall
8	IET 28497 (OR 2491-9) Vandana/Indravati	5805 110	7.56 17.7 6.12	MA-1 GU-3	5857 6670	28.73 12.42	Promoted-overall
9	IET 28536 [(MTU 1316) MTU2222-26-1-1-2] IR 64/NLR 3042	5777 117	7.04 17.2 5.61	AP-1	10064	32.3	Promoted-overall
	Swarna (NC)	5397					
	Zonal check	4930					
	Local check	5470					

Performance of the entries on zonal basis: On zonal basis one hybrid entry in Zone-V, 16 varietal entries in Zone-VI and 6 varietal entries in Zone-VII recorded required superiority. However, based on days to 50% flowering, promotion or shifts to the appropriate duration trial are mentioned in the remark's column.

Performance of the entries in Z-VI and Z-VII

S. No	IET No	Zone VI			Zone VII			Remarks
		Yield	%BC	DFF	Yield	%BC	DFF	
1.	28499	5279	6.13	99				Shift to IVT-IME
2.	28500				7379	6.60	114	Promoted to AVT1-L in Z-VII
3.	28501	5359	7.74	114				Promoted to AVT1-L in Z-VI
4.	28502	5803	16.67	113				
5.	28503	5333	7.22	103				Shift to IVT-IM
6.	28506	5944	19.50	98				Shift to IVT-IME
7.	28507	5312	6.80	112				Promoted to AVT1-L in Z-VI
8.	28508	5653	13.65	116				
9.	28514	5758	15.76	107				Shift to IVT-IM
10.	28515	5699	14.58	113				Promoted to AVT1-L in Z-VI
11.	28519				7557	9.17	118	Promoted to AVT1-L in Z-VII
12.	28523	5539	11.36	103				Shift to IVT-IM
13.	28527				7646	10.46	115	Promoted to AVT1-L in Z-VII
14.	28529	5584	12.26	107				Shift to IVT-IM
15.	28530	5677	14.13	105				Shift to IVT-IM
16.	28535	5458	9.73	109				
17.	28540	5323	7.02	105				
18.	28544	5412	8.81	112				Promoted to AVT1-L in Z-VI
19.	28546				7299	5.45	107	Shift to IVT-IM
20.	28548				7639	10.36	115	Promoted to AVT1-L in Z-VII
21.	28549				7717	11.49	117	
22.	28552	5330	7.16	102				Shift to IVT-IM
	BC	4974 (ZC)			6922 (LC)			

Performance of the entries in Zone-V

S.No	IET No.	Yield (kg/ha) / DFF	%BC/HC	Remarks
1	IET 28510 (Hybrid) MEPH-154	6047 112	11.8 (9.21)	Promoted to AVT1-L in Zone- V
2	IET 28508	5719 112	5.56	
	BC (ZC)	4974		

The following entries are promoted on overall or zonal basis to AVT1-L or shifted to appropriate duration trial

Promoted to AVT1-L-

- **Overall basis: IETs 28509, 28551, 28513, 28538, 28497 and 28536**
- **Zone V: IETs 28510 and 28508**
- **Zone VI: IETs 28501, 28502, 28507, 28508, 28515, 28544**
- **Zone VII: IETs 28500, 28519, 28527, 28548, 28549**
- **Shift to IVT-IME: IET 28499, 28506**
- **Shift to IVT-IM: IETs 28498, 28503, 28514, 28523, 28529, 28530, 28535, 28540, 28546, 28552.**

Table 3.40: Composition of entries in Advance Variety Trial 1 - Late (AVT 1-L), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
2nd Year of testing:				
1501	27637	OR 2438-2-1	OR 142-99 / MTU 1065	SB
1502	27632	MTU 1297 (MTU 2036-1-1-1-1)	MTU 1061 / MTU 1064	MS
1503	27640	CR 4029-1-1-1-3-1	IR 73930-31-3-2-2 / CR 2324-2-1 / Reeta	LB
1504	27610	BRR 0098 (IR127339-10-1-1-1)	Swarna / IR 84895-B-127-22-1-3-1	MS
1505	27646	Sonagathi Mutant-1	Mutant of Sunagathi	SB
1506	27621	CR 3750-1-3-2-1-1-1	Indrabati / Vijetha	MS
1507	27624	R 1624-2-60-1	Surekha / Madhuri	MS
1508	27608	CR 3849-1-1-2-1-2	Pooja / IR64 MAS	LB
1509	25945	DLRH-4 (Hybrid)	-	LS
1510	27262	CR 3525-24-6-1-1-1-1	Vijetha / Divya	MS
1511	NDR 8002 (Eastern & Central), Salivahana (Western), Pushyami (Southern) – ZC			
1512	27623	CR 3938-6-2-1-1-1-2	IR 73907-753-2-3 / Pratiksya	MS
3rd Year of testing:				
1513	26974	MTU 1265	MTU 1075 / MTU 7029	MS
1514	25948	RRX 027 (Hybrid)	-	LS
1515	26927	BPT 2678	(MTU 7029 / Moroberakan) / MTU 7029	MS
1516	PA 6444 (HC)			
1517	26948	PRNP-48	NPG-2 / NPG-24	SB
1518	27285	RP 6280 Patho-9-12-9	Swarna *3 / C 101 LAC / C 101A51	MS
1519	28785	R-RF-135	Swarna / IR 86931-B-400	
1520	27286	RP 6279 Patho-6-1-13	Swarna*2 / C 101 LAC	SB
1521	28786	R-RF-158	Swarna / IR 90019 / 17-159-B	
1522	Swarna (NC & RP)			
1523	28794	120-79-RM-Sub-1	R Mahsuri // Swarna Sub 1	MS
1524	28793	120-11-RM-Sub-1	R Mahsuri // Swarna Sub 1	MS
1525	Rajendra Mahsuri (RP)			
1526	28797	RP 5863-Patho -3-8-47-22	Samba Mahsuri*2 / Tetep	MS
1527	27290	RP 6118-24-1-19-106-3	Samba Mahsuri // RP Bio Patho-2	SS
1528	28796	RP 5862-Patho -1-40-21-86	Samba Mahsuri * 2 / C101LAC	MS
1529	28014	Pusa 1853-12-288	Pusa 1850-5-18 / Pusa1701-10-5-8	MS
1530	Samba Mahsuri (RP)			
1531	28784	RP 6287-188-45-12-88	Improved Samba Mahsuri *3 /// FL 478	MS
1532	28799	RP 6288-12-305-92	Improved Samba Mahsuri*2 // RP Bio Patho-1 and RP Bio Patho-2	MS
1533	28803	RP 6285- Bio Patho 2-8-24	Imp. Samba Mahsuri *2 / Tetep	MS
1534	28800	RP 6298-FG3G-12-3	Imp.Samba Mahsuri / FBR1-15	MS
1535	28805	RP 6286-Bio Patho 5-156-24-10	Imp. Samba Mahsuri * 2 / C101A 51 / Tetep	MS
1536	27294	RP 6113-Patho BB-9(GSY-BB-IPB-2-9)	Imp. Samba Mahsuri / PAU 3554	SS
1537	28802	RP 6285- Bio Patho 2-8-12	Imp. Samba Mahsuri *2 / Tetep	MS
1538	28798	RP 6288-12-305-106	Improved Samba Mahsuri*2 // RP Bio Patho-1 and RP Bio Patho-2	MS
1539	28804	RP 6286- Bio Patho 5-156-24-7	Imp. Samba Mahsuri *2 / C 101A 51 / Tetep	MS
1540	28801	RP 6298-FG3G-12-5	Imp. Samba Mahsuri / FBR 1-15	MS
1541	Improved Samba Mahsuri (RP)			
1542	Local Check			

Table 3.41: Grain Yield (Kg/ha) of entries in AVT1 L (Zone III) Kharif 2019

Entry No.	IET No.	Zone III							
		OD						OD(2)	
		@BBN		CTK		JYP		Mean	
1504	27610	3660		5422	9 #	6586		6004	
1505	27646	6217	2	6272	1 #	9667	4 #	7970	2 # 26%
1509	25945	5423	7	5191	#	10647	1 #	7919	3 # 26%
1510	27262	2513		4781	#	7235	10	6008	10
1511	Zonal Check (ZC)	4233		6251	2 #	10634	2	8443	1
1514	25948	6393	1	5305	10 #	5977		5641	
1516	PA 6444 (HC)	6173	3	3834		8771	6	6303	9
1518	27285	2910		3099		4767		3933	
1519	28785	3571		4183		5013		4598	
1520	27286	3924		5433	8 #	4822		5128	
1521	28786	3131		3408		5768		4588	
1522	Swarna (NC & RP)	5556	6	5735	4 #	7985	9	6860	6
1523	28794	5820	5	5732	5 #	9391	5	7562	4 # 20%
1524	28793	5996	4	5553	7 #	7995	8	6774	7
1525	Rajendra Mahsuri (RP)	5335	8	4275		8437	7	6356	8
1526	28797	4189		3537		6268		4903	
1527	27290	3483		3691		6866		5279	
1528	28796	3836		3799		6703		5251	
1529	28014	4409		4940	#	4509		4725	
1530	Samba Mahsuri (RP)	4277		3635		6663		5149	
1531	28784	4497	9	5709	6 #	5792		5751	
1532	28799	2072		3066		4196		3631	
1533	28803	1367		2872		2951		2912	
1534	28800	4409	10	4396		4256		4326	
1535	28805	2601		3629		5042		4336	
1536	27294	4233		5918	3 #	5741		5830	
1537	28802	1279		2326		2953		2640	
1538	28798	3263		5046	#	6465		5756	
1539	28804	2778		3969		5945		4957	
1540	28801	3395		4218		6222		5220	
1541	Improved Samba Mahsuri (RP)	3439		3731		5990		4861	
1542	Local Check (LC)	3439		4686		10199	3	7443	5
Exp. Mean		3994		4489		6577		5533	
CD		967.1		883.09		777.33		579.39	
CV%		14.83		12.05		7.24		6.42	
D/S		7/26/2019		7/16/2019		7/17/2019			
D/P		8/22/2019		8/10/2019		8/9/2019			
Local Check Name		Hasanta		Sumit		Hasanta			

Table 3.41 contd.: Grain Yield (Kg/ha) of entries in AVT1 L (Zone III) Kharif 2019

Entry No.	IET No.	Zone III							
		BI		WB		UP		ZONEIII (2)	
		@SBR		@CHN		@MSD		Mean	
1504	27610	4952	2	6631	1	3055		6004	
1505	27646	4154	10	6596	3	4419	4 *	7970	2 # 26%
1509	25945	3689		6349	5	3001		7919	3 # 26%
1510	27262	4555	6	5150		4637	3 *	6008	10
1511	Zonal Check (ZC)	2679		5044		4064	7	8443	1
1514	25948	5026	1	6596	2	5128	1 *	5641	
1516	PA 6444 (HC)	4178	9	4868				6303	9
1518	27285	4178	8	5513		4678	2 *	3933	
1519	28785	3912		4656		3273		4598	
1520	27286	3781		4663		3001		5128	
1521	28786	3818		4339		3082		4588	
1522	Swarna (NC & RP)	2492		5820	7	3082		6860	6
1523	28794	4719	4	4903				7562	4 # 20%
1524	28793	4430	7	6561	4	3055		6774	7
1525	Rajendra Mahsuri (RP)	4940	3	4797		3669	9	6356	8
1526	28797	2696		5538		3028		4903	
1527	27290	2763		4797		2864		5279	
1528	28796	2955		4903		2810		5251	
1529	28014	1627		6346	6	3001		4725	
1530	Samba Mahsuri (RP)	3590		5545		3492		5149	
1531	28784	3915		5608	10	4405	5 *	5751	
1532	28799	3353		4903		3682	8	3631	
1533	28803	3257		4233		2005		2912	
1534	28800	3652		4762		3246		4326	
1535	28805	3588		4480		3055		4336	
1536	27294	3843		4797		4201	6	5830	
1537	28802	2702		4303		2810		2640	
1538	28798	3121		5538		2373		5756	
1539	28804	3450		5714	9	2591		4957	
1540	28801	2854		5714	8	2673		5220	
1541	Improved Samba Mahsuri (RP)	3209		5467		2482		4861	
1542	Local Check (LC)	4625	5	5573		3573	10	7443	5
Exp. Mean		3647		5335		3348		5533	
CD		658.2		353.99		365.04		579.39	
CV%		11.06		4.07		6.67		6.42	
D/S		7/20/2019		7/10/2019		7/20/2019			
D/P		8/16/2019		8/12/2019		8/21/2019			
Local Check Name		Rajendra Mahsuri-1		KAUSHALY A		Sambha Sub-1			

Table 3.41 contd.: Grain Yield (Kg/ha) of entries in AVT1 L Kharif 2019

Entry No.	IET No.	Zone V						
		CH				CH(1)		
		@RPR	JDP			Mean		
1501	27637	4650	1	5684	1 #	5684	1 #	7% 25%
1503	27640	4150	6	3638		3638		
1511	Zonal Check (ZC)	3933		3584		3584		
1514	25948	4497	3	4271		4271		
1516	PA 6444 (HC)	4527	2	4533	9	4533	9	
1518	27285	3605		4917	8	4917	8	
1519	28785	4070	7	5101	7 #	5101	7 #	13%
1520	27286	3993	10	5337	3 #	5337	3 #	18%
1521	28786	3368		5411	2 #	5411	2 #	19%
1522	Swarna (NC & RP)	4338	4	5329	4 #	5329	4	
1526	28797	4316	5	5227	6 #	5227	6 #	15%
1527	27290	4027	8	4418		4418		
1528	28796	4007	9	3226		3226		
1529	28014	3411		3050		3050		
1530	Samba Mahsuri (RP)	3772		3061		3061		
1531	28784	3733		3510		3510		
1532	28799	3393		3547		3547		
1533	28803	3212		3456		3456		
1534	28800	3355		3475		3475		
1535	28805	3239		4364		4364		
1536	27294	3568		4519	10	4519	10	
1537	28802	3101		4354		4354		
1538	28798	3643		5270	5 #	5270	5 #	16%
1539	28804	3540		3884		3884		
1540	28801	3444		3518		3518		
1541	Improved Samba Mahsuri (RP)	3259		3093		3093		
1542	Local Check (LC)	2700		3141		3141		
Exp. Mean		3735		4182		4182		
CD		376.29		602.9		602.9		
CV%		6.15		8.8		8.8		
D/S		7/16/2019		7/17/2019				
D/P		7/31/2019		8/7/2019				
Local Check Name		Jaldubi		Jaldubi				

Table 3.41 contd.: Grain Yield (Kg/ha) of entries in AVT1 L Kharif 2019

Entry No.	IET No.	Zone V						
		MA		MA(1)		ZONE V(2)		
		SKL	Mean			Mean		
1501	27637	4667	5 #	4667	5 #	17%	5176	1 *# 16% 22%
1503	27640	5456	2 #	5456	2 #	37%	4547	6
1511	Zonal Check (ZC)	4981	3 #	4981	3		4283	
1514	25948	4624	6 #	4624	6 #	16%	4448	9
1516	PA 6444 (HC)	3983		3983			4258	
1518	27285	4392	7 #	4392	7 #	10%	4655	4
1519	28785	4280	9	4280	9		4691	3 # 10%
1520	27286	3682		3682			4510	7
1521	28786	4310	8	4310	8		4861	2 * # 9% 14%
1522	Swarna (NC & RP)	3612		3612			4471	8
1526	28797	3546		3546			4387	10
1527	27290	3833		3833			4126	
1528	28796	3928		3928			3577	
1529	28014	2755		2755			2903	
1530	Samba Mahsuri (RP)	4171	10	4171	10		3616	
1531	28784	3920		3920			3715	
1532	28799	4855	4 #	4855	4 #	22%	4201	
1533	28803	3792		3792			3624	
1534	28800	3647		3647			3561	
1535	28805	3219		3219			3792	
1536	27294	3385		3385			3952	
1537	28802	3873		3873			4114	
1538	28798	3835		3835			4553	5
1539	28804	3841		3841			3863	
1540	28801	3328		3328			3423	
1541	Improved Samba Mahsuri (RP)	3252		3252			3173	
1542	Local Check (LC)	5472	1	5472	1		4307	
Exp. Mean		4024		4024			4103	
CD		609.53		609.53			431.8	
CV%		9.25		9.25			6.42	
D/S		7/16/2019						
D/P		8/6/2019						
Local Check Name		Sakoli-8						

Table 3.41 contd.: Grain Yield (Kg/ha), Days to 50% flowering, Plant Height (cm), Panicles/m² of entries in AVT1 L (Zone VI), Kharif 2019

Entry No.	IET No.	Zone VI (1)		Days to 50% flowering	Plant Height	Panicles/m ²
		GU (1)		GU (1)	GU (1)	GU (1)
		NVS (1)		NVS (1)	NVS (1)	NVS (1)
1503	27640	5656	7	105	96	185
1504	27610	5396	10	105	108	292
1506	27621	6058	2	98	118	282
1507	27624	5233		93	101	205
1508	27608	5699	6	91	103	283
1511	Zonal Check (ZC)	5451	8	108	119	208
1512	27623	6121	1	103	109	282
1516	PA 6444 (HC)	5822	5	92	105	199
1522	Swarna (NC & RP)	5937	4	108	98	342
1526	28797	5342		110	90	226
1527	27290	4897		108	92	259
1528	28796	4978		95	86	243
1529	28014	5326		96	85	332
1530	Samba Mahsuri (RP)	5421	9	106	88	200
1531	28784	5046		95	90	197
1532	28799	6030	3	93	93	215
1533	28803	4547		88	70	248
1534	28800	5248		107	91	341
1535	28805	4837		109	85	275
1536	27294	5317		107	90	338
1537	28802	4502		85	75	247
1538	28798	5056		105	83	319
1539	28804	4828		96	94	266
1540	28801	4586		78	88	276
1541	Improved Samba Mahsuri (RP)	4431		107	83	242
1542	Local Check (LC)	5325		106	136	223
Exp. Mean		5272.72		100	95	259
CD		657.93				
CV%		7.61				
D/S		7/17/2019				
D/P		8/14/2019				
Local Check Name		Mahsuri				

Table: Grain Yield (kg/ha) of entries in AVT 1 L (Zone VII) Kharif 2019

Entry No.	IET No.	Zone VII										
		AP			TN (1)			KA			Zone VII (1)	
		@MTU		@NLR		ADT		@SRS		@PNP		Mean
1502	27632	7804	1	6590	1	6047	8	2192		4670	5	6047
1511	Zonal Check (ZC)	6124		5626	4	7209	2 # 20%	2488		4126	9	7209
1513	26974	3976		5933	3	7298	1 # 21%	2979	8	5007	4	7298
1515	26927	5646		6343	2	6752	3 12%	2544		3496		6752
1516	PA 6444 (HC)	6418		2953		6008	10	2542		6774	1	6008
1517	26948	7762	2	4094	8	5039		2500		3044		5039
1518	27285	5451		4104	7	5775		2488		3596		5775
1519	28785	5536		3270		5969		2044		219		5969
1520	27286	4767		4161	6	5698		1650		3133		5698
1521	28786	5660		3100		4942		2200		3815		4942
1522	Swarna (NC & RP)	6110		3881	9	6163	5	2551		548		6163
1526	28797	7726	6	3113		6027	9	2667		3115		6027
1527	27290	5924		2970		4729		2800		3807		4729
1528	28796	6597	9	2743		5802		2609		3093		5802
1529	28014	7740	3	2599		6690	4 11%	2521		2952		6690
1530	Samba Mahsuri (RP)	5312		3230		6143	6	3893	1	3052		6143
1531	28784	4984		2416		5329		3283	6	2715		5329
1532	28799	6035		2653		5174		2083		4133	8	5174
1533	28803	4558		3360		4686		2871	10	4630	6	4686
1534	28800	7735	4	3450	10	4787		2139		1296		4787
1535	28805	7553	8	2920		4399		2883	9	4356	7	4399
1536	27294	5769		2813		5504		2833		2822		5504
1537	28802	5974		3156		4709		3300	5	4004	10	4709
1538	28798	7729	5	3187		5302		3448	3	3889		5302
1539	28804	7681	7	3073		5678		3646	2	5307	2	5678
1540	28801	4299		2853		5833		3415	4	2393		5833
1541	Improved Samba Mahsuri (RP)	6547	10	2516		4798		2993	7	2919		4798
1542	Local Check (LC)	6403		4535	5	6058	7	2138		5267	3	6058
Exp. Mean		6207.86		3629.94		5662.51		2703.51		3506.35		5662.51
CD		312.66		723.7		823.69		850.42		1428.31		823.69
CV%		3.08		12.18		8.89		19.22		24.88		8.89
D/S		7/17/2019						7/16/2019		7/16/2019		
D/P		8/14/2019						8/16/2019		8/21/2019		
Local Check Name		MTU1061		NLR 33892				ASHA		Tunga		

Table 3.42: Days to 50% flowering of entries in AVT1 L (Zone III) Kharif 2019

Entry No.	IET NO	ZONE III						
		OD			OD (2)	BI	WB	UP
		@BBN	CTK	JYP	Mean	@SBR	@CHN	@MSD
1504	27610	97	104	95	100	106	132	102
1505	27646	104	109	102	106	116	128	103
1509	25945	102	106	113	109	110	123	104
1510	27262	95	101	101	101	101	103	98
1511	Zonal Check (ZC)	101	106	104	105	107	111	107
1514	25948	102	103	102	102	100	117	108
1516	PA 6444 (HC)	96	99	102	101	111	101	
1518	27285	97	96	105	101	99	95	102
1519	28785	96	97	103	100	99	105	98
1520	27286	105	106	113	110	111	111	101
1521	28786	88	92	95	93	98	95	91
1522	Swarna (NC & RP)	106	109	123	116	112	120	106
1523	28794	97	108	99	104	105	121	
1524	28793	100	108	108	108	106	122	102
1525	Rajendra Mahsuri (RP)	99	104	105	104	104	122	104
1526	28797	104	107	115	111	113	128	103
1527	27290	98	104	104	104	114	111	102
1528	28796	98	104	103	104	112	110	103
1529	28014	104	104	118	111	115	105	104
1530	Samba Mahsuri (RP)	99	102	101	101	108	105	99
1531	28784	96	92	102	97	102	104	99
1532	28799	95	102	101	101	100	101	96
1533	28803	85	83	87	85	108	98	93
1534	28800	97	106	102	104	104	117	102
1535	28805	103	103	103	103	113	99	103
1536	27294	97	102	102	102	104	104	103
1537	28802	84	81	99	90	98	101	94
1538	28798	97	102	102	102	109	107	102
1539	28804	95	93	98	95	108	103	97
1540	28801	98	105	102	104	104	101	102
1541	Improved Samba Mahsuri (RP)	99	105	102	103	108	105	100
1542	Local Check (LC)	99	115	111	113	106	110	113
	Exp Mean	98	102	104	103	106	110	101

Table 3.42 contd.: Days to 50% flowering of entries in AVT1 L Kharif 2019

Entry No.	IET NO	ZONE-V				
		CH		CH (1)	MA	Zone V (2)
		@ RPR	JDP	Mean	SKL	Mean
1501	27637	114	112	112	107	109
1503	27640	104	110	110	98	104
1511	Zonal Check (ZC)	105	113	113	98	106
1514	25948	106	102	102	100	101
1516	PA 6444 (HC)	93	103	103	90	97
1518	27285	93	107	107	88	98
1519	28785	96	115	115	91	103
1520	27286	104	95	95	101	98
1521	28786	81	118	118	85	102
1522	Swarna (NC & RP)	104	108	108	103	105
1526	28797	104	107	107	103	105
1527	27290	101	107	107	91	99
1528	28796	106	102	102	91	97
1529	28014	110	104	104	103	103
1530	Samba Mahsuri (RP)	104	100	100	94	97
1531	28784	102	95	95	90	93
1532	28799	98	92	92	89	91
1533	28803	91	98	98	88	93
1534	28800	101	108	108	90	99
1535	28805	107	104	104	99	102
1536	27294	103	92	92	97	94
1537	28802	94	102	102	88	95
1538	28798	102	103	103	96	99
1539	28804	102	98	98	90	94
1540	28801	103	106	106	91	99
1541	Improved Samba Mahsuri (RP)	103	97	97	97	97
1542	Local Check (LC)	94	106	106	97	102
	Exp Mean	101	104	104	95	99

Table 3.42 contd.: Days to 50% Flowering of entries in AVT 1 L (Zone VII) Kharif 2019

Entry No.	IET NO	ZONE VII					
		AP		TN (1)	KA		Zone VII (1)
		@MTU	@NLR	ADT	@SRS	@PNP	Mean
1502	27632	118	102	113	131	117	113
1511	Zonal Check (ZC)	104	98	114	119	112	114
1513	26974	101	93	108	116	111	108
1515	26927	103	112	105	119	113	105
1516	PA 6444 (HC)	93	94	118	110	109	118
1517	26948	119	113	115	119	122	115
1518	27285	98	97	104	108	111	104
1519	28785	97	93	102	113	108	102
1520	27286	108	93	114	122	119	114
1521	28786	85	113	102	104	107	102
1522	Swarna (NC & RP)	111	97	117	122	118	117
1526	28797	102	91	120	119	114	120
1527	27290	93	95	100	112	113	100
1528	28796	93	98	108	115	114	108
1529	28014	109	96	111	125	119	111
1530	Samba Mahsuri (RP)	94	89	101	115	113	101
1531	28784	93	92	99	110	111	99
1532	28799	94	87	98	104	104	98
1533	28803	90	97	97	104	105	97
1534	28800	99	96	102	104	107	102
1535	28805	98	94	105	113	109	105
1536	27294	94	87	99	111	108	99
1537	28802	89	95	97	106	108	97
1538	28798	97	94	98	115	105	98
1539	28804	90	95	96	125	110	96
1540	28801	96	95	101	114	105	101
1541	Improved Samba Mahsuri (RP)	96	85	96	108	108	96
1542	Local Check (LC)	113	107	120	115	122	120
Exp Mean		99	96	106	114	111	106

Table 3.43: Plant Height (cm) of entries in AVT1 L (Zone III) Kharif 2019

Entry No.	IET NO	ZONE III						
		OD			OD (2)	BI	WB	UP
		@BBN	CTK	JYP	Mean	@SBR	@CHN	@MSD
1504	27610	112	126	98	112	90	109	82
1505	27646	125	124	117	121	95	115	97
1509	25945	118	135	96	116	90	113	101
1510	27262	124	137	111	124	98	116	107
1511	Zonal Check (ZC)	110	133	105	119	81	109	103
1514	25948	107	129	103	116	91	127	85
1516	PA 6444 (HC)	110	117	108	113	92	118	
1518	27285	100	108	87	98	86	112	88
1519	28785	101	106	89	98	82	102	86
1520	27286	98	114	81	97	89	105	84
1521	28786	92	104	91	98	82	109	80
1522	Swarna (NC & RP)	96	106	76	91	77	94	82
1523	28794	122	129	102	116	86	107	
1524	28793	110	120	96	108	88	103	82
1525	Rajendra Mahsuri (RP)	114	128	96	112	93	96	87
1526	28797	85	104	82	93	75	84	85
1527	27290	92	108	90	99	73	110	98
1528	28796	102	114	94	104	78	103	84
1529	28014	105	110	79	94	78	115	90
1530	Samba Mahsuri (RP)	100	107	92	100	72	110	85
1531	28784	105	122	96	109	84	117	83
1532	28799	90	107	91	99	75	108	81
1533	28803	81	86	65	76	72	92	75
1534	28800	92	110	81	96	73	97	77
1535	28805	89	101	86	94	74	104	78
1536	27294	90	113	84	98	72	89	91
1537	28802	80	88	68	78	72	91	83
1538	28798	90	108	86	97	73	100	78
1539	28804	96	103	79	91	79	103	72
1540	28801	95	107	67	87	69	98	80
1541	Improved Samba Mahsuri (RP)	85	100	79	90	70	92	83
1542	Local Check (LC)	113	125	104	114	91	147	92
Exp Mean		101	113	90	102	81	106	86

Table 3.43 contd.: Plant height (cm) of entries in AVT1 L Kharif 2019

Entry No.	IET NO	ZONE V				
		CH		CH (1)	MA	Zone V (2)
		@RPR	JDP	Mean	SKL	Mean
1501	27637	107	84	84	108	96
1503	27640	111	93	93	108	101
1511	Zonal Check (ZC)	96	90	90	97	94
1514	25948	107	98	98	110	104
1516	PA 6444 (HC)	100	99	99	118	108
1518	27285	93	85	85	86	86
1519	28785	93	80	80	83	81
1520	27286	95	82	82	76	79
1521	28786	87	88	88	75	81
1522	Swarna (NC & RP)	88	75	75	84	79
1526	28797	93	83	83	74	79
1527	27290	89	78	78	97	87
1528	28796	93	83	83	86	84
1529	28014	90	82	82	86	84
1530	Samba Mahsuri (RP)	91	82	82	83	82
1531	28784	92	94	94	82	88
1532	28799	87	81	81	68	74
1533	28803	70	67	67	74	70
1534	28800	136	78	78	96	87
1535	28805	85	81	81	86	84
1536	27294	91	79	79	76	77
1537	28802	77	77	77	76	76
1538	28798	88	73	73	83	78
1539	28804	89	81	81	84	82
1540	28801	87	77	77	95	86
1541	Improved Samba Mahsuri (RP)	90	81	81	82	81
1542	Local Check (LC)	159	147	147	84	115
	Exp Mean	96	85	85	87	86

Table 3.43 contd.: Plant Height (cm) of entries in AVT 1 L (Zone VII) Kharif 2019

Entry No.	IET NO	ZONE VII					
		AP		TN (1)	KA		Zone VII (1)
		@MTU	@NLR	ADT	@SRS	@PNP	Mean
1502	27632	131	92	112	82	79	112
1511	Zonal Check (ZC)	133	106	115	87	85	115
1513	26974	140	105	118	91	86	118
1515	26927	131	109	103	87	81	103
1516	PA 6444 (HC)	131	94	113	86	80	113
1517	26948	122	96	104	78	70	104
1518	27285	115	92	104	76	68	104
1519	28785	122	89	98	71	57	98
1520	27286	128	100	108	78	70	108
1521	28786	118	96	98	74	69	98
1522	Swarna (NC & RP)	119	87	103	69	58	103
1526	28797	111	89	100	66	66	100
1527	27290	127	93	101	70	72	101
1528	28796	111	89	102	69	64	102
1529	28014	120	95	100	74	66	100
1530	Samba Mahsuri (RP)	113	81	96	69	63	96
1531	28784	123	90	103	82	76	103
1532	28799	119	86	90	66	67	90
1533	28803	99	60	77	63	62	77
1534	28800	113	78	91	62	56	91
1535	28805	120	89	95	73	68	95
1536	27294	117	80	84	63	62	84
1537	28802	97	65	86	62	59	86
1538	28798	118	83	90	73	65	90
1539	28804	114	92	101	67	81	101
1540	28801	110	75	102	67	59	102
1541	Improved Samba Mahsuri (RP)	119	84	92	70	59	92
1542	Local Check (LC)	124	140	122	90	98	122
	Exp Mean	120	91	100	74	69	100

Table 3.44: Panicles/m2 of entries in AVT1 L (Zone III) Kharif 2019

Entry No.	IET NO	ZONE III							
		OD			OD (2)	BI	WB	UP	Zone III (2)
		@BBN	CTK	JYP	Mean	@SBR	@CHN	@MSD	Mean
1504	27610	254	284	349	316	165	275	252	316
1505	27646	227	288	322	305	205	308	308	305
1509	25945	273	293	337	315	173	330	263	315
1510	27262	233	229	343	286	188	308	341	286
1511	Zonal Check (ZC)	282	297	338	317	184	308	293	317
1514	25948	247	225	322	273	186	308	345	273
1516	PA 6444 (HC)	260	236	244	240	209	352		240
1518	27285	285	306	289	297	196	385	340	297
1519	28785	224	280	258	269	165	330	309	269
1520	27286	298	286	314	300	189	385	254	300
1521	28786	257	309	414	361	145	308	301	361
1522	Swarna (NC & RP)	280	317	290	303	217	484	304	303
1523	28794	254	234	271	252	178	418		252
1524	28793	249	239	351	295	205	407	238	295
1525	Rajendra Mahsuri (RP)	223	222	324	273	225	407	325	273
1526	28797	255	284	275	279	168	341	276	279
1527	27290	248	326	328	327	217	319	279	327
1528	28796	238	247	312	280	180	407	303	280
1529	28014	261	315	320	317	181	506	249	317
1530	Samba Mahsuri (RP)	254	257	273	265	242	473	307	265
1531	28784	259	254	275	264	200	341	365	264
1532	28799	246	247	335	291	242	407	331	291
1533	28803	215	284	402	343	197	352	248	343
1534	28800	285	275	362	318	144	451	305	318
1535	28805	268	323	344	334	191	462	289	334
1536	27294	263	326	304	315	249	385	327	315
1537	28802	214	299	315	307	180	385	271	307
1538	28798	245	315	295	305	225	396	277	305
1539	28804	235	297	284	291	219	330	287	291
1540	28801	264	269	326	297	194	330	243	297
1541	Improved Samba Mahsuri (RP)	258	396	249	322	209	352	275	322
1542	Local Check (LC)	266	286	333	309	190	297	316	309
	Exp Mean	254	283	316	299	195	370	294	299

Table 3.44 contd.: Panicles/m2 of entries in AVT1 L Kharif 2019

Entry No.	IET NO	ZONE-V				
		CH		CH(1)	MA	Zone V (2)
		@RPR	JDP	Mean	SKL	Mean
1501	27637	279	250	250	203	227
1503	27640	256	214	214	301	257
1511	Zonal Check (ZC)	247	241	241	215	228
1514	25948	256	231	231	217	224
1516	PA 6444 (HC)	251	217	217	264	241
1518	27285	252	213	213	221	217
1519	28785	252	178	178	265	222
1520	27286	265	243	243	220	232
1521	28786	255	190	190	271	231
1522	Swarna (NC & RP)	249	230	230	241	235
1526	28797	265	233	233	224	229
1527	27290	271	246	246	198	222
1528	28796	248	213	213	211	212
1529	28014	245	222	222	212	217
1530	Samba Mahsuri (RP)	247	234	234	253	244
1531	28784	253	230	230	283	257
1532	28799	235	209	209	171	190
1533	28803	156	191	191	183	187
1534	28800	223	227	227	234	230
1535	28805	220	229	229	185	207
1536	27294	227	216	216	226	221
1537	28802	238	199	199	247	223
1538	28798	241	207	207	253	230
1539	28804	218	229	229	257	243
1540	28801	246	212	212	268	240
1541	Improved Samba Mahsuri (RP)	274	212	212	192	202
1542	Local Check (LC)	273	201	201	292	246
	Exp Mean	246	219	219	234	226

Table 3.44 contd.: Panicles/m² of entries in AVT 1 L (Zone VII) Kharif 2019

Entry No.	IET NO	ZONE VII					
		AP		TN	KA		Zone VII (1)
		@MTU	@NLR	ADT	@SRS	@PNP	Mean
1502	27632	317	269	264	318	396	264
1511	Zonal Check (ZC)	310	273	353	267	374	353
1513	26974	370	285	336	312	385	336
1515	26927	350	322	237	306	451	237
1516	PA 6444 (HC)	321	284	344	306	341	344
1517	26948	319	264	328	351	396	328
1518	27285	286	294	264	303	512	264
1519	28785	312	287	277	309	424	277
1520	27286	374	271	322	342	556	322
1521	28786	370	251	318	282	341	318
1522	Swarna (NC & RP)	337	313	353	291	468	353
1526	28797	299	296	301	300	385	301
1527	27290	350	322	318	348	578	318
1528	28796	304	307	261	294	528	261
1529	28014	343	300	193	318	407	193
1530	Samba Mahsuri (RP)	330	297	237	348	600	237
1531	28784	312	295	252	312	347	252
1532	28799	348	307	330	273	424	330
1533	28803	266	331	283	309	457	283
1534	28800	350	306	295	297	391	295
1535	28805	334	324	275	315	402	275
1536	27294	356	327	257	321	407	257
1537	28802	255	338	289	303	611	289
1538	28798	326	307	319	294	374	319
1539	28804	350	300	288	324	418	288
1540	28801	323	393	265	321	369	265
1541	Improved Samba Mahsuri (RP)	312	315	324	327	358	324
1542	Local Check (LC)	354	207	288	339	358	288
	Exp Mean	328	299	292	312	430	292

Table 3.46: Composition of entries in Initial Variety Trial - Irrigated Late (IVT -L), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
1st Year of testing:				
1601	28495	AD 17234	RP 5546-1-1-1-1	MB
1602	28496	BPT 2850	NLR 34449 / BM 71	SB
1603	28497	OR 2491-9	Vandana / Indravati	MB
1604	28498	RCPR 67-RP 5484	Swarna / IRGC 63248 // RP Bio 226	MS
1605	28499	RP 6337-144-9-1-B	JGL 3844 / IET 21510	MS
1606	28500	Pusa 5159-1-2-1-1-3-3	White Ponni / Pusa 44	MB
1607	28501	RP 5970-2-6-19-16-24-12	Improved Samba Mahsuri*2 / Swarna	MS
1608	28502	RP 6112-MS-M-140-25-2-5-8-9-6	BPT 5204 Mutant	LS
1609	28503	PAU 8442-2K14-3583-422-1 (RYT 3784)	Pusa 44 / IL 274 (O. glaberrima)	LS
1610	28504	MTU 1315 (MTU 2091-14-2-1-1)	MTU 2077 / NBR 11	MS
1611	28505	NLR 3590	(NLR 34452/NLR 33654) / NLR 20017	MS
1612	28506	CR 3849-2-1-2-1-2	Pooja / IR64 MAS	MS
1613	28507	KAU PTB 2011 mutant-46-1-1-2-1	Cul M6-2	SB
1614	28508	CR 2830-48-1	Swarna / ARC10075	SB
1615	28509	MTU 1317 (MTU 2404-25-2)	MTU 1064 / MTU 1075	MS
1616	28510	MEPH – 154 (Hybrid)	-	MS
1617	28511	OR (CZ)-78-1	PB-1 Mutant	MB
1618	28512	CR 3856-44-22-2-1-7-1-4-2	IR 73963-86-1-5-2-2 / CR 2324-1-1	LB
1619	28513	RGL 7016	NLR 34449 / JGL 3855	MS
1620	28514	RTN 0901-1-1-3-1	RTN 4/IR 72 / Indrayani	LB
1621	Swarna (NC)			
1622	28515	CR 3856-55-14-2-1-1-1-1-1	IR 73963-86-1-5-2-2 / CR 2324-1-1	LB
1623	28516	RP 6330-221-3-5-2	MTU 1121 / Vijetha	LS
1624	28517	OR 2437-11	Indravati / MTU 165	MB
1625	28518	RP 6301-89-10-77	IR 58025A / KMR-3R	MB
1626	28519	AD 16135	CR 1009 / MTU 1150	MB
1627	28520	CR 3848-3-2-1-1-1	Maudamani / Swarna	SB
1628	28521	NLR 3595	(NLR 20083 / NLR 3041) / NLR 34449	MS
1629	28522	R 1624-61-3-61-1	Surekha / Madhuri	LS
1630	28523	CR 3564-1-1-4-2-2-1	Vijetha / N22	MS
1631	28524	RP 6330-179-3-9-1	MTU 1121 / Vijetha	SB
1632	28525	ORR 1804-OR 2756-1	Prachi / CN 1231-11-7	MS
1633	28526	CR 3516-11-2-3-1-1	Birupa / Pusa 44	LS
1634	28527	MTU 1318 (RM 67-60-1-1-1)	MTU 1064 / MTU 7029	MS
1635	28528	PAU 5907-7-1-2-1 (RYT 3793)	PR 116 / PAU 3832-44-6-3-3	LS
1636	28529	RP 6195-MC/RIL-SM2	MTU 1010 / Chittimuthayalu	LS
1637	28530	R 1624-82-1-60-1	Surekha / Madhuri	LB
1638	NDR 8002 (Eastern & Central), Ranjeet (North Eastern), Salivahana (Western), Pushyami (Southern) – ZC			
1639	28531	CR-3969-24-1-2-1-1-1	IR 73907-753-2-3/ Pratiksyia	LS
1640	28532	NLR 3586	(NLR 34449 / PS4) / BCP 2 / BPT 5204	LS
1641	28533	RP 6329-221-6-5-4	MTU 1081 / Sinnasivappu	MS
1642	28534	RCPR 66-RP 5366	RP Bio 226 / IRGC 16449 // MTU 1081	LS
1643	27244	KAU PTB 0614-7-8-24	Pranava / Vellari	SB
1644	28535	CR 3850-4-1-2-1-1	Maudamani / Reeta	SB
1645	28536	MTU 1316 (MTU 2222-26-1-1-2)	IR 64 / NLR 3042	MS
1646	28537	RP 6347-4-19-46-6-2	Swarna / ST 12 // ST 6 /// Swarna	MB
1647	28538	OR 2436-10	Indravati / Namsagui 19	MB
1648	28539	AD 17205	ADT 44 / OR 2328	MB
1649	28540	CR 2916-10-2-1-1	Tapaswini / IET 16952	MS
1650	28541	US 371 (Hybrid)	-	LB
1651	PA 6444 (HC)			
1652	28542	RGL 7015	RGL 2538 / NLR 34449	MS
1653	28543	PHI – 19102 (Hybrid)	-	LS
1654	28544	CR 3969-17-2-2-1-1-1-1	IR 73907-753-2-3/ Pratiksyia	MS
1655	28545	KAU PTB 2011 mutant-45-2-1-2-2	Cul M2-3	LB
1656	28546	CR 2851-S-1-6-2B-4-2	Gayatri / SR 26B	MS
1657	28547	RP 6301-41-15-3	IR 58025A / KMR-3R	MB
1658	28548	BPT 2863	MTU 2077 / NLR 34449	SB
1659	28549	RGL 7017	JGL 3855 / NLR 34449	MS

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Entry No.	IET No.	Designation	Cross combination	Grain Type
1660	28550	CR 3988-6-1-2-1-1	Pooja / Ac.38687	MS
1661	28551	AD 16154	CR 1009 / CR 2942-68	SB
1662	28552	CR 3564-1-1-3-2-1-1	Vijetha / N22	MS
1663	28553	RP 6336-122-9-7-5	MTU 1010 / RP-1	SB
1664	Local Check			

Table 3.47: Grain Yield (Kg/ha) of entries in IVT L, Kharif 2019

Entry No.	IET No.	IVT L									
		OD (1)					BI (1)		WB		UP
		JYP					SBR		@CHN	@PNB	@MSD
1601	28495	8380	2 #	7%	108%	5277			5056	2167	
1602	28496	6908	#		71%	3441			4389	3750	1862
1603	28497	6844	#		70%	6127	3 #	15%	6111	4125	3258
1604	28498	6634	#		65%	5655		7%	4328	2000	4654
1605	28499	3892				4231			4556	2917	3690
1606	28500	6269	#		56%	4688			4167		3723
1607	28501	2544				4688			4017	3154	1529
1608	28502	2580				5460			5211	5583	9 3624
1609	28503	2866				3980			4568	4083	4189
1610	28504	5277	#		31%	5142			4578	4333	
1611	28505	6762	#		68%	4105			5083		
1612	28506	2611				3363			4722		4854
1613	28507	5000	#		24%	5243			5972	5833	3 2294
1614	28508	5978	#		48%	5477			4967	5333	4488
1615	28509	7133	#		77%	5966	7	12%	6722	3 2333	1662
1616	28510	7121	#		77%	6620	2#	9%	6889	1 5833	3 3441
1617	28511	7861	6 #		95%	5072			4611	1583	3790
1618	28512	4190				5072			4944	2667	4787
1619	28513	8221	5#	4.89%	104%	5535			5611	3875	2194
1620	28514	4765	#		18%	5575		5%	5150	2542	3191
1621	Swarna (NC)	4219				6071	4		5861	5333	3723
1622	28515	7808	8 #		94%	5744		8%	6222	6 3583	4455
1623	28516	8317	4 #	6%	106%	5342			4556		3424
1624	28517	6119	#		52%	4728			6839	2 5750	6
1625	28518	2149				2928			4328	5500	10 3524
1626	28519	6906	#		71%	4698			4889	2292	1795
1627	28520	6917	#		72%	3813			5222		1828
1628	28521	6513	#		62%	3515			4500	1583	
1629	28522	6903	#		71%	5871	8	11%	5667	4417	4315
1630	28523	4615	#		15%	4983			4889	5083	4654
1631	28524	6239	#		55%	5871	8	11%	6200	7 3792	3258
1632	28525	7452	9 #		85%	6015	6	13%	4361	5250	2094
1633	28526	8374	3 #	7%	108%	4172			6389	5 4333	2527
1634	28527	5186	#		29%	4543			4650	3000	
1635	28528	4857	#		21%	5259			6000	9 4042	2327
1636	28529	4380			9%	3682			5167		3657
1637	28530	3988				4854			5611	4417	3258
1638	Zonal Check (ZC)	4652				3911			5617	3250	2859
1639	28531	4615	#		15%	4729			5056	4625	4388
1640	28532	7135	#		77%	3292			5111	1625	1928
1641	28533	4896	#		22%	3262			5000	5625	8 2959
1642	28534	5186	#		29%	4406			5617	7750	1 3524
1643	27244	7331	10 #		82%	5417			5167	4417	2726
1644	28535	4337			8%	4240			5278	3333	3823
1645	28536	7061	#		75%	5688		7%	5667	3250	1928
1646	28537	3393				2892			4056	2333	2493
1647	28538	9005	1 *#	15%	124%	5640		6%	6556	4 4333	
1648	28539	5851	#		45%	3589			4278		
1649	28540	5202	#		29%	5225			6000	9 4667	2959
1650	28541	6167	#		53%	5524			5722	5833	3 3624
1651	PA 6444 (HC)	4029				5305			6000	9 6833	2 3524
1652	28542	6166	#		53%	4603			4722		2194
1653	28543	6051	#		50%	7030	1 *#	16%	5833	3583	3225
1654	28544	6450	#		60%	5250			5889	3167	5186
1655	28545	6003	#		49%	2901			4944		1961
1656	28546	4788			19%	4821			5667		3191
1657	28547	2343				3270			4167	5667	7 4854
1658	28548	6084	#		51%	4479			4056	3250	
1659	28549	5410	#		34%	3755			4722	2583	
1660	28550	6294	#		56%	5407			4833	2833	2726
1661	28551	6213	#		54%	6048	5	14%	4722	2750	2726
1662	28552	3103				5139			5083	3333	3059
1663	28553	3767				4106			4401	2083	3258
1664	Local Check (LC)	7838	7			5845	10		5278	4167	3723
	Exp. Mean	5658.56				4821.56			5194.39	3936.68	3239.08
	CD	896.32				817.49			282.99	1881.75	479.74
	CV%	7.93				8.48			2.73	23.83	7.38
	D/S			6/27/2019					7/4/2019	7/10/2019	6/29/2019
	D/P			7/15/2019					7/30/2019	8/2/2019	7/30/2019
	Local Check Name			Hasanta					KAUSHALYA	MTU 7029	Sambha Sub-1

Table 3.47 contd.: Grain Yield (Kg/ha) of entries in IVT L, Kharif 2019

Entry No.	IET No.										
		Zone III (2)			CH				CH (3)		
		Mean			RPR		ABP		JDP	Mean	
1601	28495	6829	6 #	46%	3357		3405		5833		4198
1602	28496	5175		11%	2798		2705		4271		3258
1603	28497	6486	#	39%	4885		5435		4674		4998
1604	28498	6145	#	32%	3870		5485	9	6921	9	5425
1605	28499	4062			2984		4500		5918		4467
1606	28500	5479	#	17%	4611		3520		5833		4655
1607	28501	3616			4166		3375		5625		4389
1608	28502	4020			4941		4020		7324	3	5428
1609	28503	3423			4563		5110		6270		5314
1610	28504	5210		12%	4710		4580		6855		5382
1611	28505	5434	#	16%	4289		4215		7461	1	5322
1612	28506	2987			5130		5560	7	5775		5488
1613	28507	5122		10%	5897	2	5385		4564		5282
1614	28508	5728	#	23%	5726	4	5945	2	5742		5804
1615	28509	6550	9 #	40%	5583	7	5670	4	6621		5958
1616	28510	6871	3 #	47%	6580	1 *#	6475	1 10.68%	5469		6175
1617	28511	6467	#	39%	3421		4200		5840		4487
1618	28512	4631			4221		3995		5833		4683
1619	28513	6878	2 #	47%	5096		4890		7188	5	5725
1620	28514	5170		11%	5184		3070		4486		4247
1621	Swarna (NC)	5145			5702	5	5850	3	4870		5474
1622	28515	6776	7 #	45%	4398		5435		5632		5155
1623	28516	6830	5 #	46%	4468		4260		5671		4800
1624	28517	5424	#	16%	5781	3	4760		5299		5280
1625	28518	2539			3690		3605		6641		4645
1626	28519	5802	#	24%	3412		3303		6387		4367
1627	28520	5365	#	15%	3796		3465		5898		4386
1628	28521	5014		7.44%	4007		3653		7344	2	5001
1629	28522	6387	#	37%	3521				6712		5117
1630	28523	4799			3578		4365		5801		4581
1631	28524	6055	#	30%	5267	10	4765		7233	4	5755
1632	28525	6734	8 #	44%	5463	8	4785		6973	7	5740
1633	28526	6273	#	34%	3226		3308		5632		4055
1634	28527	4865			4394		3750		5553		4566
1635	28528	5058		8.38%	4255		4350		6048		4884
1636	28529	4031			2617		3358		5104		3693
1637	28530	4421			3717		3485		4993		4065
1638	Zonal Check (ZC)	4282			4124		5220		5423		4922
1639	28531	4672			4258		4395		5612		4755
1640	28532	5214		12%	3330		3228		4772		3777
1641	28533	4079			4036		4590		5163		4596
1642	28534	4796			4623		4400		4766		4596
1643	27244	6374	#	37%	5149		4885		4499		4844
1644	28535	4289			3870		4058		5794		4574
1645	28536	6375	#	37%	4338		5175		6185		5233
1646	28537	3143			2395		3435		5840		3890
1647	28538	7323	1 # 7%	57%	5314	9	5605	6	5924		5614
1648	28539	4720					3218		6530		4874
1649	28540	5214		12%	4810		4330		5684		4941
1650	28541	5846	#	25%	5009		4590		5664		5088
1651	PA 6444 (HC)	4667			5632	6	5670	4	6921	9	6074
1652	28542	5385	#	15%	4654		5485	9	5703		5281
1653	28543	6541	10 #	40%	4115		4493		6927	8	5178
1654	28544	5850	#	25%	4189		4660		6986	6	5278
1655	28545	4452			3439		3548		5651		4213
1656	28546	4805			5213		4623		5625		5154
1657	28547	2807			4601		3965		4382		4316
1658	28548	5282		13%	4161		4170		4746		4359
1659	28549	4583			4328		3550		5065		4314
1660	28550	5851	#	25%	4788		4590		4505		4628
1661	28551	6131	#	31%	4860		5500	8	5911		5424
1662	28552	4121			3468		3840		6569		4626
1663	28553	3937			3855		4470		5775		4700
1664	Local Check (LC)	6842	4		2500		4095		6094		4230
	Exp. Mean	5240.06			4354.89		4409.84		5828.25		4870.71
	CD	622.67			723.47		970.77		2199.58		833.33
	CV%	5.95			8.31		11.01		18.89		8.56
	D/S				6/25/2019		3/7/2019		6/28/2019		
	D/P				7/26/2019		7/31/2019		7/20/2019		
	Local Check Name				Jaldubi		Jaldubi		Jaldubi		

Table 3.47 contd.: Grain Yield (Kg/ha) of entries in IVT L, Kharif 2019

Entry No.	IET No.								
		MA 1 (1)		Zone V (4)		MA 2 (1)		MA (2)	
		SKL		Mean		PDG		Mean	
1601	28495	2960		3889		4257		3609	
1602	28496	3205		3245		3824		3515	
1603	28497	4794	22%	4947		6920	1 *# 45% 23%	5857	1 * # 29% 23%
1604	28498	5148	# 31%	5356		5339	7 12%	5244	9 * 15% 9.89%
1605	28499	4247	8%	4412		4580		4414	
1606	28500	4041		4501		4114		4078	
1607	28501	2317		3871		4261		3289	
1608	28502	5598	6 # 7% 43%	5471	9	5720	3 * 20%	5659	2 * # 24% 19%
1609	28503	3591		4884		4496		4044	
1610	28504	3662		4952		3973		3818	
1611	28505	2458		4606		3917		3188	
1612	28506	5373	# 37%	5460		5746	2 * 20%	5560	4 * # 22% 16%
1613	28507	4118	4.92%	4991		4484		4301	
1614	28508	5425	# 38%	5710	3 6%	5345	6 12%	5385	6 * 18% 13%
1615	28509	5586	8 # 7% 42%	5865	2 8% 5.92%	4883		5235	10 * 15% 9.7%
1616	28510	5663	5 # 9% 44%	6047	1 12% 9.21%	5153	8 8%	5408	5 19%
1617	28511	4846	23%	4577		3841		4344	
1618	28512	5277	# 34%	4832		4205		4741	
1619	28513	4826	23%	5500	8	4150		4488	
1620	28514	5727	4 # 10% 46%	4617		5515	5 * 15%	5621	3 * # 23% 18%
1621	Swarna (NC)	5212		5409		3888		4550	
1622	28515	4569	16%	5009		5103	10 7%	4836	, 6%
1623	28516	4311	9.80%	4678		4129		4220	
1624	28517	4858	24%	5175		3906		4382	
1625	28518	3436		4343		4382		3909	
1626	28519	4884	24%	4497		4253		4569	
1627	28520	4505	15%	4416		4083		4294	
1628	28521	3604		4652		3574		3589	
1629	28522	3668		4634		4681		4175	
1630	28523	4080		4456		4758		4419	
1631	28524	5393	# 37%	5665	4 4.73%	3993		4693	
1632	28525	5277	# 34%	5625	5	3077		4177	
1633	28526	3777		3986		4172		3975	
1634	28527	4215		4478		2903		3559	
1635	28528	3732		4596		4035		3884	
1636	28529	3224		3576		3612		3418	
1637	28530	4176	6.39%	4093		4661		4419	
1638	Zonal Check (ZC)	3623		4598		4781		4202	
1639	28531	5772	3 # 11% 47%	5009		4647		5210	, 14%
1640	28532	2767		3524		2435		2601	
1641	28533	5856	2 # 12% # 49%	4911		4661		5259	8 * 16% 10%
1642	28534	3069		4215		4411		3740	
1643	27244	3990		4631		4115		4053	
1644	28535	4151	5.76%	4468		4623		4387	
1645	28536	5148	# 31%	5212		2956		4052	
1646	28537	3069		3685		3715		3392	
1647	28538	5380	# 37%	5556	6	4100		4740	
1648	28539	4942	# 26%	4897		2563		3753	
1649	28540	4498	# 15%	4831		4560		4529	
1650	28541	3990		4813		5075	6.15%	4533	
1651	PA 6444 (HC)	3925		5537	7	5618	4	4772	, 4.87%
1652	28542	6030	1 # 16% 54%	5468	10	4093		5062	, 11%
1653	28543	5470	9 # 4.95% 39%	5251		5130	9 7%	5300	7 * 16% 11%
1654	28544	5592	7 # 7% 42%	5357		4563		5078	, 12%
1655	28545	4086		4181		2635		3361	
1656	28546	3938		4850		3867		3903	
1657	28547	4826	23%	4444		4556		4691	
1658	28548	2510		3897		3189		2850	
1659	28549	4292	9.35%	4309		3674		3983	
1660	28550	4356	11%	4560		4283		4320	
1661	28551	5470	9 # 4.95% 39%	5435		4342		4906	, 8%
1662	28552	4041		4480		4144		4093	
1663	28553	4247	8.20%	4587		4043		4145	
1664	Local Check (LC)	4730		4355		4176		4453	
	Exp. Mean	4399.23		4751.04		4295.08		4347	
	CD	1165.9		747.95		726.69		664.57	5215
	CV%	13.26		7.88				7.63	5436
	D/S	7/2/2019				6/25/2019			
	D/P	7/29/2019				7/19/2019			
	Local Check Name	Sakoli-8				Karjat-2			

Table 3.47 contd.: Grain Yield (Kg/ha) of entries in IVT L, Kharif 2019

Entry No.	IET No.	GU (1)			Zone VI (2)			AP (1)		
		NVS			Mean			MTU		
1601	28495	5071			4664			5038		
1602	28496	3845			3835			6582		18%
1603	28497	6670	3	12% 15%	6795	1 *# 37% 19%		5330		
1604	28498	6463	5	9% 12%	5901	3 * 19%		7705	#	38%
1605	28499	5978			5279	6%		4550		
1606	28500	5874			4994			7382	#	32%
1607	28501	6456	6	9% 12%	5359	8%		5494		
1608	28502	5886			5803	4 * 17%		7408	#	32%
1609	28503	6170			5333	7%		5691		
1610	28504	5867			4920			6952	#	24%
1611	28505	3734			3826			5461		
1612	28506	6142		6.30%	5944	2 * 20%		6152		10%
1613	28507	6140		6.27%	5312	7%		6454		15%
1614	28508	5960			5653	9 * 14%		4229		
1615	28509	5885			5384	8%		6183		10%
1616	28510	6063		4.93%	5608	10 13%		5319		
1617	28511	4786			4314			5698		
1618	28512	6107		5.69%	5156			4732		
1619	28513	5001			4576			9842	2 *# 29% 76%	
1620	28514	6001			5758	5 * 16%		4524		
1621	Swarna (NC)	5933			4911			5269		
1622	28515	6295	8	6% 8.95%	5699	6 * 15%		4911		
1623	28516	5926			5028			6763		21%
1624	28517	4074			3990			5943		6.14%
1625	28518	4551			4467			4035		
1626	28519	4584			4419			6988	#	25%
1627	28520	3876			3980			4199		
1628	28521	3544			3559			8906	5 *# 17% 59%	
1629	28522	5540			5111			5331		
1630	28523	6320	7	7% 9.38%	5539	11%		4987		
1631	28524	6244		5% 8.07%	5119			5222		
1632	28525	6211		4.67% 7.49%	4644			4748		
1633	28526	4313			4243			5250		
1634	28527	4756			3830			9249	3 *# 22% 65%	
1635	28528	4979			4507			8721	8 # 15% 56%	
1636	28529	7556	1 *# 27% 31%		5584	12%		5702		
1637	28530	6692	2 13% 16%		5677	8 * 14%		8838	7 # 16% 58%	
1638	Zonal Check (ZC)	5166			4974			7607		
1639	28531	5680			5164			7155	#	28%
1640	28532	4244			3340			9175	4 *# 21% 64%	
1641	28533	4928			4795			6008		7%
1642	28534	5935			5173			5691		
1643	27244	6210		4.67% 7.48%	5163			6596		18%
1644	28535	6292	9	6% 8.9%	5458	10%		5591		
1645	28536	4575			3766			10064	1 *# 32% 80%	
1646	28537	5422			4569			6175		10%
1647	28538	4496			4298			7726	#	38%
1648	28539	2963			2763			5391		
1649	28540	6085		5.31%	5323	7%		6620		18%
1650	28541	5624			5350	8%		5645		
1651	PA 6444 (HC)	5778			5698	7		5599		
1652	28542	6100		6%	5097			7519	#	34%
1653	28543	6073		5%	5602	13%		7549	#	35%
1654	28544	6260	10	6% 8%	5412	9%		7137	#	27%
1655	28545	3283			2959			8895	6 *# 17% 59%	
1656	28546	3625			3746			7056	#	26%
1657	28547	4825			4691			7215	#	29%
1658	28548	3091			3140			8320	10 # 9% 49%	
1659	28549	4920			4297			8141	# 7% 45%	
1660	28550	3890			4087			4296		
1661	28551	6202		4.53% 7%	5272	6%		8718	9 *# 15% 56%	
1662	28552	6516	4	10% 13%	5330	7%		5231		
1663	28553	5648			4846			6157		10%
1664	Local Check (LC)	5580			4878			7302		
	Exp. Mean	5389.19			4842.14			6474.59		
	CD	1043.6			637			1252.59		
	CV%	9.69			6.58			9.68		
	D/S									
	D/P									
	Local Check Name									

Table 3.47 contd.: Grain Yield (Kg/ha) of entries in IVT L, Kharif 2019

Entry No.	IET No.															
		TN				KA			Zone VII (2)				Overall(10)			
		ADT				@SRS	@PNP	Mean				Mean				
1601	28495	6125				135		2893		5582				4970		
1602	28496	5750				146		3330		6166				4333		
1603	28497	6375				2273		4374		5853				5805	8	6% 6%
1604	28498	5725				1868		4178		6715	13%			5895	5 * #	8% 8%
1605	28499	4958				495		3604		4754				4584		
1606	28500	7375	4	6%	16%	653		3430		7379	7 #	7% 24%		5371		
1607	28501	5817				1496		1267		5656				4474		
1608	28502	6083				2014		3426		6746	13%			5502		
1609	28503	5692				2295		3719		5692				4843		
1610	28504	6125				2081		3015		6539	9.60%			5314		
1611	28505	5083				1535		3548		5272				4749		
1612	28506	6250				1330		5159	3	6201				5210		
1613	28507	5083				2745		2759		5769				5237		
1614	28508	5583				3015		3500		4906				5541		
1615	28509	8208	1 #	18%	30%	3377		4578		7196	10 #	21%		6172	1 * #	13% 13%
1616	28510	5625				4781	2	4433		5472				6009	2 * #	9.85% 9.63%
1617	28511	5542				3836	6	3100		5620				5111		
1618	28512	5125				1755		4311		4929				4876		
1619	28513	4208				3589	8	3711		7025	#	18%		5896	4 * #	8% 8%
1620	28514	5833				4061	5	3196		5179				5068		
1621	Swarna (NC)	6958	8			3476	10	3978		6114				5397		
1622	28515	6225				4421	3	5256	2	5568				5612		
1623	28516	5875				3758	7	3978		6319	6%			5506		
1624	28517	5667				2801		2833		5805				5114		
1625	28518	5917				2813		2207		4976				4133		
1626	28519	8125	2 #	17%	28%	2048		3800		7557	5 #	9% 27%		5354		
1627	28520	5917				1028		3093		5058				4647		
1628	28521	5625				2126		3626		7266	9 #	4.97% 22%		5029		
1629	28522	5542				2228		5067	4	5437				5308		
1630	28523	4833				1901		1415		4910				4832		
1631	28524	6375				2734		4074		5799				5660	10	
1632	28525	6083				3161		3570		5416				5608		
1633	28526	4708				1823		3104		4979				4693		
1634	28527	6042				2261		3137		7646	3 #	10% 28%		5059		
1635	28528	4167				2363		4926	8	6444	8%			5040		
1636	28529	5167				2419		3548		5435				4440		
1637	28530	4375				1766		4130		6607	11%			4978		
1638	Zonal Check (ZC)	4792				2025		3737		6200				4930		
1639	28531	4458				1373		3293		5807				5132		
1640	28532	4958				124		4607	10	7067	#	18%		4534		
1641	28533	5500				2655		3478		5754				4890		
1642	28534	7375	4	6%	16%	837		3670		6533	10%			4986		
1643	27244	7000	7		11%	3483	9	3215		6798	14%			5519		
1644	28535	5750				2531		4219		5671				4871		
1645	28536	6583	10			2261		3637		8324	1 *#	20% 40%		5777	9	6% 6%
1646	28537	4117				1296		1270		5146				4045		
1647	28538	5708				990		2511		6717	13%			5890	6 * #	8% 7%
1648	28539	5833				90		2607		5612				4542		
1649	28540	5125				1553		1281		5873				5214		
1650	28541	4125				2779		4944	7	4885				5141		
1651	PA 6444 (HC)	6333				2588		5041	5	5966				5481		
1652	28542	5333				1220		3193		6426	7.71%			5569		
1653	28543	5250				2372		870		6400	7.27%			5809	7	6% 6%
1654	28544	5167				2464		4830	9	6152				5625		
1655	28545	4792				934		4167		6844	15%			4523		
1656	28546	7542	3	8%	19%	2444		3885		7299	8 #	5% 22%		5110		
1657	28547	5417				1886		4256		6316	6%			4540		
1658	28548	6958	8		10%	1949		2400		7639	4 #	10% 28%		4771		
1659	28549	7292	6	4.8%	15%	2869		3426		7717	2 #	11% 29%		5043		
1660	28550	5875				3056		3456		5086				4828		
1661	28551	6042				4073	4	4989	6	7380	6 #	7% 24%		5931	3 * #	8% 8%
1662	28552	4292				2120		3956		4762				4634		
1663	28553	6217				2777		2889		6187				4829		
1664	Local Check (LC)	6542				6233	1	5296	1	6922				5470		
	Exp. Mean	5758.46				2274.83		3568.63		6116.53				5140.66		
	CD	1386.15				367		1012.66		997.34				374.72		
	CV%	12.05				8.07		14.2		8.16				3.65		
	D/S	8/16/2019				6/7/2019		7/14/2019								
	D/P	9/22/2019				7/24/2019		8/18/2019								
	Local Check Name	ADT 51				ABHILASH		TUNGA								

Table 3.48: Days to 50% flowering of entries in IVT L, Kharif 2019

Entry No.	IET NO	ZONE III					Zone III (2) Mean
		OD (1)	BI (1)	WB		UP	
		JYP	SBR	@CHN	@PNB	@MSD	
1601	28495	124	124	134	121		124
1602	28496	123	127	127	123	130	125
1603	28497	111	110	112	118	123	110
1604	28498	109	106	111	115	119	107
1605	28499	111	102	100	125	111	106
1606	28500	122	119	119		127	120
1607	28501	108	119	108	134	129	114
1608	28502	101	115	109	124	119	108
1609	28503	104	101	105	132	117	102
1610	28504	116	124	121	121		120
1611	28505	127	133	121			130
1612	28506	95	93	100		112	94
1613	28507	108	114	117	138	131	111
1614	28508	109	110	112	116	123	109
1615	28509	118	129	122	121	131	123
1616	28510	107	108	106	127	119	107
1617	28511	114	122	116	124	127	118
1618	28512	105	108	111	122	121	106
1619	28513	116	125	125	126	130	121
1620	28514	111	112	110	116	119	111
1621	Swarna (NC)	110	108	109	129	118	109
1622	28515	107	109	108	131	120	108
1623	28516	110	114	114		123	112
1624	28517	121	130	125	122		125
1625	28518	97	93	99	132	122	95
1626	28519	120	128	122	128	131	124
1627	28520	124	131	130		132	127
1628	28521	122	136	128	136		129
1629	28522	104	112	106	121	116	108
1630	28523	100	106	105	128	117	103
1631	28524	107	117	106	124	122	112
1632	28525	116	118	117	124	131	117
1633	28526	105	105	99	120	116	105
1634	28527	124	128	126	126		126
1635	28528	107	102	105	116	111	104
1636	28529	112	103	105		120	107
1637	28530	102	106	107	122	112	104
1638	Zonal Check (ZC)	96	107	114	143	117	101
1639	28531	100	97	106	138	117	98
1640	28532	122	135	125	129	131	128
1641	28533	99	91	100	125	109	95
1642	28534	98	95	106	134	117	96
1643	27244	109	113	103	126	125	111
1644	28535	109	109	109	141	120	109
1645	28536	124	122	124	126	134	123
1646	28537	106	96	98	136	115	101
1647	28538	123	129	121	127		126
1648	28539	130	130	137			130
1649	28540	107	110	107	132	117	109
1650	28541	96	107	98	132	117	102
1651	PA 6444 (HC)	100	93	102	127	113	96
1652	28542	125	139	121		132	132
1653	28543	112	117	114	116	122	114
1654	28544	103	119	115	121	123	111
1655	28545	128	132	114		131	130
1656	28546	124	125	119		121	124
1657	28547	96	90	97	130	107	93
1658	28548	124	130	124	122		127
1659	28549	118	129	129	126		124
1660	28550	113	116	114	142	123	114
1661	28551	114	124	119	128	130	119
1662	28552	108	105	104	124	119	106
1663	28553	107	103	108	130	111	105
1664	Local Check (LC)	108	110	109	126	119	109
	Exp Mean	111	114	113	127	121	113

Table 3.48 contd.: Days to 50% flowering of entries in IVT L, Kharif 2019

Entry No.	IET NO	ZONE-V					Zone V (4) Mean
		CH			CH (3)	MA1 (1)	
		RPR	ABP	JDP	Mean	SKL	
1601	28495	133	126	122	127	119	125
1602	28496	131	126	130	129	119	126
1603	28497	113	119	125	119	103	115
1604	28498	110	115	113	112	102	110
1605	28499	101	106	118	108	97	105
1606	28500	121	119	129	123	102	118
1607	28501	114	107	121	114	102	111
1608	28502	110	106	112	109	100	107
1609	28503	105	106	117	109	99	107
1610	28504	122	120	129	123	113	121
1611	28505	134	127	135	132	121	129
1612	28506	100	100	123	108	99	105
1613	28507	116	110	126	117	104	114
1614	28508	112	108	126	115	104	112
1615	28509	121	118	128	122	111	119
1616	28510	110	110	117	112	114	112
1617	28511	117	114	125	118	112	117
1618	28512	111	109	117	112	102	109
1619	28513	125	120	115	120	112	118
1620	28514	111	111	112	111	101	108
1621	Swarna (NC)	113	118	126	119	108	116
1622	28515	110	118	112	113	100	110
1623	28516	112	118	120	116	104	113
1624	28517	131	120	136	129	122	127
1625	28518	100	103	106	103	94	101
1626	28519	128	126	131	128	117	125
1627	28520	130	126	132	129	120	127
1628	28521	129	120	130	126	101	120
1629	28522	107		112	109	105	108
1630	28523	105	99	110	104	99	103
1631	28524	112	110	114	112	101	109
1632	28525	118	117	126	120	104	116
1633	28526	108	105	112	108	98	105
1634	28527	127	120	130	125	116	123
1635	28528	106	108	114	109	103	108
1636	28529	108	118	117	114	100	111
1637	28530	106	106	111	108	102	106
1638	Zonal Check (ZC)	88	108	89	95	82	92
1639	28531	106	106	112	108	98	105
1640	28532	128	127	125	126	117	124
1641	28533	97	101	110	102	90	99
1642	28534	107	109	116	110	98	107
1643	27244	117	109	126	117	110	115
1644	28535	108	115	120	114	120	115
1645	28536	113	114	126	117	105	114
1646	28537	103	111	120	111	103	109
1647	28538	118	126	100	114	102	111
1648	28539		132	97	114	120	116
1649	28540	111	110	96	105	100	104
1650	28541	101	105	96	100	98	100
1651	PA 6444 (HC)	102	105	117	108	99	106
1652	28542	118	120	128	122	110	119
1653	28543	115	120	127	120	109	117
1654	28544	113	109	117	113	102	110
1655	28545	139	127	135	133	119	130
1656	28546	117	114	117	116	111	115
1657	28547	98	99	102	99	92	97
1658	28548	125	120	100	115	117	115
1659	28549	124	115	127	122	118	121
1660	28550	113	107	116	112	110	111
1661	28551	124	107	126	119	112	117
1662	28552	103	102	111	105	97	103
1663	28553	104	105	102	103	102	103
1664	Local Check (LC)	112	109	111	110	102	108
	Exp Mean	113	113	118	115	106	112

Table 3.48 contd.: Days to 50% flowering of entries in IVT L, Kharif 2019

Entry No.	IET NO	ZONE VI			Zone VI (2) Mean
		MA2 (1)	MA (2)	GU (1)	
		PDG	Mean	NVS	
1601	28495	120	119	129	122
1602	28496	121	120	122	121
1603	28497	110	106	98	104
1604	28498	110	106	96	104
1605	28499	100	98	101	99
1606	28500	121	112	115	116
1607	28501	121	112	111	114
1608	28502	121	111	109	113
1609	28503	107	103	101	103
1610	28504	117	115	126	119
1611	28505	126	124	130	126
1612	28506	100	99	96	98
1613	28507	115	109	113	112
1614	28508	122	113	113	116
1615	28509	120	115	118	118
1616	28510	116	115	110	113
1617	28511	117	114	115	115
1618	28512	120	111	107	112
1619	28513	121	117	120	119
1620	28514	107	104	110	107
1621	Swarna (NC)	122	115	112	116
1622	28515	121	111	109	113
1623	28516	121	112	115	116
1624	28517	126	124	112	120
1625	28518	100	97	97	98
1626	28519	122	119	131	124
1627	28520	125	122	124	123
1628	28521	122	111	97	110
1629	28522	108	107	103	106
1630	28523	106	102	100	103
1631	28524	123	112	110	115
1632	28525	129	117	114	120
1633	28526	107	102	106	105
1634	28527	128	122	130	126
1635	28528	106	105	107	106
1636	28529	113	106	104	107
1637	28530	103	102	110	105
1638	Zonal Check (ZC)	102	92	93	96
1639	28531	118	108	103	110
1640	28532	125	121	130	125
1641	28533	101	95	99	98
1642	28534	104	101	101	102
1643	27244	120	115	113	116
1644	28535	106	113	109	109
1645	28536	133	119	115	122
1646	28537	104	103	105	104
1647	28538	130	116	127	124
1648	28539	131	125	130	128
1649	28540	106	103	108	105
1650	28541	104	101	102	102
1651	PA 6444 (HC)	102	100	103	101
1652	28542	128	119	116	121
1653	28543	114	111	119	114
1654	28544	113	107	115	112
1655	28545	123	121	132	125
1656	28546	115	113	117	115
1657	28547	102	97	97	98
1658	28548	116	116	126	119
1659	28549	118	118	128	121
1660	28550	109	109	114	111
1661	28551	118	115	117	116
1662	28552	102	100	106	102
1663	28553	104	103	104	103
1664	Local Check (LC)	107	104	109	106
	Exp Mean	115	110	111	112

Table 3.48 contd.: Days to 50% flowering of entries in IVT L, Kharif 2019

Entry No.	IET NO	ZONE VII				Zone VII (2)	Overall (10)
		AP (1)	TA (1)	KA			
		MTU	ADT	@SRS	@PNP		
1601	28495	117	120	154	126	118	123
1602	28496	120	117	153	124	119	123
1603	28497	110	103	139	115	106	110
1604	28498	107	102	131	112	105	107
1605	28499	99	99	129	110	99	103
1606	28500	112	117	150	129	114	117
1607	28501	116	104	129	111	110	112
1608	28502	110	102	126	106	106	108
1609	28503	102	99	131	110	100	104
1610	28504	107	115	146	124	111	119
1611	28505	122	122	153	132	122	128
1612	28506	95	98	127	107	96	100
1613	28507	144	103	143	120	123	115
1614	28508	119	111	139	116	115	113
1615	28509	117	118	139	115	117	119
1616	28510	107	103	141	116	105	110
1617	28511	112	109	139	115	111	115
1618	28512	109	103	131	109	106	109
1619	28513	118	113	143	118	116	118
1620	28514	97	98	139	118	98	107
1621	Swarna (NC)	112	109	143	121	111	114
1622	28515	102	102	134	108	102	109
1623	28516	111	103	131	112	107	113
1624	28517	120	121	154	130	120	124
1625	28518	94	97	126	108	95	98
1626	28519	123	114	146	125	118	124
1627	28520	113	103	154	119	108	123
1628	28521	118	120	139	122	119	119
1629	28522	97	95	139	112	96	105
1630	28523	105	100	124	99	102	103
1631	28524	108	102	136	111	105	110
1632	28525	113	113	139	119	113	117
1633	28526	100	102	131	108	101	105
1634	28527	122	109	140	117	115	123
1635	28528	99	101	139	117	100	105
1636	28529	101	99	141	116	100	107
1637	28530	100	98	139	113	99	104
1638	Zonal Check (ZC)	110	106	139	110	108	98
1639	28531	102	102	133	108	102	104
1640	28532	123	119	153	124	121	125
1641	28533	99	118	131	110	108	100
1642	28534	100	106	139	127	103	103
1643	27244	113	110	145	118	111	114
1644	28535	102	102	139	110	102	110
1645	28536	113	105	143	116	109	117
1646	28537	98	99	143	116	98	104
1647	28538	113	119	153	132	116	119
1648	28539	126	113	165	139	120	123
1649	28540	107	102	136	112	104	105
1650	28541	92	122	121	94	107	102
1651	PA 6444 (HC)	99	99	131	109	99	102
1652	28542	109	119	151	125	114	121
1653	28543	113	100	139	110	106	114
1654	28544	112	104	136	109	108	110
1655	28545	125	114	157	136	119	127
1656	28546	108	107	136	106	107	115
1657	28547	94	100	124	107	97	97
1658	28548	114	117	146	120	115	119
1659	28549	116	118	143	116	117	121
1660	28550	107	97	134	109	102	110
1661	28551	114	117	143	114	116	117
1662	28552	100	101	124	99	100	103
1663	28553	102	100	136	110	101	103
1664	Local Check (LC)	113	121	145	118	117	110
	Exp Mean	109	107	139	115	108	112

Table 3.49: Plant Height (cm) of entries in IVT L, Kharif 2019

Entry No.	IET NO	ZONE III					Zone III (2)	ZONE-V		
		OD (1)	BI (1)	WB		UP		CH		
		JYP	SBR	@CHN	@PNB	@MSD		RPR	ABP	JDP
1601	28495	96	101	108	100		98	104	99	82
1602	28496	116	121	121	98	93	119	118	109	106
1603	28497	96	110	120	98	86	103	103	97	95
1604	28498	106	117	124	105	96	111	118	107	108
1605	28499	107	123	128	108	95	115	127	116	112
1606	28500	86	102	101		85	94	101	96	87
1607	28501	85	98	103	100	92	91	101	98	88
1608	28502	91	111	114	105	83	101	116	109	106
1609	28503	79	93	97	79	86	86	87	94	74
1610	28504	101	108	115	103		104	121	110	103
1611	28505	105	117	121			111	123	111	104
1612	28506	92	104	116		101	98	106	99	97
1613	28507	110	122	118	115	86	116	118	111	111
1614	28508	96	112	106	92	91	104	120	112	100
1615	28509	99	106	124	100	92	102	110	102	91
1616	28510	122	130	144	107	94	126	129	117	119
1617	28511	131	145	160	130	103	138	157	130	139
1618	28512	103	116	117	105	102	109	115	104	111
1619	28513	101	119	112	105	80	110	124	116	101
1620	28514	103	129	132	123	104	116	124	117	110
1621	Swarna (NC)	92	105	100	90	71	98	114	108	92
1622	28515	97	121	130	100	94	109	118	110	107
1623	28516	107	113	115		90	110	118	107	104
1624	28517	117	127	125	108		122	140	124	118
1625	28518	108	129	143	123	104	118	138	127	116
1626	28519	102	105	125	94	86	104	117	110	96
1627	28520	116	111	127		84	113	128	120	104
1628	28521	95	107	114	95		101	113	101	95
1629	28522	98	115	124	106	89	107	109		104
1630	28523	109	115	124	113	102	112	111	101	91
1631	28524	103	118	120	105	90	110	116	112	108
1632	28525	96	128	120	115	103	112	141	124	124
1633	28526	109	110	132	108	104	110	141	121	117
1634	28527	98	99	113	97		99	116	104	94
1635	28528	100	96	119	97	87	98	93	95	89
1636	28529	115	126	122		97	121	124	113	116
1637	28530	118	105	110	102	90	111	106	100	93
1638	Zonal Check (ZC)	99	127	114	110	94	113	118	108	111
1639	28531	105	124	122	106	100	114	108	97	101
1640	28532	105	109	122	103	87	107	121	114	101
1641	28533	114	122	122	112	88	118	114	108	118
1642	28534	103	115	122	117	92	109	231	113	108
1643	27244	103	117	118	112	83	110	118	105	111
1644	28535	111	116	141	110	87	113	119	107	108
1645	28536	92	114	114	103	90	103	115	111	98
1646	28537	81	98	107	85	70	89	76	91	90
1647	28538	101	132	124	112		117	140	122	107
1648	28539	95	102	116			98		100	77
1649	28540	96	117	121	103	81	106	106	98	117
1650	28541	101	118	123	107	85	110	113	106	93
1651	PA 6444 (HC)	107	114	115	101	78	111	109	99	99
1652	28542	115	92	118		83	103	118	109	104
1653	28543	89	111	113	96	78	100	107	100	97
1654	28544	93	110	115	100	92	101	96	95	98
1655	28545	99	100	106		72	100	118	105	101
1656	28546	113	120	121		86	116	130	116	103
1657	28547	111	123	122	117	110	117	106	108	108
1658	28548	104	99	113	542		102	100	93	100
1659	28549	97	100	116	95		99	111	101	95
1660	28550	105	116	127	107	89	111	116	105	113
1661	28551	103	104	118	97	70	104	108	105	101
1662	28552	102	116	117	105	81	109	98	96	96
1663	28553	112	116	128	108	89	114	117	106	118
1664	Local Check (LC)	107	116	139	107	90	112	175	162	148
	Exp Mean	103	113	120	113	90	108	118	108	104

Table 3.49 contd.: Plant Height (cm) of entries in IVT L, Kharif 2019

Entry No.	IET NO	Zone V		Zone V (4)	ZONE VI			Zone VI (2)
		CH (3)	MA1(1)		MA2(1)	MA (3)	GU (1)	
		Mean	SKL		PDG	Mean	NVS	
1601	28495	95	102	97	96	99	101	99
1602	28496	111	118	112	106	112	122	113
1603	28497	98	101	99	107	104	98	103
1604	28498	111	114	112	113	114	115	114
1605	28499	118	118	118	115	117	121	118
1606	28500	94	98	95	82	90	95	89
1607	28501	95	93	95	96	94	112	101
1608	28502	110	109	110	104	106	111	107
1609	28503	85	94	87	83	88	97	89
1610	28504	111	109	111	105	107	117	110
1611	28505	113	99	109	105	102	129	112
1612	28506	101	103	101	103	103	99	101
1613	28507	113	107	112	107	107	110	108
1614	28508	111	99	108	99	99	107	102
1615	28509	101	110	103	105	108	118	110
1616	28510	122	95	115	116	106	120	114
1617	28511	142	147	143	137	142	164	148
1618	28512	110	114	111	95	104	109	103
1619	28513	114	119	115	104	112	125	114
1620	28514	117	117	117	108	113	126	116
1621	Swarna (NC)	105	93	102	83	88	105	92
1622	28515	111	108	111	108	108	125	114
1623	28516	110	106	109	109	108	128	115
1624	28517	127	121	126	126	123	137	129
1625	28518	127	123	126	125	124	141	130
1626	28519	108	106	107	95	100	126	107
1627	28520	117	116	117	97	106	118	107
1628	28521	103	103	103	101	102	106	103
1629	28522	106	103	105	95	99	123	106
1630	28523	101	100	101	100	100	113	104
1631	28524	112	115	113	106	111	116	111
1632	28525	129	133	130	113	123	143	127
1633	28526	127	118	125	116	117	144	126
1634	28527	105	93	102	86	90	114	97
1635	28528	92	90	92	94	92	107	98
1636	28529	118	111	116	102	107	115	108
1637	28530	100	96	99	96	96	114	102
1638	Zonal Check (ZC)	112	128	116	104	116	130	117
1639	28531	102	106	103	106	106	116	109
1640	28532	112	119	114	105	112	128	115
1641	28533	113	119	115	110	114	114	113
1642	28534	151	107	140	107	107	119	111
1643	27244	111	105	110	107	106	116	110
1644	28535	112	124	115	110	117	128	119
1645	28536	108	99	106	98	98	123	107
1646	28537	86	95	88	82	88	106	92
1647	28538	123	119	122	136	127	90	118
1648	28539	88	106	94	78	92	130	100
1649	28540	107	100	105	103	101	123	109
1650	28541	104	113	106	110	111	154	125
1651	PA 6444 (HC)	103	99	102	107	103	132	114
1652	28542	110	115	111	105	110	125	113
1653	28543	101	116	105	104	110	145	119
1654	28544	96	103	98	97	100	138	112
1655	28545	108	104	107	89	96	133	106
1656	28546	117	99	112	103	101	133	112
1657	28547	107	120	111	108	114	137	120
1658	28548	98	101	99	84	92	116	97
1659	28549	102	93	100	92	93	130	105
1660	28550	111	103	109	102	103	133	113
1661	28551	105	105	105	104	104	137	115
1662	28552	97	103	98	106	105	142	118
1663	28553	114	114	114	103	108	162	124
1664	Local Check (LC)	162	99	146	83	91	162	112
	Exp Mean	110	108	109	103	105	123	110

Table 3.49 contd.: Plant Height (cm) of entries in IVT L, Kharif 2019

Entry No.	IET NO	ZONE VII				Zone VII (2)	Overall (10)
		AP (1)	TA (1)	KA			
		MTU	ADT	@SRS	@PNP	Mean	Mean
1601	28495	123	104	80	70	113	101
1602	28496	128	117	93	82	122	116
1603	28497	113	95	80	74	104	101
1604	28498	126	111	94	90	119	114
1605	28499	133	113	98	85	123	118
1606	28500	119	98	81	69	109	96
1607	28501	118	93	78	56	106	98
1608	28502	116	106	79	67	111	108
1609	28503	104	89	73	63	96	89
1610	28504	125	112	93	80	119	111
1611	28505	151	112	93	79	132	116
1612	28506	112	107	77	76	110	102
1613	28507	144	111	94	80	127	115
1614	28508	119	107	92	65	113	107
1615	28509	132	112	79	73	122	108
1616	28510	155	127	109	89	141	123
1617	28511	169	150	120	102	160	147
1618	28512	132	118	81	74	125	112
1619	28513	117	116	80	83	116	114
1620	28514	136	105	91	79	120	118
1621	Swarna (NC)	118	101	75	64	110	101
1622	28515	127	103	93	80	115	112
1623	28516	136	115	91	78	126	114
1624	28517	151	109	103	84	130	127
1625	28518	147	133	109	99	140	129
1626	28519	127	113	85	74	120	110
1627	28520	125	110	84	64	118	114
1628	28521	122	104	83	72	113	105
1629	28522	104	97	81	77	100	105
1630	28523	131	116	77	78	124	109
1631	28524	132	106	90	78	119	113
1632	28525	117	123	101	78	120	124
1633	28526	157	110	98	87	133	124
1634	28527	117	98	80	74	108	102
1635	28528	109	97	82	74	103	97
1636	28529	128	114	97	86	121	116
1637	28530	121	91	82	75	106	104
1638	Zonal Check (ZC)	146	98	92	80	122	117
1639	28531	137	117	92	70	127	112
1640	28532	127	131	90	77	129	116
1641	28533	126	113	103	83	120	116
1642	28534	127	116	92	80	121	124
1643	27244	144	114	91	80	129	114
1644	28535	118	131	105	80	124	117
1645	28536	132	105	89	75	119	109
1646	28537	107	88	81	58	98	91
1647	28538	147	122	107	86	135	122
1648	28539	130	93	79	63	112	101
1649	28540	140	105	82	62	122	110
1650	28541	128	96	82	77	112	113
1651	PA 6444 (HC)	131	115	87	76	123	111
1652	28542	132	107	92	80	120	112
1653	28543	131	104	89	66	118	110
1654	28544	129	92	87	69	110	105
1655	28545	140	108	89	77	124	110
1656	28546	116	106	87	72	111	114
1657	28547	120	124	93	90	122	117
1658	28548	122	96	88	71	109	102
1659	28549	121	99	84	75	110	104
1660	28550	128	112	91	76	120	113
1661	28551	118	115	82	77	117	110
1662	28552	123	108	78	71	115	109
1663	28553	138	101	88	80	120	119
1664	Local Check (LC)	129	118	102	96	123	130
	Exp Mean	129	109	89	77	119	112

Table 3.50: Panicles/m2 of entries in IVT L, Kharif 2019

Entry No.	IET NO	ZONE III					Zone III (2)	ZONE-V				
		OD (1)	BI (1)	WB		UP		CH			CH (3)	MA (1)
		JYP	SBR	@CHN	@PNB	@MSD		Mean	RPR	ABP	JDP	Mean
1601	28495	496	265	314	238		381	223	196	305	241	208
1602	28496	390	280	297	250	263	335	251	156	254	220	175
1603	28497	356	316	380	270	275	336	256	268	312	278	192
1604	28498	283	289	363	194	338	286	207	238	246	230	182
1605	28499	320	225	363	248	296	272	207	209	294	236	195
1606	28500	369	270	363		297	320	225	196	307	242	222
1607	28501	270	297	314	288	297	283	227	200	285	237	163
1608	28502	200	255	347	291	290	227	221	229	258	236	186
1609	28503	263	250	363	201	323	257	212	252	310	258	193
1610	28504	363	273	297	244		318	169	197	371	245	200
1611	28505	343	263	429			303	250	197	294	247	155
1612	28506	476	167	314		359	321	257	231	346	278	194
1613	28507	403	240	363	311	250	321	283	242	308	278	218
1614	28508	306	232	380	210	335	269	239	244	266	250	156
1615	28509	406	279	363	389	272	342	287	265	276	276	231
1616	28510	373	249	314	274	293	311	265	242	290	266	213
1617	28511	496	228	413	236	318	362	252	205	302	253	224
1618	28512	280	253	363	260	314	266	252	198	271	240	190
1619	28513	393	255	380	286	295	324	277	211	295	261	193
1620	28514	383	255	347	290	268	319	262	209	257	242	233
1621	Swarna (NC)	283	254	429	360	294	268	260	251	286	265	271
1622	28515	303	245	347	300	329	274	290	240	266	265	233
1623	28516	309	233	347		290	271	280	231	282	264	197
1624	28517	290	257	363	194		273	292	256	383	310	227
1625	28518	250	197	314	273	290	223	277	239	293	270	190
1626	28519	346	251	380	210	290	298	293	198	373	288	210
1627	28520	440	315	396		315	378	290	205	308	267	225
1628	28521	383	325	413	383		354	264	205	363	277	193
1629	28522	200	288	429	228	322	244	278		267	272	190
1630	28523	246	249	314	263	373	248	193	232	272	232	218
1631	28524	376	312	380	290	265	344	241	248	248	246	210
1632	28525	376	235	314	209	270	305	276	226	323	275	189
1633	28526	280	250	413	285	269	265	273	224	290	262	210
1634	28527	260	277	314	213		268	282	206	310	266	228
1635	28528	296	245	363	275	258	270	246	223	245	238	223
1636	28529	340	158	314		320	249	252	194	293	246	219
1637	28530	323	277	347	191	295	300	277	214	277	256	180
1638	Zonal Check (ZC)	366	203	512	260	266	284	241	238	287	255	177
1639	28531	210	212	429	225	347	211	239	229	270	246	228
1640	28532	280	282	479	238	301	281	226	196	320	247	198
1641	28533	256	355	314	267	276	305	249	239	300	263	282
1642	28534	300	224	363	328	294	262	263	212	315	263	184
1643	27244	273	278	380	249	294	275	263	239	257	253	172
1644	28535	376	246	330	279	293	311	279	222	251	251	218
1645	28536	366	281	380	278	299	323	298	256	237	263	171
1646	28537	240	196	314	251	235	218	291	195	235	240	161
1647	28538	293	234	347	189		263	242	222	295	253	228
1648	28539	486	257	363			371		185	320	252	210
1649	28540	176	243	396	276	263	209	307	212	251	257	182
1650	28541	403	293	314	307	286	348	322	250	299	290	167
1651	PA 6444 (HC)	380	259	330	317	294	319	339	280	343	321	163
1652	28542	500	278	347		295	389	274	266	302	281	215
1653	28543	308	289	281	308	284	298	188	218	270	225	201
1654	28544	400	305	380	281	347	352	200	238	298	245	246
1655	28545	550	303	413		290	426	170	200	337	235	178
1656	28546	383	275	363		282	329	245	223	288	252	212
1657	28547	393	212	314	268	351	302	188	200	344	244	219
1658	28548	303	270	347	243		287	248	223	315	262	175
1659	28549	373	265	396	233		319	271	200	265	245	213
1660	28550	365	243	347	316	275	304	341	217	314	291	191
1661	28551	230	229	297	299	250	229	194	248	257	233	250
1662	28552	256	260	347	247	295	258	236	218	194	216	228
1663	28553	230	247	363	300	290	238	207	232	266	235	252
1664	Local Check (LC)	226	243	380	262	318	235	186	211	229	209	280
	Exp Mean	334	257	360	266	296	296	252	223	290	255	205

Table 3.50 contd.: Panicles/m² of entries in IVT L, Kharif 2019

Entry No.	IET NO	Zone V (4)	ZONE VI			Zone VI (2)
			MA2 (2)	MA (2)	GU (1)	
		Mean	PDG	Mean	NVS	Mean
1601	28495	233	179	193	191	187
1602	28496	209	160	167	181	169
1603	28497	257	207	199	174	193
1604	28498	218	196	189	175	186
1605	28499	226	148	172	192	170
1606	28500	237	182	202	199	194
1607	28501	218	225	194	219	212
1608	28502	224	192	189	200	194
1609	28503	241	162	177	251	197
1610	28504	234	163	181	246	196
1611	28505	224	204	179	225	203
1612	28506	257	199	196	229	208
1613	28507	263	211	215	241	222
1614	28508	226	226	191	191	203
1615	28509	265	206	219	242	222
1616	28510	252	322	267	236	275
1617	28511	246	208	216	207	210
1618	28512	228	243	216	260	239
1619	28513	244	171	182	231	194
1620	28514	240	209	221	261	230
1621	Swarna (NC)	267	217	244	245	235
1622	28515	257	274	253	222	250
1623	28516	247	186	191	249	208
1624	28517	289	221	224	245	230
1625	28518	250	198	194	246	213
1626	28519	268	217	213	266	232
1627	28520	257	274	250	265	263
1628	28521	256	267	230	271	256
1629	28522	245	161	175	206	180
1630	28523	229	187	202	245	211
1631	28524	237	164	187	198	183
1632	28525	253	144	166	233	181
1633	28526	249	162	186	216	188
1634	28527	256	263	245	203	237
1635	28528	234	208	215	210	211
1636	28529	239	240	229	204	224
1637	28530	237	179	179	229	196
1638	Zonal Check (ZC)	236	195	186	243	208
1639	28531	241	237	232	189	219
1640	28532	235	179	188	237	201
1641	28533	267	185	233	177	198
1642	28534	243	214	199	266	226
1643	27244	233	209	191	241	214
1644	28535	242	159	188	252	200
1645	28536	240	154	162	205	173
1646	28537	220	156	158	261	191
1647	28538	246	157	192	218	189
1648	28539	238	157	184	235	192
1649	28540	238	174	178	254	202
1650	28541	259	172	170	217	186
1651	PA 6444 (HC)	281	232	197	227	219
1652	28542	264	195	205	243	214
1653	28543	219	170	185	241	199
1654	28544	245	217	232	226	225
1655	28545	221	155	166	258	193
1656	28546	242	193	203	227	208
1657	28547	237	220	219	245	228
1658	28548	240	225	200	256	227
1659	28549	237	188	200	241	209
1660	28550	266	193	192	233	206
1661	28551	237	194	222	246	220
1662	28552	219	153	190	190	178
1663	28553	239	224	238	262	241
1664	Local Check (LC)	226	251	265	220	245
	Exp Mean	243	199	202	228	210

Table 3.50 contd.: Panicles/m² of entries in IVT L, Kharif 2019

Entry No.	IET NO	ZONE VII				Zone VII (2)	Overall (10)
		AP (1)	TA (1)	KA			
		MTU	ADT	@SRS	@PNP	Mean	Mean
1601	28495	314	235	270	358	274	261
1602	28496	310	321	356	308	316	248
1603	28497	287	239	314	358	263	261
1604	28498	323	227	228	347	275	237
1605	28499	317	324	231	391	320	243
1606	28500	294	253	321	385	273	251
1607	28501	317	214	276	363	265	241
1608	28502	290	306	339	424	298	234
1609	28503	304	275	296	396	289	247
1610	28504	353	302	258	407	327	263
1611	28505	330	268	317	319	299	253
1612	28506	314	238	302	347	276	265
1613	28507	284	292	326	534	288	272
1614	28508	314	296	306	402	305	247
1615	28509	323	344	282	369	334	286
1616	28510	350	262	254	325	306	280
1617	28511	337	264	287	297	300	272
1618	28512	307	277	272	391	292	253
1619	28513	284	288	294	374	286	260
1620	28514	327	250	272	303	288	264
1621	Swarna (NC)	330	241	323	622	286	264
1622	28515	304	297	347	319	300	267
1623	28516	330	322	302	336	326	262
1624	28517	327	214	290	330	270	271
1625	28518	320	274	353	314	297	248
1626	28519	363	294	299	363	329	281
1627	28520	323	266	287	440	295	291
1628	28521	340	302	353	435	321	291
1629	28522	304	247	251	391	275	238
1630	28523	327	326	353	396	326	249
1631	28524	323	316	302	380	319	264
1632	28525	310	300	326	369	305	261
1633	28526	330	310	255	407	320	254
1634	28527	297	243	344	385	270	257
1635	28528	323	318	308	347	321	254
1636	28529	337	272	233	319	304	251
1637	28530	307	176	302	413	241	244
1638	Zonal Check (ZC)	347	332	318	319	339	263
1639	28531	333	280	338	352	307	243
1640	28532	314	311	338	424	312	254
1641	28533	307	278	341	391	292	263
1642	28534	317	353	326	396	335	265
1643	27244	333	244	312	429	288	251
1644	28535	317	290	251	347	303	261
1645	28536	310	246	284	336	278	252
1646	28537	277	223	248	363	250	223
1647	28538	383	240	314	352	311	251
1648	28539	340	232	275	435	286	269
1649	28540	320	274	263	363	297	239
1650	28541	333	223	332	336	278	268
1651	PA 6444 (HC)	370	317	251	407	343	291
1652	28542	337	317	380	374	327	293
1653	28543	337	296	248	468	316	252
1654	28544	314	238	308	396	276	268
1655	28545	317	305	329	352	311	277
1656	28546	317	250	287	352	283	261
1657	28547	323	306	299	341	314	265
1658	28548	343	332	375	352	338	269
1659	28549	317	255	257	402	286	258
1660	28550	317	272	293	424	294	268
1661	28551	294	218	299	418	256	236
1662	28552	281	252	302	347	266	227
1663	28553	300	227	260	308	264	244
1664	Local Check (LC)	330	319	275	380	325	249
	Exp Mean	320	275	299	377	298	258

ADVANCE VARIETY TRIAL 1 - BORO (AVT 1- BORO) 2018-19**Locations: 05****Test Entries: 10****Checks: Gautam, IR 64 and Local Check.****Table: 3.51**

Advanced Variety Trial 1 – Boro was constituted with 10 test entries and three checks namely IR 64, Gautam and Local Check. Of the 10 test entries, one entry (IET 27318) was in second year and nine entries were in third year of testing. The trial was sent to 12 locations and data was received from five locations namely Cuttack (NRRI), Pusa, Pundibari, Lembuchera and Arundhatinagar.. The data from five locations was considered for analysis and identification of promising entries in Zone III and IV.

On overall basis, experimental mean yield ranged from 5160 kg/ha (IR 64) to 5866 kg/ha (Local check), days to 50% flowering from 109 (Local check) to 115 days (IET 26435, 26448, 26451). Among checks, Local check recorded maximum grain yield of 5866 kg/ha and none of the test entries recorded superior yield over the best check. The data pertaining to yield, days to 50% flowering, plant height, number of panicles/m² and quality are presented in tables 3.52, 3.53, 3.54, 3.55 and 3.56 respectively.

In Zone III, data from three locations (Cuttack, Pusa and Pundibari) was considered for analysis. Experimental mean yield ranged from 5241 kg/ha (Gautam) to 3872 kg/ha (IR64), days to 50% flowering from 135 (IET 26451) to 123 days (Local check). Among checks, Gautam recorded maximum grain yield of 5241 kg/ha and none of the test entries recorded superior yield over the best check.

In Zone IV, data from Arundhatinagar and Lembuchera was considered for analysis. Experimental mean yield ranged from 5141 kg/ha (Gautam) to 7695 kg/ha (IET 26435), days to 50% flowering from 87 days (Gautam, IET 26440 and IR 64) to 97 (IET 26448). Among checks, Local check recorded maximum grain yield of 7293 kg/ha, while ***among the test entries, IET 26435 recorded 5.51% yield superiority over the best check.***

Performance of superior test entries AVT 1- Boro during 2018-19 in Zone IV

S. No.	IET No./ Designation/ Cross Combination	Grain Yield (Kg/ha) Days to 50% Flowering Grain Type	% Yield superiority over checks (Gautam/IR64/ LC)	HRR/ ASV/ AC/ GC
1	IET 26435 TRC 2016-14 Pyzum / Samba Mahsuri	7695 94 LS	49.6 8.5 5.5	61.5 4.0 18.5 75
	Gautam	5141 87		
	IR64	7092 87		
	Local Check	7293 88		

Three-year performance of test entries in boro trials

A total of nine test entries have completed three year of testing in boro trials. Of the nine test entries, eight entries failed to record yield superiority over best check in the third year of testing, hence, these eight test entries were discontinued. The performance of these test entries is provided in table and discussed below.

IET No.	Year	Yield Advantage % over Best Check				Remarks
		Zone III	State	Zone IV	State	
IET 26453	2016-17	-	-	36	TR-36	Discontinued
	2017-18	7	WB-13	24	AS-38 TR-10	
	2018-19	-	-	-	-	
IET 26463	2016-17	20	OD-18	-	-	Discontinued
	2017-18	30	WB-11 OD-40	8	AS-25	
	2018-19	-	-	-	-	
IET 26431	2016-17	-	WB-36	92	TR-92	Discontinued
	2017-18	37	WB-29 OD-31	19	AS-50	
	2018-19	-	-	-	-	
IET 26435	2016-17	24	OD-41 WB-26	38	TR-38	Promising in Zone IV for the state of Tripura
	2017-18	-	-	21	AS-25 TR-18	
	2018-19	-	-	5.5	TR-5.5	
IET 26448	2016-17	-	WB-6	56	TR-56	Discontinued
	2017-18	-	-	-	AS-7	
	2018-19	-	-	-	-	
IET 26432	2016-17	7	OD-22	39	TR-39	Discontinued
	2017-18	-	OD-46	-	AS-37	
	2018-19	-	-	-	-	
IET 26440	2016-17	-	BI-5 WB-9	24	TR-24	Discontinued
	2017-18	-	OD-8	27	AS-28 TR-27	
	2018-19	-	-	-	-	
IET 26451	2016-17	-	-	42	TR-42	Discontinued
	2017-18	-	BI-7	18	AS-18	
	2018-19	-	-	-	-	
IET 26434	2016-17	13	OD-26	64	TR-64	Discontinued
	2017-18	-	-	10	AS-32	
	2018-19	-	-	-	-	

IET 26435 (TRC 2016-14) derived from cross Pyzum / Samba Mahsuri has showed consistent yield superiority over best check in the second and third year of testing in Zone IV for the state of Tripura. The test entry recorded 21% and 5.5% yield superiority in Zone IV, while it recorded 18% and 5.5% yield advantage in state of Tripura in the second and third year of testing respectively. Further, it possess long slender grain type and recorded 61.5% HRR, 4.0 ASV, 18.5% AC, 75mm GC as desirable grain quality parameters. Hence, **IET 26435 (TRC 2016-14) found promising in Zone IV for the state of Tripura.**

INITIAL VARIETY TRIAL -BORO (IVT - BORO) 2018-19**Locations: 06****Test Entries: 22****Checks: IR-64 (National), Gautam (Zonal), Rajalakshmi (Hybrid) and Local Check. Table: 3.57**

The Initial variety trial – Boro (2018-19) was constituted with 22 test entries and four checks namely IR- 64 (National), Gautam (Zonal), Rajalakshmi (Hybrid) and a Local Check. All 22 test entries were in 1st year of testing. The trial was sent to 12 typical Boro locations but data was received from only six locations viz., NRRI Cuttack, Pusa, Chinsurah, Pundibari, Lembucherra and Arundhutinagar. Out of these six locations, data from Pusa was not considered for analysis due to low experimental mean (3919 kg/ha) and high CV (21.84); whereas data from Chinsurah was not considered due to low CV (3.5%). Experimental mean yield ranged from 3919 kg/ha at Pusa to 6561 kg/ha at Arundhutinagar. The CV% of the test locations ranged from 3.5% (Chinsurah) to 21.84% (Pusa). Days to 50% flowering ranged from 116 days (IET 28091) to 134 days (IET 28105). Plant height of the entries ranged from 99 cm (Gautham, RC) to 125 cm (IET 28109), while the panicles per square meter ranged from 300 (IET 28090) to a maximum of 434 (IET 28104). The data pertaining to yield, days to 50% flowering, plant height, no. of panicles/m² are presented in tables 3.58, 3.59, 3.60 and 3.61 respectively.

The hybrid check (Rajalakshmi) recorded highest yield of 6799 kg/ha in overall mean, followed by Gautam, (Regional Check, 5783 kg/ha), local check (5762 kg/ha) and IR 64 (national check, 5630 kg/ha). Of the 22 test entries, IET's 28102 (12.93%), 28091 (11.53%), 28089 (6.33%), and 28109 (6.27%) recorded the required yield superiority over the best varietal check (Regional check, Gautam) on overall mean. On zonal mean basis, the entries, IETs 28089, 28102, 28109, 28092 and 28099 recorded required yield superiority over best varietal check (local check) in Zone III whereas none of the entries out yielded the best varietal check, Gautam (RC) in Zone IV. **Therefore, six entries viz., IETs 28102, 28091, 28089, 28109, 28092 and 28099 are promoted to second year of testing.**

Performance of entries in Initial Variety Trial –Boro (IVT-BORO) 2018-19

Rank	IET No/ Designation Cross combination	GY/ FD/ GT	%Superiority over NC, RC, LC, HC	% Increase over BC (Zonal)				% Increase over BC (State)			
				Rank	Yield	% BVC	% HC	Rank	Yield	% BVC	% HC
1	28102 PUR-B-124 Bhog Jeera 1 / Gontra Bidhan 1	6530 118 LB	15.99 12.93 13.33 -	III 3	5542	10.98	17.91	OD 5 WB 4	5950 5133	8.58 9.76	26.6 NA
2	28091 CR 3856-44-22-2-1- 10-3-1 IR 73963-86-1-5-2-2 / CR 2324-1	6449 116 MS	14.55 11.53 11.92 -	-	-	-	-	-	-	-	-
3	28089 KAUM250-1-1-1-1-1 Pokkali / Thavalakkannan	6148 131 MB	9.2 6.33 6.7 -	III 2	6050	21.16	28.72	OD 4	6050	10.4	28.72

Rank	IET No/ Designation Cross combination	GY/ FD/ GT	%Superiority over NC, RC, LC, HC	% Increase over BC (Zonal)				% Increase over BC (State)			
				Rank	Yield	% BVC	% HC	Rank	Yield	% BVC	% HC
4	28109 CR 3883-3-1-5-2-1-2 Annapurna / FL 378 // Annapurna	6145	9.15	III 1	6339	26.95	34.88	OD 1	6655	21.44	41.6
		125	6.27					WB 1	6023	28.79	NA
		LS	6.65								
			-								
5	28092 (Hybrid) CRHR 129 -	5869	4.25	III 3	5775	15.65	22.87	OD 6	5775	5.38	22.8
		130	1.49								
		MS	1.86								
			-								
6	28099 CR 3983-2-1-1-2-1 IR 64 / IET 21692 // IET 23448	5884	4.51	III 5	5282	5.77	12.38	WB 3	5163	10.4	NA
		121	1.75								
		LS	2.12								
			-								
	IR 64 (NC)	5630									
		121									
	Gautam (ZC)	5783									
		119									
	Rajalakshmi (HC)	6799									
		117									
	Local Check (LC)	5762									
		119									

NA- Data not available

**List of entries found promising and promoted to second year of testing during 2018-2019
IVT BORO.**

Sl. No.	IET No.	% increase in grain yield over best check		
		Over all	Zone 3	Zone 4
1	28102	12.91	11.1	-
2	28091	11.52	-	-
3	28089	6.31	21.16	-
4	28109	6.26	26.95	-
5	28092	-	15.65	-
6	28099	-	5.78	-

Table 3.51: Composition of entries in Advance Variety Trial 1- Boro (AVT 1- BORO) 2018-19

IET No.	Designation	Cross combination	GT
3rd Year of testing			
26453	PUR-B-36	Annada / GB-1	SB
26463	CR 3511-18-1-1-2-1-1	IR 36 / Surendra	SB
26431	YNP 7023	MTU 1010 / GB 3	LS
26435	TRC 2016-14	Pyzum / Samba Mahsuri	LS
26448	CR 3942-2	MTU 1010 / Improved Lalat	LS
Gautam (Check)			
26432	CR4033-1-2-1-1-1	CR Dhan 203 / CR Dhan 305	LS
26440	TRC 2016-18	TRC 87-251 / Samba Mahsuri	SS
IR 64 (Check)			
26451	CR 3516-11-2-2-1-1	IR 36 / Pusa 44	SB
2nd Year of testing			
27318	KAUM -242-4-2-1-1-1	Jyothy / JO 345	MS
3rd Year of testing			
26434	CR 4032-1-3-2-1-1	CR Dhan 201 / CR Dhan 203	LS
Local Check (LC)			

Table 3.52: Grain yield (Kg/ha) of AVT 1-Boro for zone - III & IV, 2018-19

IET No.	Zone III							
	OD(1)		BI(1)		WB(1)		Zone III (3)	
	CTK		PSA		PNB		Mean	
26453	4947	9	3867	9	5133	2 10%	4649	7
26463	5940	4	3617		2333		3963	
26431	4620		5750	1 9%	4167	9	4846	5
26435	4960	8	3667	10	4400	8	4342	9
26448	5040	7	4983	6	4433	7	4819	6
Gautam Check	6257	1	5000	4	4467	6	5241	1
26432	6133	2	3933	7	4927	3 6%	4998	2
26440	4167		3083		5400	1 16%	4217	
IR 64 Check	4800	10	2150		4667	5	3872	
26451	5963	3	5217	3	2600		4593	8
27318	4280		4983	5	3533		4265	10
26434	5853	5	3883	8	4833	4	4856	4
Local Check	5393	6	5283	2	4067	10	4914	3
Exp. Mean	5257.95		4262.82		4227.69		4652.22	
CD	674.87		1084.23		1070.77		665.28	
CV%	7.62		15.09		15.03		8.49	
D/S	25-12-2018		18-12-2018		05-01-2019			
D/P	18-02-2019		23-02-2019		23-02-2019			
Local Check Name	CR Dhan 310		Gautam		Nobin			

Table 3.52 contd.: Grain yield (Kg/ha) of AVT 1-Boro for zone - III & IV, 2018-19

IET No.	Zone IV								Ovearll (5)	
	TR				TR(2)		Zone IV (2)		Mean	
	ARD		LMB		Mean		Mean			
26453	6625	8	5693	10	6159	8	6159	8	5253	8
26463	7505	5	6450	8	6978	6	6978	6	5169	
26431	7810	3	6936	4	7373	2	7373	2	5857	2
26435	7870	2	7519	1	7695	1	7695	1 5.51%	5683	3
26448	5283		6860	5	6072		6072		5320	7
Gautam Check	5414		4868		5141		5141		5201	9
26432	6649	7	5553		6101	9	6101	9	5439	5
26440	7646	4	6520	7	7083	5	7083	5	5363	6
IR 64 Check	6882	6	7302	2	7092	4	7092	4	5160	
26451	6446	10	5684		6065		6065		5182	10
27318	6049		6095	9	6072	10	6072	10	4988	
26434	6543	9	6950	3	6747	7	6747	7	5612	4
Local Check	7882	1	6703	6	7293	3	7293	3	5866	1
Exp. Mean	6815.67		6394.87		6605		6605		5392	
CD	867.88		513.47		623.05		623.05		479.6	
CV%	7.56		4.76		5.6		5.6		5.18	
D/S	07-01-2019		22-12-2018							
D/P	15-02-2019		11-01-2019							
Local Check Name	Naveen									

Table 3.53: Days to 50% flowering of AVT1-Boro for zone - III & IV, 2018-19

IET No.	Zone III				Zone IV				Ovearll (5)
	OD(1)	BI(1)	WB(1)	Zone III (3)	TR		TR(2)	Zone IV (2)	Mean
	CTK	PSA	PNB	Mean	ARD	LMB	Mean	Mean	
26453	120	143	128	130	88	88	88	88	113
26463	129	129	131	130	91	91	91	91	114
26431	124	141	136	134	91	91	91	91	117
26435	130	134	136	133	94	94	94	94	118
26448	127	136	136	133	97	97	97	97	118
Gautam Check	117	144	123	128	87	87	87	87	112
26432	128	136	126	130	88	88	88	88	113
26440	122	136	123	127	87	87	87	87	111
IR 64 Check	115	141	126	127	87	87	87	87	111
26451	133	137	135	135	91	91	91	91	118
27318	118	143	134	132	92	92	92	92	116
26434	129	139	133	134	88	88	88	88	115
Local Check	118	135	117	123	88	88	88	88	109
Exp. Mean	123.90	137.82	129.42	130.38	89.87	89.87	89.87	89.87	114.18

Table 3.54: Plant Height (cm)of AVT 1-Boro for zone - III & IV, 2018-19

IET No.	Zone III				Zone IV				Ovearll (5)
	OD(1)	BI(1)	WB(1)	Zone III (3)	TR		TR(2)	Zone IV (2)	Mean
	CTK	PSA	PNB	Mean	ARD	LMB	Mean	Mean	
26453	61	104	65	77	75	83	79	79	78
26463	96	99	113	103	121	122	121	121	110
26431	80	84	84	83	92	95	94	94	87
26435	92	73	96	87	105	114	109	109	96
26448	97	75	116	96	124	120	122	122	106
Gautam Check	80	71	93	81	102	108	105	105	91
26432	100	78	101	93	120	121	120	120	104
26440	89	87	93	90	103	113	108	108	97
IR 64 Check	74	104	92	90	113	110	111	111	99
26451	101	89	103	97	122	122	122	122	107
27318	83	87	84	85	119	121	120	120	99
26434	103	84	106	98	91	101	96	96	97
Local Check	102	112	107	107	120	119	119	119	112
Exp. Mean	89.08	88.23	96.35	91.22	108.28	111.36	109.82	109.82	98.66

Table 3.55: No. of Panicles/m2 of AVT1-Boro for zone - III & IV, 2018-19

IET No.	Zone III				Zone IV				Ovearll (5)
	OD(1)	BI(1)	WB(1)	Zone III (3)	TR		TR(2)	Zone IV (2)	Mean
	CTK	PSA	PNB	Mean	ARD	LMB	Mean	Mean	
26453	356	195	229	260	360	321	340	340	292
26463	492	211	223	309	354	323	338	338	321
26431	553	215	272	347	343	355	349	349	348
26435	509	227	239	325	364	352	358	358	338
26448	452	268	218	312	314	337	326	326	318
Gautam Check	623	198	240	354	318	313	315	315	338
26432	456	148	308	304	350	320	335	335	316
26440	490	249	304	347	350	309	330	330	340
IR 64 Check	519	197	351	356	350	354	352	352	354
26451	464	257	207	309	379	319	349	349	325
27318	576	236	360	391	320	325	323	323	363
26434	475	250	226	317	350	353	351	351	331
Local Check	460	207	266	311	370	331	351	351	327
Exp. Mean	494.28	219.77	264.69	326.25	347.87	331.62	339.74	339.74	331.65

Table 3.56: Grain quality characteristics of entries in AVT 1-Boro 2018-19

IET NO.	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
26453	77.9	69.4	64.5	4.81	2.13	2.25	SB	OC	4.0	24.72	22
26463	79.0	70.6	58.2	5.19	2.11	2.45	SB	VOC	4.0	24.11	22
26431	80.3	71.8	67.1	6.25	2.03	3.07	LS	VOC	4.0	26.04	22
26435	79.2	70.2	61.5	6.57	2.03	3.23	LS	VOC	4.0	18.50	75
26448	77.4	68.6	60.7	6.43	1.91	3.36	LS	VOC	4.0	27.01	28
Gautam	79.0	68.5	57.3	5.53	2.09	2.64	MS	VOC	7.0	24.17	49
26432	77.2	68.3	57.6	6.26	2.04	3.06	LS	OC	3.0	18.56	77
26440	77.7	65.5	51.8	5.86	1.91	3.06	SS	VOC	7.0	23.23	22
IR 64	78.0	66.9	57.7	6.48	1.96	3.30	LS	VOC	4.0	21.50	53
26451	79.4	68.4	60.2	5.24	2.35	2.22	SB	VOC	4.0	27.63	46
27318	80.7	68.8	57.8	5.51	2.18	2.52	MS	VOC	7.0	27.42	45
26434	76.3	65.0	55.0	6.61	2.00	3.30	LS	VOC	4.0	27.95	22

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB: Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

Table 3.57: Composition of entries in Initial Variety Trial - Boro (IVT- BORO) 2018-19

Entry No.	IET No.	Designation	Cross combination	GT
1st Year of testing				
5101	28089	KAUM 250-1-1-1-1-1	Pokkali / Thavalakkannan	MB
5102	28090	PUR-B-111	Pusa Basmati 1 / MTU 1010	SB
5103	28091	CR 3856-44-22-2-1-10-3-1	IR 73963-86-1-5-2-2 / CR 2324-1	MS
5104	28092	CRHR 129 (Hybrid)	-	MS
5105	28093	MEPH-150 (Hybrid)	-	
5106	28094	CR 3882-7-1-6-2-1-3	Annapurna / FL 378 // Annapurna	LS
5107	Gautam (Check)			
5108	28095	PRR 3003	IET 4786 / IR 64	LS
5109	28096	KAUM 242-4-2-1-1-1	Jyothi / JO 345	LB
5110	28097	CR 3856- 76-1-1-2-1-1-1-1	IR 73963-86-1-5-2-2 / CR 2324-1	MB
5111	28098	CR 3878-245-2-4-1	Gayatri / FL 496	MB
5112	28099	CR 3983-2-1-1-2-1	IR 64 / IET 21692 // IET 23448	LS
5113	28100	RAU 1397-18-3-7-9-4-7	IR 36 / Type 3	LS
5114	28101	CRHR 140 (Hybrid)	-	MS
5115	28102	PUR-B-124	Bhog Jeera 1 / Gontra Bidhan 1	LB
5116	IR 64 (Check)			
5117	28103	CR 4043-3-1-2-1-1	CR 203 / IET 23467 // IET 21920	MS
5118	28104	TPUR-B-1	Tulaippanji Mutant	MS
5119	28105	PRH 8005 (Hybrid)	-	LS
5120	28106	CR 3946-1-2-1-1-1	Ankit / IET 21920	LS
5121	28107	CRHR 139 (Hybrid)	-	LS
5122	Rajalakshmi (Hybrid Check)			
5123	28108	MEPH-151 (Hybrid)	-	
5124	28109	CR 3883-3-1-5-2-1-2	Annapurna / FL 378 // Annapurna	LS
5125	28110	CR 3856-76-11-2-2-1-3-1	IR 73963-86-1-5-2-2 / CR 2324-1	MS
5126	Local Check (LC)			

Table 3.58: Grain yield (Kg/ha) of IVT-Boro for zone - III & IV, 2018-19

Entry No	IET No	Zone III								Zone III (2)	
		OD(1)		BI	WB			WB(1)		Mean	
		CTK		PSA@	CHN@	PNB		Mean		Mean	
5101	28089	6050	4 10.40% # 28.72%	3825						6050	2* 21.16% # 28.72%
5102	28090	5010	10 6.60%	2850		2910		2910		3960	
5103	28091	3955		3625						3955	
5104	28092	5775	6 5.38% 22.87%	3175						5775	3 15.65% #22.87%
5105	28093	4250		3950		4667	7	4667	7	4458	
5106	28094	4030		5100	5	4189		3233		3632	
5107	Gautam Check	4530		2000		4298		3733		4132	
5108	28095	3060		3750		5132	10	4827	5	3943	
5109	28096	4430		3075		4211		4600	8	4515	
5110	28097	3730		5175	3	4627		2667		3198	
5111	28098	6070	3 10.77% # 29.15%	3800		6316	2	3963		5017	7 6.74%
5112	28099	5400	8 14.90%	3725		6820	1	5163	3 10.40%	5282	5 5.77% 12.38%
5113	28100	3500		5300	1	5548	4	3860		3680	
5114	28101	4735		4850	6					4735	10
5115	28102	5950	5 8.58% # 26.60%	4200	10	5000		5133	4 9.76%	5542	4 10.98% 17.91%
5116	IR 64 Check	3930		2138		5504	6	4677	6	4303	
5117	28103	4610		3600		5636	3	5290	2 13.11%	4950	9 5.32%
5118	28104	5015	9 6.60%	4850	6	5088		4117		4566	
5119	28105			4725	9	5526	5	4567	9	4567	
5120	28106	4190		5150	4	5329	9	4367		4278	
5121	28107	6145	2 12.14% # 30.74%	3200				4167		5156	6 9.70%
5122	Rajalaxmi Hybrid Check	4700		2650						4700	
5123	28108	4135		5250	2	5461	7	4160		4148	
5124	28109	6655	1 * 21.44% # 41.60%	3625		5022		6023	1* 28.79%	6339	1* 26.95% # 34.88%
5125	28110	4290		3500				4070		4180	
5126	Local Check	5480	7 16.60%	4800	8	5417	8	4507	10	4993	8
	Mean	4785		3919		5243		4319		4617	
	CD%	1160.00		1763.48		391.27		1018.29		850.48	
	CV%	11.75		21.84		3.50		11.30		8.94	
	D/S	25-12-2018		18-12-2018	31-12-2018		05-01-2019				
	D/P	18-02-2019		23-02-2019	18-02-2019		23-02-2019				
	Local Check Name	CR Dhan 310		Gautam	Ajit		Nobin				

Table 3.58 contd.: Grain yield (Kg/ha) of IVT-Boro for zone - III & IV, 2018-19

Entry No	IET No	Zone IV						Zone IV (2)		Overall (4)	
		TR			TR (2)			Mean		Mean	
		ARD		LMB	Mean			Mean		Mean	
5101	28089	6285		6110		6198		6198		6148	5 6.33%
5102	28090	6965	9	6615		6790	10	6790	10	5375	
5103	28091	7900	3 4.22%	7493	3	7697	3	7697	3	6449	3 11.53%
5104	28092	5935		5898		5916		5916		5869	9
5105	28093	6470		6188		6329		6329		5394	
5106	28094	4595		4276		4435		4435		4033	
5107	Gautam Check	7580	5	7287	5	7434	5	7434	5	5783	
5108	28095	6900	10	6930	8	6915	9	6915	9	5429	
5109	28096	7180	7	7021	7	7100	7	7100	7	5808	
5110	28097	4675		4719		4697		4697		3948	
5111	28098	6005		6027		6016		6016		5516	
5112	28099	7105	8	5869		6487		6487		5884	8
5113	28100	6105		6563		6334		6334		5007	
5114	28101	6585		7648	2 4.95%	7117	6	7117	6	6323	4 9.34%
5115	28102	7845	4	7194	6	7519	4	7519	4	6530	2 12.93%
5116	IR 64 Check	7440	6	6473		6956	8	6956	8	5630	
5117	28103	6480		6829	9	6655		6655		5802	
5118	28104	6880		4953		5917		5917		5241	
5119	28105	5010		5571		5291		5291		5049	
5120	28106	5725		6257		5991		5991		5135	
5121	28107	6395		6764	10	6580		6580		5868	10
5122	Rajalaxmi Hybrid Check	8230	1	7466	4	7848	2	7848	2	6799	1
5123	28108	8055	2 6.27%	7740	1 6.21% 3.66%	7897	1 6.24%	7897	1 6.24%	6022	7 4.15%
5124	28109	6100		5802		5951		5951		6145	6 6.27%
5125	28110	5425		5368		5396		5396		4788	
5126	Local Check	6715		6347		6531		6531		5762	
	Mean	6561		6362		6461		6461		5605	
	CD%	1647		1019		1173		1173		758.54	
	CV%	12.18		7.77		8.82		8.82		6.57	
	D/S	29-12-2018			22-12-2018						
	D/P	01-02-2019			10-01-2019						
	Local Check Name	Naveen									

Table 3.59: Days to 50% flowering of IVT-Boro for zone - III & IV, 2018-19

Entry No	IET No	Zone III					Zone III (2)	Zone IV (1)	Overall (3)
		OD(1)	BI	WB		WB(1)		TR (1)	
		CTK	PSA@	CHN@	PNB	Mean	Mean	ARD	
5101	28089	129	143				129	133	131
5102	28090	117	129		128	128	123	120	122
5103	28091	115	143				115	118	116
5104	28092	128	141				128	133	130
5105	28093	115	135		125	125	120	113	118
5106	28094	127	131	118	128	128	128	121	125
5107	Gautam Check	119	134	111	123	123	121	116	119
5108	28095	117	136	104	128	128	123	113	119
5109	28096	126	137	118	129	129	128	121	125
5110	28097	127	141	117	135	135	131	122	128
5111	28098	126	136	119	126	126	126	118	123
5112	28099	116	138	115	125	125	120	122	121
5113	28100	122	144	116	128	128	125	122	124
5114	28101	132	130				132	132	132
5115	28102	112	144	112	129	129	120	113	118
5116	IR 64 Check	119	135	114	125	125	122	120	121
5117	28103	126	131	115	126	126	126	122	124
5118	28104	119	131	111	129	129	124	113	120
5119	28105		129	119	134	134	134	133	134
5120	28106	127	126	126	129	129	128	133	130
5121	28107	125	138		128	128	126	133	129
5122	Rajalaxmi Hybrid Check	116	137				116	118	117
5123	28108	118	134	116	128	128	123	118	121
5124	28109	116	134	108	129	129	122	118	121
5125	28110	128	131		129	129	128	121	126
5126	Local Check	120	136	107	116	116	118	121	119
	Mean	121	135	114	127	127	124	122	123

Table 3.60: Plant Height (cm) of IVT-Boro for zone - III & IV, 2018-19

Entry No	IET No	Zone III					Zone III (2)	Zone IV (2)		Overall (4)
		OD(1)	BI	WB		WB(1)		TR (2)		
		CTK	PSA@	CHN@	PNB	Mean	Mean	ARD	LMB	Mean
5101	28089	129	104				129	112	114	118
5102	28090	118	99		116	116	117	116	117	117
5103	28091	115	84				115	115	116	115
5104	28092	128	105				128	108	119	118
5105	28093	115	73		96	96	106	92	98	100
5106	28094	128	75	100	126	126	127	124	121	124
5107	Gautam Check	119	71	94	89	89	104	94	95	99
5108	28095	118	78	91	99	99	108	89	92	100
5109	28096	126	87	88	90	90	108	93	96	101
5110	28097	128	78	119	103	103	115	107	109	112
5111	28098	126	104	108	96	96	111	112	114	112
5112	28099	115	89	107	114	114	115	116	113	115
5113	28100	121	87	110	111	111	116	109	109	112
5114	28101	132	84				132	108	116	118
5115	28102	112	93	118	116	116	114	113	110	113
5116	IR 64 Check	119	112	91	101	101	110	107	111	109
5117	28103	126	87	100	91	91	108	110	104	108
5118	28104	119	91	96	111	111	115	100	114	111
5119	28105		83	108	110	110	110	113	126	116
5120	28106	128	106	114	112	112	120	130	116	121
5121	28107	125	89		104	104	115	115	114	114
5122	Rajalaxmi Hybrid Check	116	78				116	114	117	116
5123	28108	118	113	94	108	108	113	102	108	109
5124	28109	116	106	139	129	129	122	130	126	125
5125	28110	128	97		113	113	120	117	116	118
5126	Local Check	120	80	97	105	105	113	114	118	114
	Mean	122	91	104	107	107	116	110	112	113

Table 3.61: No. of Panicles/m2 of IVT- Boro for zone - III & IV, 2018-19

Entry No	IET No	Zone III					Zone III (2)	Zone IV (2)		Overall (4)
		OD(1)	BI	WB		WB(1)		TR (2)		
		CTK	PSA@	CHN@	PNB	Mean	Mean	ARD	LMB	Mean
5101	28089	528	192				528	416	393	418
5102	28090	406	212		135	135	270	320	304	300
5103	28091	462	212				462	372	349	413
5104	28092	474	235				474	310	304	394
5105	28093	637	224		224	224	431	314	340	394
5106	28094	456	272	264	284	284	370	378	330	366
5107	Gautam Check	524	197	363	264	264	394	335	344	374
5108	28095	293	152	363	304	304	298	362	354	339
5109	28096	630	253	380	290	290	460	379	373	416
5110	28097	446	267	264	115	115	280	358	349	313
5111	28098	601	196	314	212	212	406	315	310	364
5112	28099	493	255	330	215	215	354	362	338	353
5113	28100	576	240	314	228	228	402	342	407	379
5114	28101	508	251				508	445	399	423
5115	28102	617	224	215	213	213	415	409	401	411
5116	IR 64 Check	636	209	363	304	304	470	426	345	418
5117	28103	626	273	330	287	287	456	378	372	411
5118	28104	594	272	380	290	290	442	419	399	434
5119	28105		238	264	294	294	294	410	367	352
5120	28106	517	268	281	241	241	379	386	336	381
5121	28107	620	197		225	225	422	383	329	409
5122	Rajalaxmi Hybrid Check	480	223				480	354	342	417
5123	28108	488	272	314	314	314	401	367	372	390
5124	28109	492	119	297	223	223	357	338	317	351
5125	28110	495	227		155	155	325	426	405	359
5126	Local Check	522	205	314	261	261	392	303	308	362
	Mean	525	226	314	242	242	403	369	353	382

HYBRID RICE

In our country, an excellent progress has been made in hybrid rice research and development. As a result of concerted efforts over the last three decades, 117 hybrids have been released for commercial cultivation in different rice growing states across the country. Among these, 37 hybrids have been developed by the public sector, while remaining 80 are developed by the private sector. During the year, 2019, hybrid rice was planted in an area of 3 m.ha and more than 80% of the total hybrid rice area is in the states of Uttar Pradesh, Jharkhand, Chhattisgarh, Madhya Pradesh, Odisha and Haryana. It's a matter of concern to note that area under hybrid rice remains @ 3 m.ha since 2016 and it may be due to unfavourable monsoons at the beginning of crop season (every year) besides factors like inadequate yield heterosis etc., Research efforts are intensified to address these challenges with the active involvement of public as well as private sector organizations. During this year (2019-20), 12 hybrids viz., CNRH-103, GRH-2, LG 93.01, MP 3030, US 380, US 303, SAVA 134, MRP 5222, RH 9000 Plus, MRP 5626, MRP 5433 and PAC 8744+ were released and notified by the CSCCSN&RV for commercial cultivation in different parts of the country. Among these, CNRH-103, GRH-2, LG 93.01 were state releases and remaining were central releases.

For identification of high yielding and widely adapted hybrids, a national level three tier system of evaluation is being adapted and in this, the hybrids developed by research network centres, including some of the voluntary centres and those developed by private sector seed companies having their own R&D are pooled together based on maturity groups into early (<120 days), mid early (121-130) and medium (131-140) trials. In addition, one more trial is also constituted aiming to develop medium slender grain type hybrids. IHRTs are conducted at 30-35 locations and these trials consist of test hybrids, national varietal / hybrid checks, zonal and local varietal checks in the respective maturity and grain type groups.

The hybrids are promoted to the next stage of testing i.e., Advance Varietal Trial (AVT-1) based on criterion mentioned in the Proceedings of 51 ARGM (pp 59-60). Based on similar criteria, the hybrids are promoted from AVT-1 to AVT-2 stages. Simultaneously all hybrid entries are tested for resistance to diseases and insect pest and grain quality traits during all the three years. The quality data of IHRT's was not considered for promotion this year, in tune with the promotion criteria adapted for IVT trials. Those hybrids performing consistently well during all the three years are proposed to Varietal Identification Committee (VIC) for consideration.

As per the 52nd ARGM (p 45 of Draft Proceedings), the criteria for inclusion of data of a location for analysis "minimum experimental mean yield of 4 t/ha for inbreds and 5 t/ha for hybrid trial and CV% for trial acceptance to be ranged between 5 and 20% under irrigated system" was suitably modified this year to include the yield data upto 4 t/ha in IHRTs as many locations were getting dropped, if 5 t/ha limit is applied.

During Kharif 2019, four hybrid trials were conducted and evaluated and test locations are given in Table 3.62 and Table 3.63 respectively.

Table 3.62: Details of Initial Hybrid Rice Trials conducted during Kharif 2019

S. No	Name of the trial	No. of hybrids evaluated		No. of test locations
		Public	Private	
1.	Initial Hybrid Rice Trial - Early	4	11	38
2.	Initial Hybrid Rice Trial - Mid Early	9	18	38
3.	Initial Hybrid Rice Trial - Medium	6	18	38
4.	Initial Hybrid Rice Trial - Medium Slender	6	5	35

Table 3.63: Zone wise test centres for Initial Hybrid Rice Trials, Kharif 2019

Zone	No. of Locations	Name of Locations
Zone I (Hills)	1	Public Sector: Malan (MLN)
Zone II (Northern)	5	Public Sector: Chatha (CHT), IARI (IAR), Kaul (KUL), Ludhiana (LDN), Pantnagar (PNT)
Zone III (Eastern)	15	Public Sector: Allahabad (ALH), Chinsurah (CHN), Chiplima (CHP), Cuttack (NRRI), Masodha (MSD), Nagina (NGN), Pusa (PSA), Ranchi (RCI), Sabour (SBR), Varanasi (VRN) Private Sector: JK Agri genetics (JKA), Nuziveedu Seeds (NZV), Pioneer Seeds (PHI) Syngenta (SYN), Trimurthi Seeds (TMT)
Zone IV (North Eastern)	2	Public Sector: Titabar (TTB), Arundhatinagar (ARD)
Zone V (Central)	6	Public Sector: Jabalpur (JBP), Raipur (RPR), Sakoli (SKL), Sindewahi (SND), Waraseoni (WRS) Private Sector: Advanta Seeds (ADV), VNR Seeds (VNR)
Zone VI (Western)	9	Public Sector: Dabhoi (DBI), Karjat (KJT), Navsari (NVS), Nawagam (NWG), Pondaghat (PDG), Radhanagari (RDN), Shirgaon (SHG), Vadgaon (VDG) Private Sector: Ankur Seeds (ANK)
Zone VII (Southern)	14	Public Sector: Aduthurai (ADT), Bapatla (BPT), Brahmavar (BRM), Coimbatore (CBT), Hyderabad (IIRR), Karaikal (KRK), Malagi (MLG), Mandya (MND), Mugad (MGD), Maruteru (MTU), Sirsi (SRS) Warangal (WGL) Private Sector: Bayer Seeds (BAY), Tierra Seeds (Tierra)

1. Initial Hybrid Rice Trial - Early (IHRT-E)

Fifteen test hybrids (11 and 4 from private and public sector respectively) were evaluated in 38 locations comprising Zone I, II, III, IV, V, VI and VII along with national hybrid check (US 314), national varietal check (CO 51), zonal varietal checks (PR 124 - Zone II; NDR 97 - Zone III; Luit- Zone IV; Sahbhagidhan- Zone V & VI; MTU 1153 - Zone VII) and local varietal checks of their respective locations. The details about the composition of the trial are given in Table 3.64.

Table 3.64: Composition of Initial Hybrid Rice Trial - Early (IHRT-E), Kharif 2019

S. No	IET No	Name	Nominating Agency
1	28111	LP-19201	Longping (I) Seeds, Hyderabad
2	28112	RRX-566	Rasi Seeds, Hyderabad
3	28113	LP-18204	Longping (I) Seeds, Hyderabad
4	28114	RRX-719	Rasi Seeds, Hyderabad
5	28115	US-317	Seed Works, Hyderabad
6	28116	WGRH-18	RARS, Warangal
7	28117	NPH-X4	Nuziveedu Seeds, Hyderabad
8	28118	MR-8222	Meta helix, Hyderabad
9	28119	HRI-201	Bayer Bioscience, Hyderabad
10	28120	RH-169035	UPL, Hyderabad
11	28121	ARRH-23664	Ankur Seeds, Nagpur
12	28122	RH-169269	UPL, Hyderabad
13	28123	IIRRH-130	ICAR-IIRR, Hyderabad
14	28124	CRHR-105	ICAR-NRRI, Cuttack
15	28125	CRHR-106	ICAR-NRRI, Cuttack
16	-	US-314 (NCH)	National Check Hybrid
17	-	CO-51 (NCV)	National Check Variety
18	-	PR-124/Luit/NDR-97/ Sahbhagidhan/MTU-1153 (RCV)	Regional Check Variety
19	-	Local Check Variety (LCV)	Local Check Variety

Northern: PR-124; North Eastern: Luit; Eastern: NDR-97; Central and Western: Sahbhagidhan; Southern: MTU-1153

The detailed location wise and zone wise performance for grain yield and days to 50% flowering (DFF) are given in Appendix 1 & 2 respectively. The grain quality traits are given in Appendix 3. The overall DFF ranged from 86 to 97 days. The national varietal check (CO 51) had overall mean of 86 days, zonal checks of 96 days, local checks of 90 days and national hybrid check (US 314) of 90 days.

As per the quality data of IHRT-E hybrids (Appendix 3), the milling percentage ranged from 66.5 to 71.8 and HRR from 35.5 to 67.9. Majority of the hybrids showed intermediate amylose content. Regarding grain type the entries were falling in different grain type categories.

Based on overall mean, three hybrids LP 19201, LP 18204, RH 169269 significantly out yielded the best varietal and hybrid check (Table 3.65). Besides these, based on zonal means, eight hybrids viz., US 317 (Zone III & IV), CRHR 105 (Zone II), RRX 719, WGRH 18, HRI 201, RH 169035, IIRRH 130 (III) and MR 8222 (V) were found promising.

Table 3.65: Promising hybrids identified in IHRT-E, Kharif 2019

S. No	Hybrid	IET No	DFF	Grain Type	Mean Yield (kg/ha)							Remarks
					Overall	Zone II	Zone III	Zone IV	Zone V	Zone VI	Zone VII	
1	LP 19201	28111	95	-	7223 [18] (33)	7717 [11] (28)	7135 [17] (34)	5132 (27)	7563 [17] (22)	6646 [16] (37)	7671 [31] (28)	Promoted to AVT-1-E-TP
2	LP 18204	28113	92	LS	6705 [10] (24)	6966 (16)	6942 [14] (30)	5334 [6] (32)	6981 [8] (12)	6615 [15] (36)	6442 [10]	Promoted to AVT-1-E-TP
3	RH 169269	28122	90	LB	6567 [8] (21)	6988 (16)	6861 [13] (29)	5243 (30)	7200 [11] (16)	5646 (16)	6459 [10]	Promoted to AVT-1-E-TP
4	US 317	28115	89	MS	6342 (17)	6602 (10)	6830 [12] (28)	5325 [6] (32)	6219	5115	6438 [10]	Promoted to AVT-1-E-TP
5	CRHR 105	28124	91	-	5419	7689 [11] (28)	5808	4864 (21)	4937	4678	5086	Promoted to AVT-1-E-TP
6	RRX 719	28114	89	LS	6003 (11)	5532	6570 [8] (23)	5214 (29)	6288	5282	6225 [6]	Promoted to AVT-1-E-TP
7	WGRH-18	28116	97	LS	6113 (13)	5734	6454 [6] (21)	4655 (15)	6775	5490 (13)	6422 [9]	Dropped high DFF
8	HRI 201	28119	93	LS	6257 (16)	6620 (10)	6480 [6] (22)	5221 (29)	6789 [5]	5768 (19)	6178 [5]	Promoted to AVT-1-E-TP
9	RH 169035	28120	93	LS	6099 (13)	6494	6543 [7] (23)	4875 (21)	6472	5805 (19)	5767	Promoted to AVT-1-E-TP
10	IIRRH 130	28123	94	LS	5927	6225	6453 [6] (21)	4748 (18)	6742	4781	5728	Promoted to AVT-1-E-TP
11	MR 8222	28118	93	SB	6342 (17)	7100 (18)	6192 (16)	5176 (28)	7031 [9] (13)	5215	6582 [12] (10)	Promoted to AVT-1-E-TP
12	US 314	NCH	90	MS	6108	6949	6099	5040	6460	5746	5875	
13	CO-51	NCV	86	MS	4882	5180	5307	3748	4573	4446	5225	
14	PR-124/Luit/ NDR-97/ Sahbhagidhan/ MTU-1153	ZCV	95	LB	5350	6024	4019	3973	6211	4861	6003	
15		LCV	90	-	5420	5698	5331	4032	5321	4774	5941	

() - Yield superiority in percent over the best varietal check; [] - Yield superiority in percent over the Hybrid check

For promotion of entries (based on 90 days DFF limit), check mean of 90±5 days criterion was adopted. As per this criteria, all the above identified promising hybrids viz., LP 19201, LP 18204, RH 169269, US 317, CRHR 105, RRX 719, HRI 201, RH 169035, IIRRH 130 and MR 8222 are promoted to AVT-1-E-TP. The hybrid WGRH-18 (97 days) having exceeded the DFF criterion is dropped from further evaluation.

2. Initial Hybrid Rice Trial - Mid Early (IHRT-ME)

Mid early trial comprising 27 hybrids and four checks viz., Gontra Bidhan-3 (national varietal check); US 312 (national hybrid check); zonal checks viz., PR 113 (Zone II); Lalat (Zone III); Karjat 7 (V & VI); MTU 1010 (Zone VII) and respective local checks were conducted at 38 locations. Among 27 hybrids evaluated, 18 were from private sector and nine from public sector. The composition of the trial is given in Table 3.66.

Table 3.66: Composition of Initial Hybrid Rice Trial - Mid Early (IHRT-ME), Kharif 2019

S. No	IET No	Name	Nominating Agency
1	28126	NPH-101	Nirmal Seeds, Jalgaon
2	28127	IRH-121	IGKV, Raipur
3	28128	SHX-468	Savannah Seeds, Hyderabad
4	28129	SAVA-5055	Savannah Seeds, Hyderabad
5	28130	Indam-300-007	Indo-American, Hyderabad
6	28131	SAVA-5065	Savannah Seeds, Hyderabad
7	28132	LP-19301	Longping (I) Seeds, Hyderabad
8	28133	MEPH-152	MAHYCO, Hyderabad
9	28134	RRX-533	Rasi Seeds, Hyderabad
10	28135	US-326	Seed Works, Hyderabad
11	28136	PHI-19107	Pioneer Seeds, Hyderabad
12	28137	RRX-633	Rasi Seeds, Hyderabad
13	28138	US-339	Seed Works, Hyderabad
14	28139	PHI-19108	Pioneer Seeds, Hyderabad
15	28140	JKRH-2789	JK Seeds, Hyderabad
16	28141	RNC-0158	Syngenta, Hyderabad
17	28142	MP-3020	Mahindra Agri Business, Mumbai
18	28143	NK-5251++	Syngenta, Hyderabad
19	28144	IIRRH-131	ICAR-IIRR, Hyderabad
20	28145	RNC-0050	Syngenta, Hyderabad
21	28146	JRH-119	JNKVV, Jabalpur
22	28147	IIRRH-132	ICAR-IIRR, Hyderabad
23	28148	MTUHR-2104	RARS, Maruteru
24	28149	IIRRH-133	ICAR-IIRR, Hyderabad
25	28150	IRH-120	IGKVV, Raipur
26	28151	IIRRH-136	ICAR-IIRR, Hyderabad
27	28152	IRH-122	IGKVV, Raipur
28	-	US-312 (NCH)	National Check Hybrid
29	-	Gontra Bidhan-3 (NCV)	National Check Variety
30	-	PR-113/Lalat/ Karjat-7/ MTU-1010 (RCV)	Regional Check Variety
31	-	Local Check Variety (LCV)	Local Check Variety

North Zone: PR 113; East Zone: Lalat; West Zone: Karjat-7; South Zone: MTU-1010

Performance of the hybrids with respect to grain yield and days to 50% flowering (DFF) are given in Appendix 4 & 5 respectively. Grain quality traits are given in Appendix 6.

Performance of promising hybrids identified in different zones is given in Table 3.67. In the trial, mean DFF of checks ranged from 96-100 days, the hybrid check US 312 had mean DFF of 97 days. The varietal checks viz., national, zonal and local checks had mean DFF of 97, 96 and 100 days respectively.

Table 3.67: Promising hybrids identified in IHRT-ME, Kharif 2019

S. No	Hybrid	IET No	DFF	Grain Type	Mean Yield (kg/ha)							Remarks
					Overall	Zone II	Zone III	Zone IV	Zone V	Zone VI	Zone VII	
1	PHI 19107	28136	97	LS	7077 [11] (10)	7385 [19] (11)	6273	5296	7891 [28] (21)	5722 [12] (8)	8076 [15] (14)	Promoted to AVT-1-ME-TP
2	NK 5251++	28143	99	-	6643	6680 [8]	5749	6119	6281	5508 [8]	8483 [21] (20)	Promoted to AVT-1-ME-TP
3	PHI 19108	28139	102	LB	6996 [9]	6788 [10]	6923 [7] (12)	6353 [10]	6271	6032 [18] (14)	8232 [17] (16)	Promoted to AVT-1-ME-TP
4	NPH 101	28126	100	LB	6348	6349	6280	4649	7153 [7] (10)	5981 [17] (13)	6406	Promoted to AVT-1-ME-TP
5	SHX 468	28128	96	LB	6708 [5]	7676 [24] (15)	6185	5781	7038 [14]	5297	7248	Promoted to AVT-1-ME-TP
6	SAVA-5055	28129	94	LB	6760 [6]	7201 [16]	6185	5791	6977 [13]	5786 [13] (10)	7532 [7]	Promoted to AVT-1-ME-TP
7	LP 19301	28132	95	LB	6863 [7]	7273 [18]	6793 [5] (10)	5305	6993 [13]	5799 [14] (10)	7431 [6]	Promoted to AVT-1-ME-TP
8	MEPH-152	28133	99	MS	6755 [5]	6888 [11]	6240	5324	7260 [17] (12)	6026 [18] (14)	7443 [6]	Promoted to AVT-1-ME-TP
9	US 339	28138	99	LB	6529	6173	6360	5482	6132	5955 [17] (13)	7629 [9]	Promoted to AVT-1-ME-TP
10	RNC-0050	28145	101	LB	6827 [7]	6705 [8]	6349	6221 [7]	7029 [14]	5957 [17] (13)	7707 [10]	Promoted to AVT-1-ME-TP
11	US 312	NCH	97	MS	6404	6186	6456	5779	6672	5102	7018	
12	Gontra Bidhan-3	NCV	97	SB	6437	6667	6198	5984	6508	5288	7086	
13	Lalat/Karjat7/MTU-1010	RCV	96	LS	5689	6319	6136	5293	5938	4666	5496	
14		LCV	100	-	5968	5847	5360	4683	6373	5061	6963	

() -Yield superiority in percent over the best varietal check; [] - Yield superiority in percent over the Hybrid check

Based on the overall mean, one hybrid viz., PHI 19107 was found promising and based on zonal means, 9 hybrids viz., NK 5251++ (VII); PHI 19108 (III, VI & VII); NPH 101, MEPH 152 (V & VI); SHX 468 (II); LP 19301 (III & VI); SAVA 5055, US 339, RNC-0050 (VI) were found to be superior to both varietal and hybrid checks.

For promotion of entries (based on 100days DFF limit), check mean of 97±5 days criterion was adopted. As per this criteria, all the above promising hybrids (meeting the required DFF limit) viz., PHI 19107 (overall), NK 5251++ (VII), PHI 19108 (III, VI, VII), NPH 101, MEPH 152 (V & VI), SHX 468 (II), LP 19301 (III & VI), SAVA 5055, US 339, RNC-0050 (VI) are promoted to AVT-1-ME-TP.

As per the quality data of IHRT-ME hybrids (Appendix 6), the milling percentage ranged from 68.1 to 72.5 and HRR from 40.5 to 69.7. Almost all the hybrids in the trial showed intermediate amylose content however differed in grain type categories.

3. Initial Hybrid Rice Trial - Medium (IHRT-M)

The IHRT-M, conducted at 38 locations with 24 hybrids along with four checks viz., HRI-174 (national hybrid check); NDR-359 (national varietal check); zonal varietal checks (PR 121 - North; CR Dhan 300 - East & North East); IR 64 - Central; Akshayadhan- Western; Jaya - Southern) and local checks of their respective locations. Among the 24 test hybrids evaluated, 18 were from private sector and six from public sector. The details about the composition of the trial are given in Table 3.68.

Table 3.68: Composition of Initial Hybrid Rice Trial - Medium (IHRT-M), Kharif2019

S. No	IET No	Name	Nominating Agency
1	28153	TMRH-5559	Trimurti Seeds, Hyderabad
2	28154	MEPH-153	MAHYCO, Hyderabad
3	28155	RRX-426	Rasi Seeds, Hyderabad
4	28156	US-368	Seed Works, Hyderabad
5	28157	NPH-X29	Nuziveedu Seeds, Hyderabad
6	28158	RRX-445	Rasi Seeds, Hyderabad
7	28159	PHI-19103	Pioneer, Hyderabad
8	28160	HRI-202	Bayer Bioscience, Hyderabad
9	28161	RH-169292	UPL, Hyderabad
10	28162	PHI-19104	Pioneer Overseas, Hyderabad
11	28163	PHI-19105	Pioneer Overseas, Hyderabad
12	28164	RH-169257	UPL, Hyderabad
13	28165	IIRRH-134	ICAR-IIRR, Hyderabad
14	28166	PHI-19106	Pioneer Overseas, Hyderabad
15	28167	MP-3310	Mahindra Agri Business, Mumbai
16	28168	IIRRH-135	ICAR-IIRR, Hyderabad
17	28169	CP-800	CP Seeds, Andhra Pradesh
18	28170	CRHR-122	ICAR-NRRI, Cuttack
19	28171	RNE-0122	Syngenta, Hyderabad
20	28172	IIRRH-137	ICAR-IIRR, Hyderabad
21	28173	CRHR-148	ICAR-NRRI, Cuttack
22	28174	RNE-0148	Syngenta, Hyderabad
23	28175	DLRH-6	Delta Agrigenetics, Hyderabad
24	28176	IIRRH-138	ICAR-IIRR, Hyderabad
25	-	HRI-174 (NCH)	National Check Hybrid
26	-	NDR-359 (NCV)	National Check Variety
27	-	PR-121/CR Dhan-300/ IR-64/ Akshayadhan/Jaya (RCV)	Regional Check Variety
28	-	Local Check Variety (LCV)	Local Check Variety

Northern: PR-121; Eastern and North Eastern: CR Dhan-300; Central: IR-64; Western: Akshayadhan and Southern: Jaya

The location wise data on DFF and grain yield are given in Appendix 7 & 8 respectively and grain quality traits are given in Appendix 9.

The list of promising hybrids with the yield advantage over the best checks in their respective zones is given in Table 3.69.

Table 3.69: Promising hybrids identified in IHRT-M, Kharif 2019

S. No	Hybrid	IET No	DFF	Grain Type	Mean Yield (kg/ha)							Remarks
					Overall	Zone II	Zone III	Zone IV	Zone V	Zone VI	Zone VII	
1	PHI 19104	28162	101	LB	7562 [6] (20)	7437 [8] (15)	7610 [7] (18)	6521	7173 (12)	6498 (14)	9082 [10] (29)	Promoted to AVT-1-M-TP
2	HRI-202	28160	102	LB	7482 (19)	7115 (10)	7456 [5] (15)	6809	7184 (12)	6619 (16)	8869 [7] (26)	Promoted to AVT-1-M-TP
3	RNE-0148	28174	100	-	7362 (17)	7690 [11] (19)	7278 (13)	6344	6702	7143 [10] (25)	8554 (21)	Promoted to AVT-1-M-TP
4	PHI-19106	28166	103	LB	7222 (15)	7170 (11)	7399 [5] (15)	6542	6585	6906 [6] (21)	7977 (13)	Promoted to AVT-1-M-TP
5	US-368	28156	103	SB	7151 (14)	7001	7172 (11)	6556	7056 (10)	6814 [5] (19)	7721	Promoted to AVT-1-M-TP
6	PHI-19103	28159	102	LB	7234 (15)	7128 (10)	7364 (14)	6565	6946	6792 [5] (19)	7892 (12)	Promoted to AVT-1-M-TP
7	PHI-19105	28163	101	LB	7185 (14)	7562 [9] (17)	7469 [5] (16)	6847	6128	6652 (16)	8037 (14)	Promoted to AVT-1-M-TP
8	RNE-0122	28171	101	MS	6957 (11)	7309 [6] (13)	7192 (11)	6050	6896	5608	8100 (15)	Promoted to AVT-1-M-TP
9	RRX-445	28158	102	MS	7265 (16)	7300 [6] (13)	7360 (14)	6091	7132 (11)	6765 (18)	7981 (13)	Promoted to AVT-1-M-TP
10	RH-169292	28161	100	LB	6933 (10)	7221 [5] (12)	6984	6416	7164 (12)	6126	7371	Promoted to AVT-1-M-TP
11	HRI 174	NCH	102	LB	7161	6908	7080	6727	6963	6498	8259	
12	NDR 359	NCV	100	LB	6285	5946	6462	6276	6425	5098	7052	
13	PR 113/ CR Dhan- 300/ IR 64/ Akashyadhan/ Jaya	RCV	104	SB	6039	6257	5707	5554	5939	5713	6828	
14		LCV	103	-	6099	6468	5904	5517	6140	5500	6926	

() -Yield superiority in percent over the best varietal check; [] - Yield superiority in percent over the Hybrid check

Based on grain quality parameters (Appendix 9), milling percentage of the hybrids ranged from 67.0 to 71.6 and HRR from 35.0 to 64.9. All the test hybrids showed intermediate amylose content and different grain types.

Based on overall mean, one hybrid PHI-19104 and based on zonal means nine hybrids viz., HRI-202 (Zone III & VII); RNE-0148 (II & VI); PHI-19106 (III & VI); US 368, PHI-19103 (VI); PHI-19105 (II & III); RNE-0122, RRX-445, RH 169292 (II) were found to be promising with required yield advantage over the varietal and hybrid checks. All these 10 hybrids are promoted to AVT-1-M-TP trial.

4. Initial Hybrid Rice Trial - Medium Slender (IHRT-MS), Kharif 2019

The trial consisting of 11 hybrids, six from public sector and five from private sector was conducted at 35 locations. It has five checks viz., national hybrid checks (JKRH 3333 & 27P63); national varietal checks (WGL 14 & BPT 5204); zonal checks (Improved Samba Mahsuri - Eastern & Central; Karjat 6 - Western; Ketekejoha - NorthEast; ADT 49 - South). The details about the composition of the trial are given in Table 3.70.

Table 3.70: Composition of Initial Hybrid Rice Trial –Medium Slender (IHRT-MS), Kharif 2019

S. No	IET No	Name	Nominating Agency
1	28177	MEPH-155	MAHYCO, Hyderabad
2	28178	US-308	Seed Works, Hyderabad
3	28179	NPH-X28	Nuziveedu Seeds, Hyderabad
4	28180	PHI-19101	Pioneer Seeds, Hyderabad
5	28181	HRI-203	Bayer Bioscience, Hyderabad
6	28182	MTUHR-2105	RARS, Maruteru
7	28183	MTUHR-2107	RARS, Maruteru
8	28184	TNTRH-99	TNAU, Coimbatore
9	28185	CRHR-145	ICAR-NRRI, Cuttack
10	28186	TNRH-294	TNAU, Coimbatore
11	28187	CRHR-150	ICAR-NRRI, Cuttack
12	-	JKRH-3333 (NCH-1)	National Check Hybrid-1
13	-	27P63 (NCH-2)	National Check Hybrid-2
14	-	WGL-14 (NCV-1)	National Check Variety-1
15	-	BPT-5204 (NCV-2)	National Check Variety-2
16	-	Improved Samba Mahsuri/ Ketekejoha/Karjat-6/ADT-49 (RCV)	Regional Check Variety

Eastern and Central: Improved Samba Mahsuri; North East: Ketekejoha; Western: Karjat-6 and Southern: ADT-49

The location wise mean data of grain yield and DFF are given in Appendix 10 & 11 respectively. The grain quality traits are given in Appendix 12.

Based on overall mean, one hybrid PHI 19101 and on zonal mean basis five hybrids viz., MEPH 155, HRI 203 (Zone VI); CRHR 150, US 308 (V); and TNRH 99 (IV) were found promising with recommended yield advantage over the varietal as well as hybrid checks (Table 3.71). All these hybrids are promoted to AVT-1-MS trial.

Based on the grain quality parameters (Appendix 12), the milling percentage of hybrids in the trial ranged from 68.5 to 71.8 and HRR from 53.6 to 67.9. All the hybrids have the required MS grain type with intermediate amylose content.

Table 3.71: Promising hybrids identified in IHRT-MS, Kharif 2019

S. No	Hybrid	IET No	DFF	Grain Type	Mean Yield (kg/ha)						Remarks
					Overall	Zone III	Zone IV	Zone V	Zone VI	Zone VII	
1	PHI 19101	28180	104	MS	6419 [6] (14)	6115	5261 [5] (11)	6560 [12] (12)	5605 (13)	7247 (24)	Promoted to AVT-1-MS
2	MEPH 155	28177	101	MS	6299 (12)	6246	5166	6399 [9]	6072 [9] (22)	6664 (14)	Promoted to AVT-1-MS
3	HRI 203	28181	101	MS	6012	6894	4865	5628	6172 [11] (24)	6095	Promoted to AVT-1-MS
4	CRHR 150	28187	105	MS	6011	6554	5194	6882 [18] (17)	5094	5756	Promoted to AVT-1-MS
5	US 308	28178	106	MS	6204 (10)	6803	5004	6708 [15] (14)	5580 (12)	6154	Promoted to AVT-1-MS
6	TNRH 99	28184	99	MS	5798	6622	5288 [6] (11)	5231	5287	6329	Promoted to AVT-1-MS
7	JKRH 3333	NCH 1	103	MS	6072	6631	4997	5817	5565	6602	Promoted to AVT-1-MS
8	27P63	NCH 2	104	MS	6046	6116	4805	5847	5241	6998	
9	WGL 14	NCV 1	108	MS	5528	6184	4710	5882	4492	5743	
10	BPT 5204	NCV 2	111	MS	5640	6650	4762	5690	4973	5854	
11	Improved Samba Mahsuri/ Ketekejoha/ Karjat-6/ ADT-49	ZCV	105	MS	4880	5180	4185	5417	4396	4716	

() -Yield superiority in percent over the best varietal check; [] - Yield superiority in percent over the best Hybrid check

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-1: Grain Yield (kg/ha) of hybrids in IHRT-Early, Kharif 2019

S No.	IET No.	Name	Zone-I	Zone-II					Zone-III (contd)				
			MLN	KUL	PNT	LDN	IAR	Northern Mean	MSD	@ ALH	NZV	NGN	UP Mean
1	28111	LP-19201	7438(4)	6067(5)	8096(1)	6674(10)	10030(1)	7717	5006(5)	8167(1)	8598	6425(9)	6676
2	28112	RRX-566	5076	5067	5036	5407	8438(2)	5987	4130	6863(3)	6270	3296	4565
3	28113	LP-18204	8066(2)	5433(8)	7245(5)	7389(5)	7795(7)	6966	5173(3)	6600(5)	9161(7)	7885(1)	7406
4	28114	RRX-719	5739	4600	4852	7796(3)	4880	5532	4339	6700(4)	9705(3)	7635(2)	7226
5	28115	US-317	9158(1)	5200(10)	6376(9)	6678(9)	8152(5)	6602	3755	5967	9393(5)	6675(7)	6608
6	28116	WGRH-18	5214	5133	5329	4289	8187(4)	5734	4526(9)	5500	8779(10)	6341(10)	6549
7	28117	NPH-X4	7861(3)	5467(7)	6268(10)	7048(8)	8434(3)	6804	4693(8)	6167	9885(1)	4297	6292
8	28118	MR-8222	5691	6100(4)	6912(7)	8963(1)	6427	7100	3588	5333	8967(8)	4130	5562
9	28119	HRI-201	5489	4267	7313(3)	7178(7)	7721(8)	6620	3880	6467(7)	9844(2)	7009(3)	6911
10	28120	RH-169035	6261	5400	6534(8)	7537(4)	6503	6494	3212	6133	9172(6)	6466(8)	6284
11	28121	ARRH-23664	7086(6)	5833(6)	5853	4848	6781	5829	5298(1)	5533	8836(9)	3963	6033
12	28122	RH-169269	7152(5)	6467(2)	7229(6)	7222(6)	7035	6988	4881(6)	5433	9648(4)	6800(6)	7110
13	28123	IIRRH-130	6042	6600(1)	5918(10)	6000	6381	6225	5111(4)	6067	7803	6842(5)	6585
14	28124	CRHR-105	4750		7731(2)	6289	9048	7689	4026	6367(8)	8213	6884(4)	6374
15	28125	CRHR-106	5506		6935(6)	6337	5782	6351	5236(2)	6533(6)	8246	5966	6482
16	US-314 (NCH)		6482(8)	6100(3)	7254(4)	6567	7877(6)	6949	3922	7300(2)	8607	5882	6137
17	CO-51 (NCV)		3954	5167	4934	3489	7130	5180	3755	5933	6311	5173	5080
18	PR-124/Luit/NDR-97/ Sahbhagidhan/ MTU-1153 (ZCV)		5810	5000	5150	6319	7628(9)	6024	4714(7)	6200	3328	4005	4016
19	Local Check Variety (LCV)		6521(7)	5133	3738	8430(2)	5492	5698	3317	5100	6675	5841	5277
Exp. Mean			6279	5473	6248	6551	7354	6447	4345	6230	8286	5869	6167
CD(0.05)			1150.1	535.67	1106.92	926	1340.9		656.78	384.19	1759.37	701.89	
CV			11.1	5.93	10.99	8.57	11.25		9.16	3.74	10.1	7.25	
D/S			10.6.19	21.6.19	1.6.19	31.5.19	21.6.19		29.6.19	20.6.19		24.6.19	
D/P			9.7.19	19.7.19	1.7.19	30.6.19	28.7.19		25.7.19	15.7.19		19.7.19	
Gross Plot Size (Sq.m)			4.59	10.0	11.4	9.0	10.0		10.0		10.0		
Net Plot Size (Sq.m)			4.59	10.0	8.76	7.25	10.0		7.99				
Zonal Check Variety			PR-124	PR-124	PR-124	PR-124	PR-124		NDR-97	NDR-97	NDR-97	NDR-97	
Local Check Variety				HKR-48	Govind	PR-126	IR-64		NDR-97	NDR-359			

Note: Data of ALH (Allahabad) not included in the analysis due to low CV

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-1 (contd): Grain Yield (kg/ha) of hybrids in IHRT-Early, Kharif 2019

S No.	IET No.	Name	(contd) Zone-III								Zone-IV		
			@ PSA	SYN	BH Mean	@ RCI	TMT	JH Mean	CHN	Eastern Mean	TTB	ARD	North-Eastern Mean
1	28111	LP-19201	3467	8097(2)	8097	5346(1)	5988(1)	5988	8698(1)	7135	5500(4)	4765(10)	5132
2	28112	RRX-566	4133(3)	7687(6)	7687	4043(7)	3532	3532	6253	5195	4933	3245	4089
3	28113	LP-18204	3267	8125(1)	8125	5211(2)	5198(7)	5198	6112	6942	5333(7)	5335(4)	5334
4	28114	RRX-719	4333(2)	6957	6957	3639	4438	4438	6347	6570	5317(8)	5111(7)	5214
5	28115	US-317	3133	7905(5)	7905	3369	5309(6)	5309	7945(2)	6830	5367(5)	5284(5)	5325
6	28116	WGRH-18	3733(6)	7536(8)	7536	4447(4)	4397	4397	7146(7)	6454	3883	5427(2)	4655
7	28117	NPH-X4	3600(7)	5836	5836	4897(3)	4918(9)	4918	7804(3)	6239	4517	5223(6)	4870
8	28118	MR-8222	3133	7665(7)	7665	4178(5)	5326(5)	5326	7475(4)	6192	4950(10)	5401(3)	5176
9	28119	HRI-201	3867(5)	6873	6873	3684	3844	3844	7428(5)	6480	5667(2)	4775(9)	5221
10	28120	RH-169035	3533	7994(4)	7994	3908(8)	5505(3)	5505	6911(8)	6543	5350(6)	4401	4875
11	28121	ARRH-23664	3600(8)	6111	6111	4178(6)	5463(4)	5463	5736	5901	4300	5826(1)	5063
12	28122	RH-169269	3267	7510(10)	7510	3863(9)	5133(8)	5133	7193(6)	6861	6000(1)	4487	5243
13	28123	IIRRH-130	4600(1)	7521(9)	7521	3369	5660(2)	5660	5783	6453	4750	4747	4748
14	28124	CRHR-105	3000	6065	6065	2201	2935	2935	6723(9)	5808	5533(3)	4194	4864
15	28125	CRHR-106	3867(4)	5818	5818	2875	4113	4113	5924	5884	4850	3999	4424
16	US-314 (NCH)		3533	8000(3)	8000	3729(10)	4165	4165	6018	6099	5083(9)	4996(8)	5040
17	CO-51 (NCV)		3200	7317	7317	3279	3927	3927	5360	5307	3333	4163	3748
18	PR-124/Luit/NDR-97/ Sahbhagidhan/MTU-1153 (ZCV)		3467	3192	3192	1932	2856	2856	6018	4019	3717	4230	3973
19	Local Check Variety (LCV)		2667	6869	6869	1932	3549	3549	5736	5331	3850	4214	4032
Exp. Mean			3547	7004	7004	3688	4540	4540	6664	6118	4854	4728	4791
CD(0.05)			1327.89	783.52		1145.48	831.88		685		616.48	540.4	
CV			22.68	6.78		18.82	11.1		6.23		7.7	6.93	
D/S			28.6.19	27.6.19		27.6.19	20.6.19		20.6.19		12.7.19	15.7.19	
D/P			29.7.19	25.7.19		16.8.19	12.7.19		26.7.19		9.8.19	14.8.19	
Gross Plot Size(Sq.m)			7.5	10.0		10.08	12.6		8.79			12.5	
Net Plot Size (Sq.m)			5.0	10.0		7.42	10.8		7.09			12.5	
Zonal Check Variety			NDR-97	NDR-97		NDR-97	NDR-97		NDR-97		Luit	Luit	
Local Check Variety			R. BHAGWATI	PANT-12		BVD-110	BVD-107		AJIT		LUIT		

Note: Data of PSA (Pusa) and RCI (Ranchi) not included in the analysis due to low experimental mean

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-1(contd): Grain Yield (kg/ha) of hybrids in IHRT-Early, Kharif 2019

S No.	IET No.	Name	Zone-V									Zone-VI (contd)	
			JBP	RPR	@ ADV	VNR	CH Mean	@ SND	SKL	ANK	Central Mean	KJT	VDG
1	28111	LP-19201	7866(2)	9497(1)	9536(2)	7519(3)	8508	3388	6212(7)	6721(3)	7563	6091(9)	7513(1)
2	28112	RRX-566	6885(10)	6353	7052	6231(9)	6292	3550	5215	4692	5875	5528	6017
3	28113	LP-18204	6727	8033(10)	7848(9)	7166(4)	7600	3867	6245(5)	6736(2)	6981	5595	7209(2)
4	28114	RRX-719	7321(4)	8200(9)	7540	5362	6781	4155(5)	5891(10)	4665	6288	5580	6884(3)
5	28115	US-317	6730	8897(2)	8247(5)	3855	6376	4139(7)	5882	5733(9)	6219	5002	6252(8)
6	28116	WGRH-18	7107(8)	8270(7)	8077(8)	5834	7052	4597(2)	6617(3)	6049(6)	6775	5706	6881(4)
7	28117	NPH-X4	6128	7913	8123(7)	6248(8)	7081	4564(3)	5874	4136	6060	5039	6366(7)
8	28118	MR-8222	6190	8713(4)	7513	7590(2)	8152	3642	6571(4)	6089(5)	7031	5476	6800(5)
9	28119	HRI-201	7177(7)	8300(6)	8858(3)	5818	7059	3317	6955(2)	5695(10)	6789	7929(1)	5809
10	28120	RH-169035	6773	8667(5)	7729(10)	6522(7)	7594	3834	5682	4714	6472	6447(6)	6653(6)
11	28121	ARRH-23664	6903(9)	7567	8187(6)	3337	5452	4443(4)	7818(1)	7279(1)	6581	5002	6167(10)
12	28122	RH-169269	7449(3)	8817(3)	9554(1)	8033(1)	8425	3717	5953(8)	5747(8)	7200	6336(7)	6196(9)
13	28123	IIRRH-130	7204(5)	8247(8)	7463	6015	7131	3438	6216(6)	6028(7)	6742	6603(5)	5537
14	28124	CRHR-105	6651	3597	7118	4672	4134	4147(6)	4685	5082	4937	6929(2)	5179
15	28125	CRHR-106	8458(1)	6867	6774	6161(10)	6514	3450	5060	4236	6156	5010	5254
16	US-314 (NCH)		6629	7170	8270(4)	6848(6)	7009	4802(1)	5411	6239(4)	6460	6003(10)	6108
17	CO-51 (NCV)		5888	4990	5991	2926	3958	3488	3759	5300	4573	6262(8)	4654
18	PR-124/Luit/NDR-97/ Sahbhagidhan/ MTU-1153 (ZCV)		7202(6)	6560	6175	6960(5)	6760	3383	5912(9)	4420	6211	6607(4)	5186
19	Local Check Variety (LCV)		4571	6667	6767	5961	6314	3742	4364	5044	5321	6632(3)	5856
Exp. Mean			6835	7543	7727	5950	6747	3877	5806	5506	6328	5988	6133
CD(0.05)			465.54	940.25	477.01	970.87		557.66	1366.83	805.65		915.72	704.39
CV			4.13	7.55	2.94	9.89		8.72	14.27	8.92		9.27	6.96
D/S			27.6.19	22.6.19	24.6.19	7.6.19		25.6.19	25.6.19	25.6.19		14.6.19	12.6.19
D/P			13.7.19	17.7.19	16.7.19	2.7.19		18.7.19	19.7.19	27.7.19		11.7.19	10.7.19
Gross Plot Size (Sq.m)			10.0	10.0	12.0			10.0	10.0	10.8		8.17	12.6
Net Plot Size (Sq.m)			7.99		10.0	9.72		7.99	7.99	8.19		5.87	10.14
Zonal Check Variety			Sahbhagi dhan	Sahbhagi dhan	Sahbhagi dhan	Sahbhagi dhan		Sahbhagi dhan	Sahbhagi dhan	Sahbhagi dhan		Sahbhagi dhan	Sahbhagi dhan
Local Check Variety			JR-201	I.B DHAN-1		MTU-1010		SYE-1	SAKOLI-6	SKL-6		KARJAT-3	

Note: Data of ADV and SND (Sindewahi) not included in the analysis due to low experimental mean; Data of ADV (Advanta) included in the analysis due to low CV

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-1(contd): Grain Yield (kg/ha) of hybrids in IHRT-Early, Kharif 2019

S No.	IET No.	Name	(contd) Zone-VI							Zone-VII (contd)			
			RDN	MH Mean	@ NWG	NVS	@ DBI	GJ Mean	Western Mean	MTU	BAY	AP Mean	IIRR
1	28111	LP-19201	6706(2)	6649	2419	6272(2)	4520(3)	6272	6646	7586(1)	6933(3)	7260	
2	28112	RRX-566	3746	5040	3113(3)	4608(9)	3062	4608	4975	4595(7)	3150	3873	5157(7)
3	28113	LP-18204	7062(1)	6569	2555(10)	6596(1)	2879	6596	6615	4675(6)	7083(2)	5879	4133
4	28114	RRX-719	4716	5547	1871	3948	2588	3948	5282	3143	5683	4413	7018(1)
5	28115	US-317	4430	5460	2644(9)	4778(7)	2843	4778	5115	3224	6800(4)	5012	5184(6)
6	28116	WGRH-18	5195(5)	6090	3255(2)	4176	3190	4176	5490	3719	6448(7)	5084	4839
7	28117	NPH-X4	4884(8)	5260	3091(4)	4725(8)	2935	4725	5254	4874(4)	6104(10)	5489	5097(9)
8	28118	MR-8222	4030	5793	1560	4552	2882	4552	5215	3715	7817(1)	5766	5602(4)
9	28119	HRI-201	4415	6160	1744	4920(5)	1987	4920	5768	3704	6490(6)	5097	5779(2)
10	28120	RH-169035	4965(7)	5692	1065	5154(3)	1951	5154	5805	3086	4483	3785	4349
11	28121	ARRH-23664	4323	6118	2843(7)	4571(10)	2801	4571	5016	4080	6617(5)	5348	5477(5)
12	28122	RH-169269	5232(4)	5893	2669(8)	4821(6)	2834	4821	5646	4467(8)	5600	5034	5082(10)
13	28123	IIRRH-130	4267	5730	2217	2716	6056(2)	2716	4781	2228	6063	4146	5760(3)
14	28124	CRHR-105	3733	5122	2956(6)	2870	3797(5)	2870	4678		4650	4650	
15	28125	CRHR-106	5126(6)	4937	3069(5)	3102	3670(6)	3102	4623	4813(5)	3867	4340	
16	US-314 (NCH)		5825(3)	5917	2061	5049(4)	3667(7)	5049	5746	2714	4333	3524	4923
17	CO-51 (NCV)		4101	4815	1940	2769	2294	2769	4446	3693	3451	3572	4392
18	PR-124/Luit/NDR-97/ Sahbhagidhan/MTU-1153 (ZCV)		4301	5285	3290(1)	3348	6634(1)	3348	4861	6980(3)	6351(9)	6665	5154(8)
19	Local Check Variety (LCV)		3741	5128	2221	2868	4163(4)	2868	4774	7007(2)	6383(8)	6695	3861
Exp. Mean			4779	5642	2452	4307	3408	4307	5302	4350	5700	5033	5113
CD(0.05)			1111.12		1006.95	888.55	307.98			591.2	733.65		1699.22
CV			14.09		19.54	12.5	5.48			8.69	7.8		19.93
D/S			17.6.19		19.6.19	19.6.19	7.6.19			5.7.19	1.7.19		14.6.19
D/P			17.7.19		16.7.19	8.7.19	15.7.19			29.7.19	24.7.19		6.8.19
Gross Plot Size (Sq.m)			9.18		7.92	12.24	12.96			10.56	12.0		8.44
Net Plot Size (Sq.m)			6.75		5.94	8.55	10.2			8.10	10.0		6.73
Zonal Check Variety			Sahbhagidhan		Sahbhagidhan	Sahbhagidhan	Sahbhagidhan			MTU-1153	MTU-1153		MTU-1153
Local Check Variety			Phule Radha		Mahisagar	GR-7	GR-11			MTU-1156	MTU-1010		Rasi

Note: Data of MWG (Navagam) and DBI (Dabhoi) not included in the analysis due to low experimental mean

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-1 (contd): Grain Yield (kg/ha) of hybrids in IHRT-Early, Kharif 2019

S No.	IET No.	Name	(contd) Zone-VII										Over all Mean
			WGL	TS Mean	MND	BRM	@ MGD	KA Mean	CBT	ADT	TN Mean	Southern Mean	
1	28111	LP-19201	8062(1)	8062	8900	5576(1)	7812(5)	7238	8180(4)	8460(1)	8320	7671	7223
2	28112	RRX-566	5575	5366	9013	3848	5750	6431	5979	4944	5462	5283	5330
3	28113	LP-18204	7794(2)	5963	9162	4333(8)	6395	6748	7934(6)	6423(10)	7178	6442	6705
4	28114	RRX-719	3283	5150	9128	5091(4)	7583(6)	7110	9193(2)	7259(3)	8226	6225	6003
5	28115	US-317	6446(8)	5815	10523(4)	4545	7300(7)	7534	7745(9)	7037(4)	7391	6438	6342
6	28116	WGRH-18	6676(5)	5758	9249	5121(3)	5183	7185	9362(1)	5963	7663	6422	6113
7	28117	NPH-X4	5966	5532	10714(3)	3909	9250(2)	7312	7819(7)	6623(7)	7221	6388	6156
8	28118	MR-8222	7576(3)	6589	9018	4364(7)	9680(1)	6691	7110	7457(2)	7284	6582	6342
9	28119	HRI-201	5414	5597	10145(5)	4000	8368(4)	7072	7420(10)	6469(9)	6945	6178	6257
10	28120	RH-169035	6662(6)	5506	10133(6)	3758	7175(8)	6946	8136(5)	5528	6832	5767	6099
11	28121	ARRH-23664	6007(10)	5742	9840(7)	3667	8656(3)	6753	8786(3)	6685(6)	7736	6395	6002
12	28122	RH-169269	7083(4)	6083	10886(2)	4606(5)	6292	7746	7819(8)	6133	6976	6459	6567
13	28123	IIRRH-130	6537(7)	6149	8890	4273(9)	6000	6581	5665	6407	6036	5728	5927
14	28124	CRHR-105	3861	3861	7349	3697	4875	5523	5840	5120	5480	5086	5419
15	28125	CRHR-106	4596	4596	8048	5242(2)	4108	6645	4873	5228	5051	5238	5523
16	US-314 (NCH)		5613	5268	11533(1)	3909	7167(9)	7721	7362	6611(8)	6987	5875	6108
17	CO-51 (NCV)		5780	5086	8921	3303	3873	6112	5265	6994(5)	6130	5225	4882
18	PR-124/Luit/NDR-97/ Sahbhagidhan/MTU-1153 (ZCV)		6099(9)	5626	8401	3697	6292	6049	5432	5914	5673	6003	5350
19	Local Check Variety (LCV)		5780	4821	7513	4061	3388	5787	7165	5759	6462	5941	5420
Exp. Mean			6043	5609	9335	4263	6587	6799	7215	6369	6792	6071	5988
CD(0.05)			1217.34		1252.42	915.24	4860.8		1054.38	1381.29			
CV			10.44		8.13	10.21	35.11		8.86	13.14			
D/S			8.7.19			17.6.19	7.6.19		3.7.19	24.6.19			
D/P			7.8.19			11.7.19			26.7.19	24.7.19			
Gross Plot Size (Sq.m)			10.56			10.0	6.0		9.9	12.6			
Net Plot Size (Sq.m)			9.03			8.25	6.0		8.1	10.8			
Zonal Check Variety			MTU-1153		MTU-1153	MTU-1153	MTU-1153		MTU-1153	MTU-1153			
Local Check Variety			KNM-118		Raksha	Mahaveera	Prasanna						

Note: Data of MGD (Mugad) not included in the analysis due to high CV

Appendix-2: Days to 50% Flowering (DFF) of hybrids in IHRT-Early, Kharif 2019

S No.	IET No.	Name	Zone-I	Zone-II					Zone-III (contd)				
			MLN	KUL	PNT	LDN	IAR	Northern Mean	MSD	@ ALH	NZV	NGN	UP Mean
1	28111	LP-19201	103	93	99	101	90	96	87	88	101	96	94
2	28112	RRX-566	85	85	91	91	77	86	75	86	98	90	88
3	28113	LP-18204	103	90	94	92	82	90	92	88	104	89	95
4	28114	RRX-719	95	88	92	86	76	86	85	88	101	92	93
5	28115	US-317	99	87	94	88	76	86	91	89	101	90	94
6	28116	WGRH-18	103	96	100	101	87	96	92	89	105	96	98
7	28117	NPH-X4	101	88	95	91	84	90	93	89	98	90	94
8	28118	MR-8222	103	89	94	91	81	89	92	90	103	93	96
9	28119	HRI-201	97	90	93	97	80	90	91	89	104	95	97
10	28120	RH-169035	102	90	95	97	78	90	93	89	101	95	96
11	28121	ARRH-23664	98	86	91	87	74	84	84	85	100	87	91
12	28122	RH-169269	98	87	94	92	82	89	86	89	102	91	93
13	28123	IIRRH-130	98	96	103	104	94	99	96	92	101	101	99
14	28124	CRHR-105	101		96	102	86	95	80	87	97	94	90
15	28125	CRHR-106	100		95	99	85	93	102	86	100	94	99
16	US-314 (NCH)		95	91	96	101	87	94	85	86	101	92	93
17	CO-51 (NCV)		88	79	89	88	79	84	84	88	95	85	88
18	PR-124/Luit/NDR-97/ Sahbhagidhan/MTU-1153 (ZCV)		103	96	106	100	89	98	98	88	85	80	88
19	Local Check Variety (LCV)		100	96	88	91	84	89	75	96	98	104	92
Exp. Mean			99	90	95	95	83	91	89	89	100	92	94

Appendix-2 (contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Early, Kharif 2019

S No.	IET No.	Name	(contd) Zone-III								Zone-IV		
			@ PSA	SYN	BH Mean	@ RCI	TMT	JH Mean	CHN	Eastern Mean	TTB	ARD	North- Eastern Mean
1	28111	LP-19201	93	93	93	127	90	90	97	94	87	93	90
2	28112	RRX-566	86	83	83	124	77	77	81	84	78	89	84
3	28113	LP-18204	92	94	94	125	89	89	90	93	81	93	87
4	28114	RRX-719	88	88	88	120	85	85	85	89	79	94	87
5	28115	US-317	96	85	85	123	85	85	82	89	79	92	85
6	28116	WGRH-18	91	98	98	128	90	90	99	97	89	98	94
7	28117	NPH-X4	95	91	91	127	83	83	96	92	82	93	88
8	28118	MR-8222	96	93	93	128	89	89	97	95	86	93	90
9	28119	HRI-201	94	95	95	122	86	86	89	93	85	94	90
10	28120	RH-169035	90	93	93	124	87	87	98	94	86	94	90
11	28121	ARRH-23664	90	85	85	125	84	84	84	87	84	87	86
12	28122	RH-169269	92	91	91	123	86	86	89	91	79	93	86
13	28123	IIRRH-130	94	98	98	126	82	82	98	96	83	94	88
14	28124	CRHR-105	96	88	88	124	88	88	81	88	85	93	89
15	28125	CRHR-106	102	90	90	127	86	86	83	93	85	89	87
16	US-314 (NCH)		86	91	91	125	78	78	87	89	84	92	88
17	CO-51 (NCV)		84	85	85	122	76	76	86	85	77	89	83
18	PR-124/Luit/NDR-97/ Sahbhagidhan/MTU-1153 (ZCV)		81	77	77	112	74	74	78	82	70	93	82
19	Local Check Variety (LCV)		105	101	101	107	81	81	88	91	76	91	84
Exp. Mean			92	90	90	123	84	84	89	91	82	92	87

Appendix-2 (contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Early, Kharif 2019

S No.	IET No.	Name	Zone-V									Zone-VI (contd)	
			JBP	RPR	@ ADV	VNR	CH Mean	@ SND	SKL	ANK	Central Mean	KJT	VDG
1	28111	LP-19201	93	90	85	94	92	91	86	88	90	87	112
2	28112	RRX-566	87	83	74	82	83	86	76	83	82	87	95
3	28113	LP-18204	90	88	80	87	87	86	84	84	87	88	102
4	28114	RRX-719	88	86	77	83	85	84	80	84	84	83	99
5	28115	US-317	88	88	74	85	86	89	80	82	85	84	96
6	28116	WGRH-18	91	91	83	93	92	93	91	88	91	86	105
7	28117	NPH-X4	90	91	78	85	88	87	83	83	86	85	100
8	28118	MR-8222	89	90	80	88	89	93	86	84	87	85	107
9	28119	HRI-201	92	93	77	85	89	91	82	84	87	90	101
10	28120	RH-169035	91	89	84	90	90	90	88	82	88	93	101
11	28121	ARRH-23664	89	84	79	84	84	86	80	80	83	84	90
12	28122	RH-169269	88	87	77	97	92	88	81	85	88	81	99
13	28123	IIRRH-130	88	90	80	91	91	90	83	92	89	93	99
14	28124	CRHR-105	90	89	79	85	87	78	83	90	87	88	98
15	28125	CRHR-106	89	91	80	89	90	88	86	89	89	93	97
16	US-314 (NCH)		90	90	79	86	88	90	80	86	87	86	98
17	CO-51 (NCV)		87	84	72	91	88	85	78	88	85	84	93
18	PR-124/Luit/NDR-97/ Sahbhagidhan/MTU-1153 (ZCV)		113	114	110	121	118	78	80	102	106	86	114
19	Local Check Variety (LCV)		78	87	70	86	87	93	72	91	83	88	106
Exp. Mean			90	90	80	90	90	88	82	87	88	87	101

Appendix-2 (contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Early, Kharif 2019

S No.	IET No.	Name	(contd) Zone-VI							Zone-VII (contd)			
			RDN	MH Mean	@ NWG	NVS	@ DBI	GJ Mean	Western Mean	MTU	BAY	AP Mean	IIRR
1	28111	LP-19201	107	96	92	89	94	89	99	89	115	102	
2	28112	RRX-566	106	89	91	78	86	78	91	99	106	102	86
3	28113	LP-18204	110	94	87	81	89	81	95	81	111	96	77
4	28114	RRX-719	107	91	90	77	86	77	91	77	111	94	87
5	28115	US-317	103	89	90	83	86	83	92	79	106	93	84
6	28116	WGRH-18	112	96	95	89	95	89	98	88	116	102	96
7	28117	NPH-X4	101	90	89	76	87	76	91	86	111	99	88
8	28118	MR-8222	108	94	91	78	91	78	95	87	115	101	94
9	28119	HRI-201	102	92	91	82	89	82	94	85	112	99	93
10	28120	RH-169035	107	94	92	80	92	80	95	86	116	101	80
11	28121	ARRH-23664	107	88	89	75	86	75	89	84	112	98	87
12	28122	RH-169269	102	89	91	77	88	77	90	80	112	96	78
13	28123	IIRRH-130	102	94	94	85	96	85	95	87	114	101	93
14	28124	CRHR-105	104	93	89	78	91	78	92		111	111	
15	28125	CRHR-106	108	95	90	78	98	78	94	78	106	92	
16	US-314 (NCH)		106	91	91	83	92	83	93	80	105	93	82
17	CO-51 (NCV)		110	90	88	75	86	75	91	73	105	89	82
18	PR-124/Luit/NDR-97/ Sahbhagidhan/MTU-1153 (ZCV)		107	98	113	112	93	112	105	82	111	97	85
19	Local Check Variety (LCV)		111	93	90	82	96	82	97	82	115	98	81
Exp.Mean			106	92	92	82	91	82	94	83	111	98	86

Appendix-2 (contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Early, Kharif 2019

S No.	IET No.	Name	(contd) Zone-VII										Over all Mean
			WGL	TS Mean	MND	BRM	@ MGD	KA Mean	CBT	ADT	TN Mean	Southern Mean	
1	28111	LP-19201	95	95	94	95	101	94	101	106	103	99	95
2	28112	RRX-566	86	86	82	86	74	84	84	93	89	90	87
3	28113	LP-18204	89	83	96	91	99	94	99	104	101	94	92
4	28114	RRX-719	79	83	92	92	99	92	96	105	101	92	89
5	28115	US-317	79	82	94	91	97	92	98	103	101	92	89
6	28116	WGRH-18	98	97	94	94	93	94	107	107	107	100	97
7	28117	NPH-X4	85	87	96	92	100	94	100	106	103	96	91
8	28118	MR-8222	93	94	98	92	101	95	101	106	104	98	93
9	28119	HRI-201	91	92	95	95	100	95	99	100	100	96	93
10	28120	RH-169035	90	85	96	88	96	92	100	105	103	95	93
11	28121	ARRH-23664	89	88	94	89	99	91	98	102	100	94	89
12	28122	RH-169269	81	80	95	92	105	93	99	102	101	92	90
13	28123	IIRRH-130	92	92	81	91	96	86	88	102	95	93	94
14	28124	CRHR-105	85	85	94	93	106	93	72	102	87	93	91
15	28125	CRHR-106	85	85	95	92	100	93	100	101	100	94	92
16	US-314 (NCH)		90	86	81	89	82	85	86	96	91	89	90
17	CO-51 (NCV)		83	82	85	88	91	87	85	94	90	87	86
18	PR-124/Luit/NDR-97/ Sahbhagidhan/MTU-1153 (ZCV)		92	89	90	92	99	91	98	100	99	94	95
19	Local Check Variety (LCV)		93	87	79	92	86	86	83	95	89	90	90
Exp. Mean			88	87	91	91	96	91	94	101	98	94	91

Appendix-3: Quality Characteristics of hybrids in IHRT-Early, Kharif 2019

Sl. No	IET No	Name	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
1	28111	LP-19201	79.5	68.9	43.3	6.90	2.12	3.25	LS	VOC	3.0	23.76	63
2	28112	RRX-566	77.8	70.4	52.2	5.91	2.12	2.78	MS	A	5.4	21.67	43
3	28113	LP-18204	78.6	70.3	56.7	6.78	1.97	3.44	LS	A	7.0	23.29	35
4	28114	RRX-719	79.8	68.8	49.5	7.01	2.07	3.38	LS	VOC	3.0	19.06	93
5	28115	US-317	79.7	69.1	47.2	5.91	2.34	2.52	MS	VOC	3.0	21.41	61
6	28116	WGRH-18	79.8	70.3	61.2	7.03	2.07	3.39	LS	VOC	4.5	23.02	59
7	28117	NPH-X4	77.4	68.3	58.6	5.99	2.41	2.48	SB	VOC	4.0	26.28	47
8	28118	MR-8222	79.1	69.6	53.4	5.79	2.35	2.46	SB	VOC	3.0	23.73	59
9	28119	HRI-201	80.3	68.6	50.1	6.83	2.12	3.22	LS	VOC	4.7	25.98	60
10	28120	RH-169035	79.9	68.9	49.2	6.98	2.11	3.30	LS	VOC	5.0	16.66	100
11	28121	ARRH-23664	80.1	68.7	38.8	5.8	2.39	2.42	SB	VOC	3.0	21.23	76
12	28122	RH-169269	80.1	70.6	56.5	6.43	2.33	2.75	LB	VOC	5.0	20.94	93
13	28123	IIRRH-130	79.5	70.4	61.0	6.43	2.02	3.18	LS	VOC	4.0	27.77	55
14	28124	CRHR-105	-	-	-	-	-	-	-	-	-	-	-
15	28125	CRHR-106	79.4	68.0	43.5	7.08	2.20	3.1	LS	VOC	3.0	21.00	67
16	US-314 (NCH)		79.2	66.5	35.5	5.66	2.06	2.74	MS	VOC	5.5	23.37	63
17	CO-51 (NCV)		78.6	70.5	67.9	5.41	1.97	2.74	MS	A	4.0	25.84	66
18	MTU-1153 (ZCV)		80.1	71.8	65.8	6.32	2.23	2.83	LB	VOC	3.0	21.23	60
19	Rasi (LCV)		-	-	-	-	-	-	-	-	-	-	-

HULL: Hulling (%) Milling (%); HRR rice recovery (%);KL: Kernal length(mm); KB: Kernal breadth(mm);SS: short slender; L/B Length and breadth ratio; Grain Chalk :Grain Chalkiness ; VOC : Very occasionally present; A: Absent ; MS: Medium slender; ASV : Alkali spreading value; AC: Amylose content(%); GC: Gel consistency; LB Long bold; SB::short bold; LS: Long slender

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-4: Grain Yield (kg/ha) of hybrids in IHRT-Mid Early, Kharif 2019

S No.	IET No.	Name	Zone-II						Zone-III (contd)					
			KUL	PNT	LDN	CHT	IAR	Northern Mean	MSD	ALH	JKA	UP Mean	PSA	SYN
1	28126	NPH-101	6133	7479(2)	5438	5633	7060	6349	5799(7)		5358(9)	5579	5889(2)	7619
2	28127	IRH-121	6333	2907	3534	3500	5086	4272	4380	8867(4)	5466(6)	6238	3167	4707
3	28128	SHX-468	7633 (4)	6859(10)	9386(1)	6800(1)	7702	7676	5590(10)	5633	5312(10)	5512	2444	9069(1)
4	28129	SAVA-5055	8167 (2)	6243	6837	6667(2)	8090	7201	5298	7133	5378(8)	5937	3472	7021
5	28130	Indam-300-007	6500	6276	7433(8)	4700	7871	6556	4339	7700	4783	5607	4000	7724(10)
6	28131	SAVA-5065	7400(7)	6470	4545	4333	7213	5992	6300(4)	8133	4727	6387	5611(3)	8127(6)
7	28132	LP-19301	6233	7210(6)	8161(5)	6600(3)	8159	7273	4547	8400(9)	5644(3)	6197	4472	8769(2)
8	28133	MEPH-152	6567	7418(3)	5775	6100(5)	8583(6)	6888	6258(5)	6833	4342	5811	4694(10)	7157
9	28134	RRX-533	6133	6743	5043	5033	8975(4)	6386	5695(8)	9100(3)	5119	6638	2806	5989
10	28135	US-326	6367	6144	4750	4033	8437(8)	5946	4673	8567(8)	4658	5966	4444	7337
11	28136	PHI-19107	7100	6779	8328(4)	5567	9149(3)	7385	3504	7467	5156	5376	4222	7887(8)
12	28137	RRX-633	6400	7150(7)	6411	6267(4)	8697(5)	6985	5215	8567(7)	4960	6247	3417	6941
13	28138	US-339	6933	6727	5730	5433	6040	6173	5298	6567	5166	5677	4694	8003(7)
14	28139	PHI-19108	6733	7212(5)	5819	5633	8542(7)	6788	6195(6)	8800(5)	4676	6557	4500	8537(5)
15	28140	JKRH-2789	7000	6330	6217	5733(9)	9699(1)	6996	6717(3)	1063	6862(1)	4881	4194	6808
16	28141	RNC-0158	7333(8)	6551	8376(3)	4233	8330	6965	4589	1042	5435(7)	3688	5972(1)	8674(3)
17	28142	MP-3020	7400(6)	6548	7017(10)	5700(10)	7632	6859	5674(9)	1082	5178	3978	5333(5)	7345
18	28143	NK-5251++	6400	6570	5434	5800(7)	9195(2)	6680	5590	1122	5285	3999	5306(6)	6941
19	28144	IIRRH-131	6733	5853	5693	5233	8353(9)	6373	3421	5433	5616(4)	4824	3833	7238
20	28145	RNC-0050	7800(3)	7003(9)	5928	6033(6)	6760	6705	4380	6567	5225	5391	4278	8601(4)
21	28146	JRH-119	6033	4676	5315	5167	6616	5561	3713	8393(10)	4470	5525	4139	6938
22	28147	IIRRH-132	8333(1)	7563(1)	5870	5300	7887	6991	7301(1)	7300	5531(5)	6710	4500	7192
23	28148	MTUHR-2104		674			1410	1042		8667(6)	3658	6162	2389	
24	28149	IIRRH-133	7267(9)	7286(4)	6057	5800(8)	6610	6604	4589	6533	5243	5455	5444(4)	6585
25	28150	IRH-120	6900	5305	7020(9)	4200	7010	6087	5257	9463(1)	4789	6503	4333	4247
26	28151	IIRRH-136	7267(10)	6390	5649	4867	8338(10)	6502	4088	5267	4793	4716	4083	6502
27	28152	IRH-122	5900	1628		5067		4198	6800(2)	1032		3916	2778	7110
28	US-312 (NCH)		6067	7057(8)	5291	4333	8183	6186	4130	9133(2)	4839	6034	5111(8)	7292
29	Gontra Bidhan-3 (NCV)		6767	6198	8577(2)	3633	8160	6667	4047	8067	4197	5437	5167(7)	7494
30	PR-113/Lalat/ Karjat-7/ MTU-1010 (ZCV)		7500(5)	5485	7467(7)	4267	6877	6319	5382	6867	5766(2)	6005	4917(9)	7871(9)
31	Local Check Variety (LCV)		5833	4546	7479(6)	4900	6476	5847	4401	5000	5210	4870	3833	6676
Exp. Mean			6839	6041	6365	5219	7571	6273	5106	6460	5095	5543	4305	7280
CD(0.05)			874.25	1178.43	753.40	832.37	699.36		819.38	479.63	362.46		531.75	632.40
CV			7.83	11.96	7.18	9.77	5.69		9.83	4.55	4.36		7.56	5.32
D/S			4.6.19	1.6.19	30.5.19		21.6.19		26.6.19	20.6.19	21.6.19		28.6.19	27.6.19
D/P			11.7.9	1.7.19	29.6.19		28.7.19		20.7.19	18.7.19	20.7.19		26.7.19	25.7.19
Gross Plot Size (Sq.m)			10.0	11.4	9.79	12.0	10.0		10.0		9.45		8.75	10.0
Net Plot Size(Sq.m)			10.0	8.76	7.9	10.0	10.0		7.99		9.36		6.0	10.0
Zonal Check Variety			PR 113	PR 113	PR 113	PR 113	PR 113		Lalat	Lalat	Lalat		Lalat	Lalat
Local Check Variety			HKR-47	PANT Dhan-12	PR-124	SJR-5	Pusa-44		NDR-2065	NDR-359	NDR-2064		Rajendra Sweta	PANT-10

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-4 (contd): Grain Yield (kg/ha) of hybrids in IHRT-Mid Early, Kharif 2019

S No.	IET No.	Name	(contd) Zone-III									Zone-IV		
			BH Mean	@ RCI	PHI	JH Mean	CHN	@ CTK	CHP	OD Mean	Eastern Mean	TTB	ARD	North-Eastern Mean
1	28126	NPH-101	6754	4630(2)	6603	6603	7944(7)	4786(5)	4750	4750	6280	4850	4449	4649
2	28127	IRH-121	3937	2083	5037	5037	6978	3942	4237	4237	5355	5083	3634	4359
3	28128	SHX-468	5757	3380	7352	7352	7758(8)	5146(2)	6320(6)	6320	6185	6167(8)	5395	5781
4	28129	SAVA-5055	5247	4028(3)	7561(10)	7561	8092(4)	3168	5524	5524	6185	5133	6449(3)	5791
5	28130	Indam-300-007	5862	3380	7681(8)	7681	6830	3801	6028	6028	6136	6133(9)	4446	5290
6	28131	SAVA-5065	6869	3889(4)	6247	6247	6496	4023	4264	4264	6238	6267(4)	5209	5738
7	28132	LP-19301	6621	4722(1)	8324(2)	8324	8018(6)	3986	6172(9)	6172	6793	5517	5093	5305
8	28133	MEPH-152	5925	3750(9)	6962	6962	8055(5)	5088(4)	5618	5618	6240	5483	5165	5324
9	28134	RRX-533	4397	3611	7497	7497	7721(9)	2773	5474	5474	6175	5817	5989(8)	5903
10	28135	US-326	5891	3333	7222	7222	7535	3548	5740	5740	6272	5983(10)	3862	4923
11	28136	PHI-19107	6054	3843(5)	7867(5)	7867	7164		6914(3)	6914	6273	6367(3)	4225	5296
12	28137	RRX-633	5179	3194	7502	7502	7238	3355	7022(2)	7022	6358	6217(6)	5576	5896
13	28138	US-339	6349	3102	7411	7411	8241(2)	3806	5497	5497	6360	5367	5598	5482
14	28139	PHI-19108	6518	3796(6)	8100(4)	8100	8092(3)	5268(1)	6482(5)	6482	6923	6767(1)	5940(9)	6353
15	28140	JKRH-2789	5501	3333	7478	7478	6236	2768	5533	5533	5611	5417	6077(5)	5747
16	28141	RNC-0158	7323	3519	8150(3)	8150	6867	2768	5834	5834	5820	6167(7)	5109	5638
17	28142	MP-3020	6339	3796(7)	7732(6)	7732	6830	3767	6019	6019	5649	5483	5427	5455
18	28143	NK-5251++	6123	3472	7188	7188	8315(1)	3777	6248(8)	6248	5749	5833	6405(4)	6119
19	28144	IIRRH-131	5536	2593	7496	7496	5828	2339	5308	5308	5522	5917	5027	5472
20	28145	RNC-0050	6439	3380	8356(1)	8356	7275	3536	6113(10)	6113	6349	5867	6574(2)	6221
21	28146	JRH-119	5538	3426	7387	7387	6236	3592	5740	5740	5877	5217	6009(7)	5613
22	28147	IIRRH-132	5846	3472	7229	7229	7201	4284(8)	7463(1)	7463	6715	4667	5070	4868
23	28148	MTUHR-2104	2389	1019			5271	4064(10)	3171	3171	4631	4017	4452	4234
24	28149	IIRRH-133	6015	3333	7690(7)	7690	6162	5122(3)	5947	5947	6024	5417	5052	5234
25	28150	IRH-120	4290	2870	6674	6674	6199	4298(7)	5380	5380	5793	5217	5747(10)	5482
26	28151	IIRRH-136	5293	3796(8)	7597(9)	7597	6125	4342(6)	5771	5771	5528	5300	5307	5303
27	28152	IRH-122	4944	1806	5951	5951	5457	4035	2780	2780	4558	5483	6655(1)	6069
28	US-312 (NCH)		6201	3704(10)	6988	6988	7610(10)	3587	6545(4)	6545	6456	5500	6059(6)	5779
29	Gontra Bidhan-3 (NCV)		6330	3657	7350	7350	7350	4281(9)	5915	5915	6198	6250(5)	5719	5984
30	PR-113/Lalat/ Karjat-7/ MTU-1010 (ZCV)		6394	3102	6197	6197	6867	3158	5218	5218	6136	6450(2)	4137	5293
31	Local Check Variety (LCV)		5254	2500	6733	6733	4714	3465	6311(7)	6311	5360	4683		4683
Exp. Mean			5713	3339	7252	7252	6990	3862	5656	5656	5992	5614	5329	5461
CD(0.05)				817.60	870.97		566.60	768.94	600.48			600.48	829.29	
CV				14.99	7.35		4.96	12.19	6.50			6.50	9.53	
D/S				27.6.19	1.7.19		20.6.19	25.6.19	10.7.19			9.7.19	15.7.19	
D/P				29.7.19	28.7.19		30.7.19	29.7.19	8.8.19			6.8.19	13.8.19	
Gross Plot Size (Sq.m)				10.5			10.87	9.0	9.6				10.0	
Net Plot Size (Sq.m)				7.2	10.0		8.98	6.84	7.41				8.75	
Zonal Check Variety				Lalat	Lalat		Lalat	Lalat	Lalat					
Local Check Variety				Sahbagidhan	Lalat		Khitish	MTU-1010	MTU-1156			Chilarai		

Note: Data of RCI (Ranchi) and CTK (Cuttack) not included in the analysis due to low experimental mean

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-4 (contd): Grain Yield (kg/ha) of hybrids in IHRT-Mid Early, Kharif 2019

S No.	IET No.	Name	Zone-V								Zone-VI (contd)			
			JBP	RPR	ADV	VNR	CH Mean	SND	ANK	Central Mean	KJT	RDN	MH Mean	NWG
1	28126	NPH-101	7622(5)	8050(3)	7818	6427	7432	6537(5)	6465	7153	7130(4)	5863(3)	6499	5565(2)
2	28127	IRH-121	6539	8060(2)	5225	3546	5610	5499	5202	5678	5713	4739	5288	4170
3	28128	SHX-468	7778(4)	7137(7)	8280	5964	7127	6179(9)	6891	7038	6764(8)	5565(7)	6350	3873
4	28129	SAVA-5055	7292(8)	6127	8636(5)	8143(4)	7635	4827	6837	6977	7103(5)	5730(5)	6124	4635(9)
5	28130	Indam-300-007	6472	8657(1)	8257	6044	7653	6070	6687	7031	6057	5584(6)	6100	3732
6	28131	SAVA-5065	6139	6957(9)	6614	6128	6566	4593	5549	5997	6817(7)	4919	5470	4925(5)
7	28132	LP-19301	6588	5737	8938(4)	8752(2)	7809	5373	6568	6993	6646(9)	4052	5660	5782(1)
8	28133	MEPH-152	7562(6)	5020	8178	8301(3)	7166	6733(4)	7768(1)	7260	7011(6)	6777(1)	7072	4302
9	28134	RRX-533	6755	6823	8253	7145	7407	5507	6293	6796	5359	5188	5587	4551(10)
10	28135	US-326	6327	4860	9217(1)	6369	6815	5682	6720	6529	5839	5885(2)	6031	4167
11	28136	PHI-19107	8320(2)	7400(6)	9156(2)	9029(1)	8529	6137(10)	7301(3)	7891	6508	5818(4)	6441	4924(6)
12	28137	RRX-633	6639	5767	8321	7280	7123	6763(3)	7108(7)	6979	5490	4865	6056	4294
13	28138	US-339	5452	4637	7990	6897	6508	4777	7041(8)	6132	7151(3)	5318(10)	6072	4840(7)
14	28139	PHI-19108	7428(7)	1858	8432	6772	5687	6003	7133(6)	6271	7429(2)	4786	6338	4258
15	28140	JKRH-2789	7131	5563	8001	7133	6899	6971(1)	6657	6909	5642	5312	6146	4751(8)
16	28141	RNC-0158	6492	6007	9156(3)	8118(5)	7760	4977	7203(4)	6992	6563(10)	5416(8)	6040	4103
17	28142	MP-3020	6800	6690	7808	7617(9)	7372	6967(2)	6691	7095	5708	4837	6051	3825
18	28143	NK-5251++	7139(10)	4983	7459	5742	6061	5403	6960(10)	6281	5466	4774	5650	5292(3)
19	28144	IIRRH-131	5807	7898(4)	7650	7795(6)	7781	5277	6414	6807	5529	4862	5521	4521
20	28145	RNC-0050	6509	7107(8)	8381	6154	7214	6283(7)	7740(2)	7029	7720(1)	4248	6498	4436
21	28146	JRH-119	6843	6087	7963	7706(7)	7252	4852	6449	6650	5872	3216	5097	3612
22	28147	IIRRH-132	7206(9)	5623	8562(7)	4995	6393	3725	7158(5)	6212	5514	4894	5323	4208
23	28148	MTUHR-2104		6377	2376	7703(8)	5485	4856	3993	5061	5858	3140	4462	3783
24	28149	IIRRH-133	7923(3)	5420	8466(10)	6258	6715	5853	6966(9)	6814	5651	4628	5775	4115
25	28150	IRH-120	6990	7413(5)	8560(8)	6051	7341	6237(8)	5637	6815	5474	4748	5524	3808
26	28151	IIRRH-136	6390	5077	8309	5525	6304	5469	6176	6158	5552	4900	5524	3880
27	28152	IRH-122		5600	6042	5330	5657	6487(6)	6053	5902	5446	4299	5571	3702
28	US-312 (NCH)		6431	6683	8580(6)	6735	7333	5373	6228	6672	5458	5413(9)	5618	4220
29	Gontra Bidhan-3 (NCV)		8414(1)	6607	8514(9)	5902	7008	4072	5540	6508	5735	5255	5150	5004(4)
30	PR-113/Lalat/ Karjat-7/ MTU-1010 (ZCV)		6093	6891(10)	6007	6310	6403	5323	5002	5938	5200	4812	5084	3668
31	Local Check Variety (LCV)		4649	6761	8289	7604(10)	7551	5261	5674	6373	5674	4669	5320	4203
Exp. Mean			6818	6254	7853	6757	6955	5615	6455	6611	6099	4984	5788	4360
CD(0.05)			462.66	1375.99	520.82	1050.00		93.63	990.72		760.90	1136.53		730.63
CV			4.44	13.47	4.55	9.52		10.15	9.40		7.64	13.96		8.21
D/S			27.6.19	22.6.19	24.6.19	7.6.19		25.6.19	25.6.19		14.6.19	17.6.19		19.6.19
D/P			16.7.19	20.7.19	16.7.19	3.7.19		19.7.19	27.1.19		9.7.19	30.7.19		20.7.19
Gross Plot Size (Sq.m)			10.0	10.0	12.0			10.0	10.8		10.44	7.42		9.9
Net Plot Size (Sq.m)			7.99	10.0	10.0	7.43		7.99	8.19		7.87	5.26		7.56
Zonal Check Variety			Karjat-7	Karjat-7	Karjat-7	Karjat-7		Karjat-7	Karjat-7		Karjat-7	Karjat-7		Karjat-7
Local Check Variety			JR-81	Chandrasasni		MTU-1010		PKV HMT	MTU-1010		Karjat-3	Phule Radha		Mahisagar

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-4 (contd): Grain Yield (kg/ha) of hybrids in IHRT-Mid Early, Kharif 2019

S No.	IET No.	Name	(contd) Zone-VI				Zone-VII (contd)							
			NVS	@ DBI	GJ Mean	Western Mean	MTU	BAY	AP Mean	IIRR	WGL	Tierra	TS Mean	MND
1	28126	NPH-101	5365	4984(3)	5465	5981	4444	4483	4464	4678	5345	10664(3)	6896	9011
2	28127	IRH-121	3559	3039	3864	4545	3728	7700(5)	5714		3124	516	1820	6855
3	28128	SHX-468	4987	3262	4430	5297	5388(10)	6680	6034	4615	8225(8)	10604(4)	7815	9668
4	28129	SAVA-5055	5676	4313	5156	5786	5100	6238	5669	7816(1)	6625	10530(5)	8324	10305
5	28130	Indam-300-007	5133	3432	4433	5127	3598	4983	4291	5774(9)	6172	8957	6968	9652
6	28131	SAVA-5065	5026	5105(1)	4976	5422	4113	4217	4165	4861	4661	9679	6401	8700
7	28132	LP-19301	6716(5)	5020(2)	6249	5799	3791	8069(4)	5930	6091(7)	9593(1)	10317(10)	8667	10550
8	28133	MEPH-152	6015	4092	5159	6026	4286	8117(2)	6202	5692	8473(6)	9612	7926	9481
9	28134	RRX-533	5704	4243	5127	5200	3944	7450(7)	5697	5382	5736	9409	6843	9725
10	28135	US-326	5306	2971	4736	5299	7794(1)	5217	6505	5324	5094	10517(6)	6978	10942(5)
11	28136	PHI-19107	5636	4651(6)	5280	5722	7792(2)	8183(1)	7988	6864(2)	5252	10739(1)	7619	11614(2)
12	28137	RRX-633	5359	3103	4826	5002	3842	6633	5237	6420(3)	7971(9)	9641	8011	10551(10)
13	28138	US-339	6512(7)	4531(9)	5676	5955	4769	6000	5384	6147(6)	8327(7)	9717	8064	9126
14	28139	PHI-19108	7654(1)	4079	5956	6032	7365(3)	5045	6205	5959(8)	9580(2)	10508(7)	8682	10373
15	28140	JKRH-2789	6677(6)	4404(10)	5714	5596	3902	5571	4737	5672	7109	9127	7303	10774(6)
16	28141	RNC-0158	6135(10)	3960	5119	5554	6602(7)	6967	6784	5631	7207	10444(9)	7761	10741(8)
17	28142	MP-3020	7269(4)	3665	5547	5410	3996	4220	4108	4801	7478	10200	7493	11027(4)
18	28143	NK-5251++	6502(8)	4536(8)	5897	5508	6733(6)	7067(10)	6900		8891(4)	10465(8)	9678	10743(7)
19	28144	IIRRH-131	4854	4352	4687	4942	3667	3867	3767	4800	5665	9343	6603	8717
20	28145	RNC-0050	7423(2)	4103	5929	5957	3600	5783	4692	5349	9398(3)	10738(2)	8495	11919(1)
21	28146	JRH-119	5316	3526	4464	4504	3484	7403(8)	5444	4869	6581	7859	6436	8562
22	28147	IIRRH-132	7309(3)	4541(7)	5759	5481	3842	7068(9)	5455	6153(5)	8662(5)	9346	8054	10099
23	28148	MTUHR-2104	6112	3827	4948	4723	5746(9)	4157	4952	2478	4479	4755	3904	1115
24	28149	IIRRH-133	6232(9)	4784(4)	5173	5156	4202	6214	5208	5670	6363	9090	7041	8629
25	28150	IRH-120	3441	3066	3624	4368	6007(8)	6428	6217	5585	5670	9875	7043	8198
26	28151	IIRRH-136	5878	4046	4879	5053	6768(5)	6600	6684	5334	5350	9934	6873	9859
27	28152	IRH-122	4950	2951	4326	4599		8102(3)	8102		4879	462	2670	11179(3)
28	US-312 (NCH)		5317	3235	4768	5102	3738	5017	4377	5702(10)	7540(10)	10188	7810	10397
29	Gontra Bidhan-3 (NCV)		5159	4687(5)	5081	5288	4110	7633(6)	5872	4656	7438	9877	7324	10588(9)
30	PR-113/Lalat/ Karjat-7/ MTU-1010 (ZCV)		3383	2620	3525	4266	4549	5733	5141	4288	5314	7531	5711	8466
31	Local Check Variety (LCV)		5698	4039	4950	5061	7329(4)	6411	6870	6390(4)	5687		6039	8636
Exp. Mean			5687	3973	5023	5283	4941	6234	5639	5464	6706	9021	7008	9555
CD(0.05)			1169.24	410.04			599.64	795.82		1447.09	1443.08	1034.11		1029.15
CV			12.59	6.32			7.43	7.82		16.22	13.18	7.25		6.6
D/S			11.6.19	7.6.19			5.7.19	29.6.19		16.6.19	1.7.19	20.6.19		
D/P			8.7.19	15.7.19			29.7.19	20.7.19		6.8.19	3.8.19	16.7.19		
Gross Plot Size (Sq.m)			10.8	12.96			10.56	12.0		8.44	7.5	6.0		
Net Plot Size (Sq.m)			8.82	10.2			8.10	10.0		6.73	5.88	5.0		
Zonal Check Variety			Karjat-7	Karjat-7			MTU-1010	MTU-1010		MTU-1010	MTU-1010	MTU-1010		MTU-1010
Local Check Variety			NAUR-1	GR-11			MTU-1121	MTU-1010		Varadhan	RNR-15048			IR-64

Note: Data of DBI (Dabhoi) not included in the analysis due to low experimental mean

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-4 (contd): Grain Yield (kg/ha) of hybrids in IHRT-Mid Early, Kharif 2019

S No.	IET No.	Name	(contd) Zone-VII							Over all Mean
			@ BRM	MGD	KA Mean	CBT	ADT	TN Mean	Southern Mean	
1	28126	NPH-101	3182	5678	7345	7081	6265	6673	6406	6348
2	28127	IRH-121	2606	3907	5381	2675	5710	4192	4277	4830
3	28128	SHX-468	2818	5888	7778	7453(10)	6713	7083	7248	6708
4	28129	SAVA-5055	2939	7209(7)	8757	7620(7)	6343	6981	7532	6760
5	28130	Indam-300-007	4067(7)	5751	7701	4281	7191(9)	5736	6262	6220
6	28131	SAVA-5065	2673	6943(10)	7822	7128	6929	7028	6359	6066
7	28132	LP-19301	2939	6931	8741	3803	7731(3)	5767	7431	6863
8	28133	MEPH-152	3606	6150	7816	8260(3)	6914	7587	7443	6755
9	28134	RRX-533	2939	5055	7390	8056(5)	6281	7169	6782	6346
10	28135	US-326	3848(10)	7031(9)	8986	7805(6)	6898	7352	7402	6375
11	28136	PHI-19107	3000	8234(3)	9924	7216	6790	7003	8076	7077
12	28137	RRX-633	2927	6345	8448	6965	6574	6770	7216	6600
13	28138	US-339	3030	8444(2)	8785	9561(1)	6574	8067	7629	6529
14	28139	PHI-19108	3152	9258(1)	9816	9022(2)	6975	7999	8232	6996
15	28140	JKRH-2789	2818	7995(4)	9385	7531(8)	6420	6976	7123	6450
16	28141	RNC-0158	3273	6106	8424	6282	6466	6374	7383	6567
17	28142	MP-3020	5030(3)	7148(8)	9088	4850	7076(10)	5963	6755	6336
18	28143	NK-5251++	5273(2)	7312(6)	9027	8089(4)	8565(1)	8327	8483	6643
19	28144	IIRRH-131	5030(4)	4495	6606	5131	6636	5883	5813	5880
20	28145	RNC-0050	3576	7478(5)	9699	7290	7809(2)	7549	7707	6827
21	28146	JRH-119	4776(5)	5452	7007	6538	7222(8)	6880	6441	5939
22	28147	IIRRH-132	4424(6)	5224	7662	7443	7392(5)	7418	7248	6554
23	28148	MTUHR-2104	2879	3714	2415	4462	6620	5541	4170	4275
24	28149	IIRRH-133	2818	6011	7320	5809	6836	6323	6536	6236
25	28150	IRH-120	2758	4591	6395	5252	7670(4)	6461	6586	6040
26	28151	IIRRH-136	3582	6703	8281	6668	5895	6281	7012	6106
27	28152	IRH-122	3939(9)	4608	7893	5530	6281	5906	5863	5200
28	US-312 (NCH)		5545(1)	6439	8418	6793	7346(7)	7069	7018	6404
29	Gontra Bidhan-3 (NCV)		3970(8)	5063	7825	7035	7377(6)	7206	7086	6437
30	PR-113/Lalat/ Karjat-7/ MTU-1010 (ZCV)		2091	2384	5425	4996	6204	5600	5496	5689
31	Local Check Variety (LCV)		3727	6852	7744	7531(9)	6867	7199	6963	5968
Exp. Mean			3524	6142	7848	6586	6857	6721	6838	6259
CD(0.05)			612.51	1507		1252.28	1184.02			
CV			8.51	12.02		11.76	10.57			
D/S			17.6.19	4.6.19		17.6.19	24.6.19			
D/P			17.7.19			30.7.19	23.7.19			
Gross Plot Size (Sq.m)			10.0	8.8		9.06	12.6			
Net Plot Size (Sq.m)			8.25	8.8		7.17	10.8			
Zonal Check Variety			MTU-1010	MTU-1010		MTU-1010	MTU-1010			
Local Check Variety			Mahaveera	MGD-101		ADT-39				

Note: Data of BRM (Brahmavar) not included in the analysis due to low experimental mean

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-5: Days to 50% Flowering (DFF) of hybrids in IHRT-Mid Early, Kharif 2019

S No.	IET No.	Name	Zone-II						Zone-III (contd)					
			KUL	PNT	LDN	CHT	IAR	Northern Mean	MSD	ALH	JKA	UP Mean	PSA	SYN
1	28126	NPH-101	99	100	103	104	94	100	102		96	99	105	98
2	28127	IRH-121	88	93	94	93	83	90	93	91	83	89	89	86
3	28128	SHX-468	95	99	102	96	92	97	102	81	91	92	95	96
4	28129	SAVA-5055	89	96	95	98	84	92	96	81	91	89	102	94
5	28130	Indam-300-007	91	94	97	96	85	93	94	85	88	89	85	93
6	28131	SAVA-5065	101	102	104	106	96	102	102	86	95	94	98	101
7	28132	LP-19301	90	95	94	100	87	93	95	96	89	93	104	95
8	28133	MEPH-152	100	102	103	102	96	101	101	88	92	94	104	97
9	28134	RRX-533	101	104	105	99	93	100	95	89	93	93	95	96
10	28135	US-326	95	97	102	103	89	97	102	90	88	93	90	93
11	28136	PHI-19107	91	96	95	99	90	94	102	87	91	93	99	96
12	28137	RRX-633	96	101	101	103	93	99	105	85	94	94	104	98
13	28138	US-339	99	103	103	105	98	102	103	83	94	93	96	98
14	28139	PHI-19108	100	104	106	104	97	102	103	92	99	98	107	100
15	28140	JKRH-2789	100	104	104	106	97	102	104	86	94	95	100	96
16	28141	RNC-0158	95	99	101	98	90	97	102	78	93	91	90	96
17	28142	MP-3020	97	101	102	102	95	99	103	85	95	95	105	96
18	28143	NK-5251++	99	99	104	102	90	99	106	87	94	96	95	98
19	28144	IIRRH-131	93	98	103	100	82	95	97	89	90	92	96	95
20	28145	RNC-0050	97	105	106	105	92	101	108	83	98	96	106	102
21	28146	JRH-119	94	98	102	99	87	96	97	91	91	93	97	95
22	28147	IIRRH-132	98	100	101	103	91	99	100	89	91	93	97	96
23	28148	MTUHR-2104		123			121	122		89	121	105	115	114
24	28149	IIRRH-133	104	109	110	107	94	105	106	87	99	97	105	101
25	28150	IRH-120	90	96	102	97	90	95	99	91	88	93	95	93
26	28151	IIRRH-136	100	103	103	106	101	103	105	85	94	95	97	99
27	28152	IRH-122	94	102		105		100	95	87		91	92	98
28	US-312 (NCH)		94	99	104	101	93	98	102	83	94	93	95	95
29	Gontra Bidhan-3 (NCV)		92	98	95	97	92	95	103	81	95	93	99	96
30	PR-113/Lalat/ Karjat-7/MTU-1010 (ZCV)		102	108	102	112	99	105	102	91	94	96	105	99
31	Local Check Variety (LCV)		101	95	100	106	105	101	105	92	99	99	114	103
Exp. Mean			96	101	102	102	93	99	101	87	94	94	99	97

Appendix-5 (contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Mid Early, Kharif 2019

S No.	IET No.	Name	(contd) Zone-III									Zone-IV		
			BH Mean	@ RCI	PHI	JH Mean	CHN	@ CTK	CHP	OD Mean	Eastern Mean	TTB	ARD	North Eastern Mean
1	28126	NPH-101	102	120	100	100	98	93	105	105	101	100	98	99
2	28127	IRH-121	87	109	89	89	84	88	87	87	88	88	84	86
3	28128	SHX-468	96	116	100	100	99	93	104	104	96	98	96	97
4	28129	SAVA-5055	98	120	98	98	100	90	94	94	95	92	90	91
5	28130	Indam-300-007	89	115	96	96	99	91	102	102	93	96	95	95
6	28131	SAVA-5065	99	123	102	102	100	93	105	105	99	101	95	98
7	28132	LP-19301	100	111	97	97	102	91	94	94	97	91	93	92
8	28133	MEPH-152	101	121	100	100	97	93	103	103	98	100	95	97
9	28134	RRX-533	96	117	96	96	98	96	101	101	95	102	86	94
10	28135	US-326	92	120	98	98	100	92	103	103	96	98	92	95
11	28136	PHI-19107	98	121	99	99	92		102	102	96	99	95	97
12	28137	RRX-633	101	117	98	98	96	93	100	100	97	102	97	99
13	28138	US-339	97	124	100	100	97	93	106	106	97	100	91	96
14	28139	PHI-19108	103	123	101	101	99	93	108	108	101	101	98	100
15	28140	JKRH-2789	98	123	100	100	98	95	104	104	98	101	97	99
16	28141	RNC-0158	93	119	99	99	99	95	106	106	95	101	98	99
17	28142	MP-3020	100	120	100	100	100	91	104	104	99	100	96	98
18	28143	NK-5251++	96	122	101	101	98	91	106	106	98	101	93	97
19	28144	IIRRH-131	95	114	98	98	98	91	99	99	95	96	94	95
20	28145	RNC-0050	104	123	102	102	102	94	110	110	101	104	93	98
21	28146	JRH-119	96	113	99	99	99	92	100	100	96	100	93	97
22	28147	IIRRH-132	96	116	97	97	98	95	100	100	96	97	100	99
23	28148	MTUHR-2104	115	128	109	109	115	90	117	117	111	108	93	101
24	28149	IIRRH-133	103	120	100	100	92	91	105	105	99	104	93	99
25	28150	IRH-120	94	117	99	99	102	91	99	99	96	94	94	94
26	28151	IIRRH-136	98	123	98	98	97	90	104	104	98	101	80	90
27	28152	IRH-122	95	114	97	97	87	90	95	95	93	92	91	92
28	US-312 (NCH)		95	123	99	99	99	95	102	102	96	100	92	96
29	Gontra Bidhan-3 (NCV)		97	121	98	98	101	94	99	99	96	97	94	96
30	PR-113/Lalat/ Karjat-7/MTU-1010 (ZCV)		102	123	99	99	100	90	106	106	100	101	97	99
31	Local Check Variety (LCV)		109	110	97	97	94	93	100	100	100	105		105
Exp. Mean			98	119	99	99	98	92	102	102	97	99	93	96

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-5 (contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Mid Early, Kharif 2019

S No.	IET No.	Name	Zone-V								Zone-VI (contd)			
			JBP	RPR	ADV	VNR	CH Mean	SND	ANK	Central Mean	KJT	RDN	MH Mean	NWG
1	28126	NPH-101	96	98	87	97	94	97	102	96	89	117	101	102
2	28127	IRH-121	82	98	70	84	84	81	93	85	80	108	90	96
3	28128	SHX-468	96	97	81	90	89	93	97	92	85	117	98	99
4	28129	SAVA-5055	92	100	81	92	91	90	99	92	87	112	97	96
5	28130	Indam-300-007	91	100	79	89	89	87	96	90	84	112	95	98
6	28131	SAVA-5065	102	104	90	98	97	93	100	98	97	113	101	101
7	28132	LP-19301	94	98	81	88	89	91	98	92	86	112	97	97
8	28133	MEPH-152	96	101	86	97	95	98	99	96	92	117	101	99
9	28134	RRX-533	92	94	84	95	91	93	98	93	96	115	100	97
10	28135	US-326	91	92	81	91	88	89	99	90	85	113	96	98
11	28136	PHI-19107	93	96	85	92	91	98	97	93	96	110	100	95
12	28137	RRX-633	94	92	83	92	89	92	98	92	85	112	97	97
13	28138	US-339	99	90	86	97	91	97	104	96	89	116	102	99
14	28139	PHI-19108	98	116	87	98	100	96	105	100	98	115	104	102
15	28140	JKRH-2789	99	94	88	94	92	95	102	95	99	115	103	100
16	28141	RNC-0158	93	95	84	94	91	91	99	93	90	113	98	97
17	28142	MP-3020	95	93	85	96	91	95	101	94	89	113	100	101
18	28143	NK-5251++	96	90	87	86	87	95	105	93	94	120	104	102
19	28144	IIRRH-131	92	94	79	97	90	92	98	92	83	117	98	97
20	28145	RNC-0050	99	97	87	90	91	98	105	96	98	112	103	102
21	28146	JRH-119	93	95	80	94	90	88	96	91	85	112	95	100
22	28147	IIRRH-132	94	101	83	117	100	95	102	99	90	111	100	101
23	28148	MTUHR-2104	108	96	106	100	100	107	115	105	87	124	109	113
24	28149	IIRRH-133	100	100	85	89	91	96	105	96	87	114	101	102
25	28150	IRH-120	94	96	80	97	91	88	95	92	86	110	95	97
26	28151	IIRRH-136	98	94	85	87	89	95	101	93	101	112	102	105
27	28152	IRH-122		101	80	88	90	89	96	91	94	111	98	101
28	US-312 (NCH)		95	95	84	94	91	92	98	93	90	113	98	95
29	Gontra Bidhan-3 (NCV)		94	96	83	89	89	92	98	92	84	118	98	96
30	PR-113/Lalat/ Karjat-7/MTU-1010 (ZCV)		94	93	80	89	87	89	95	90	87	105	94	90
31	Local Check Variety (LCV)		94	96	76	97	90	98	98	93	89	120	101	90
Exp. Mean			95	97	83	93	92	93	100	94	90	114	99	99

Appendix-5 (contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Mid Early, Kharif 2019

S No.	IET No.	Name	(contd) Zone-VI				Zone-VII (contd)							
			NVS	DBI	GJ Mean	Western Mean	MTU	BAY	AP Mean	IIRR	WGL	Tiera	TS Mean	MND
1	28126	NPH-101	92	101	97	100	88	120	104	107	97	97	100	97
2	28127	IRH-121	79	88	88	91	74	101	88		86	90	88	77
3	28128	SHX-468	81	95	90	96	72	112	92	102	93	94	96	95
4	28129	SAVA-5055	85	92	91	95	82	114	98	93	90	92	92	96
5	28130	Indam-300-007	84	93	91	94	81	113	97	101	91	90	94	98
6	28131	SAVA-5065	92	104	96	101	88	116	102	103	101	98	101	99
7	28132	LP-19301	87	90	92	95	82	116	99	87	92	90	90	97
8	28133	MEPH-152	90	102	94	99	89	119	104	103	100	95	99	97
9	28134	RRX-533	89	103	93	99	87	118	102	103	101	92	99	94
10	28135	US-326	88	99	93	96	86	113	100	104	91	91	95	93
11	28136	PHI-19107	88	90	92	98	85	118	102	102	90	93	95	102
12	28137	RRX-633	87	98	92	96	87	114	101	92	96	92	93	88
13	28138	US-339	94	101	96	100	88	116	102	104	97	97	99	95
14	28139	PHI-19108	91	101	96	101	90	117	104	106	105	96	102	94
15	28140	JKRH-2789	86	99	93	100	87	117	102	105	100	99	101	96
16	28141	RNC-0158	86	99	91	96	86	115	101	101	101	96	99	98
17	28142	MP-3020	87	101	94	97	85	118	101	105	100	95	100	96
18	28143	NK-5251++	86	101	94	101	87	117	102		97	97	97	96
19	28144	IIRRH-131	85	100	91	96	82	112	97	99	87	89	92	86
20	28145	RNC-0050	90	114	96	101	91	119	105	109	102	99	103	98
21	28146	JRH-119	84	100	92	95	82	114	98	98	90	93	94	94
22	28147	IIRRH-132	91	100	96	98	83	115	99	101	96	93	97	88
23	28148	MTUHR-2104	99	104	106	106	102	119	110	113	114	106	111	101
24	28149	IIRRH-133	94	104	98	99	92	120	106	100	102	97	100	94
25	28150	IRH-120	83	101	90	94	83	112	97	97	92	93	94	95
26	28151	IIRRH-136	91	103	98	102	88	117	103	106	102	94	101	93
27	28152	IRH-122	92	102	96	97		116	116		97	94	96	94
28	US-312 (NCH)		86	101	90	96	84	117	100	100	90	93	95	95
29	Gontra Bidhan-3 (NCV)		87	92	91	96	84	112	98	101	95	93	96	98
30	PR-113/Lalat/ Karjat-7/MTU-1010 (ZCV)		83	101	86	91	78	110	94	98	89	88	92	87
31	Local Check Variety (LCV)		85	102	88	96	107	116	111	103	108		106	91
Exp. Mean			88	99	93	98	86	115	101	102	97	94	97	94

Appendix-5 (contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Mid Early, Kharif 2019

S No.	IET No.	Name	(contd) Zone-VII							Over All Mean
			@ BRM	MGD	KA Mean	CBT	ADT	TN Mean	Southern Mean	
1	28126	NPH-101	105	108	103	115	104	109	104	100
2	28127	IRH-121	94	84	81	99	95	97	88	88
3	28128	SHX-468	106	103	99	111	102	107	98	96
4	28129	SAVA-5055	102	104	100	106	98	102	97	94
5	28130	Indam-300-007	102	94	96	108	99	103	97	94
6	28131	SAVA-5065	107	108	104	115	108	112	104	101
7	28132	LP-19301	103	102	100	107	105	106	97	95
8	28133	MEPH-152	102	106	102	115	101	108	103	99
9	28134	RRX-533	95	100	97	112	102	107	101	97
10	28135	US-326	97	102	97	111	106	108	100	96
11	28136	PHI-19107	96	105	103	111	99	105	101	97
12	28137	RRX-633	94	101	94	107	93	100	97	96
13	28138	US-339	105	109	102	115	103	109	103	99
14	28139	PHI-19108	106	111	103	110	105	107	104	102
15	28140	JKRH-2789	104	104	100	110	106	108	103	100
16	28141	RNC-0158	103	107	103	114	103	108	102	97
17	28142	MP-3020	105	109	102	111	99	105	102	99
18	28143	NK-5251++	104	111	104	111	108	109	103	99
19	28144	IIRRH-131	104	107	97	107	97	102	96	95
20	28145	RNC-0050	106	112	105	113	106	110	105	101
21	28146	JRH-119	105	106	100	101	106	104	98	96
22	28147	IIRRH-132	103	104	96	103	99	101	98	98
23	28148	MTUHR-2104	115	121	111	118	116	117	112	110
24	28149	IIRRH-133	102	102	98	113	99	106	102	100
25	28150	IRH-120	102	110	103	107	101	104	99	95
26	28151	IIRRH-136	105	107	100	114	107	111	103	99
27	28152	IRH-122	102	101	98	107	102	104	102	96
28	US-312 (NCH)		105	107	101	105	110	108	100	97
29	Gontra Bidhan-3 (NCV)		104	108	103	114	110	112	102	97
30	PR-113/Lalat/ Karjat-7/MTU-1010 (ZCV)		102	102	95	100	96	98	94	96
31	Local Check Variety (LCV)		96	101	96	111	112	111	106	100
Exp. Mean			102	105	100	110	103	106	101	98

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-6: Quality Characteristics of hybrids in IHRT-Mid Early, Kharif 2019

S. No	IET No	Name	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
1	28126	NPH-101	80.7	70.4	50.9	6.78	2.14	2.36	LB	VOC	4.3	24.58	54
2	28127	IRH-121	-	-	-	-	-	-	-	-	-	-	-
3	28128	SHX-468	80.7	72.1	64.4	6.24	2.1	2.97	LB	VOC	4.0	22.55	48
4	28129	SAVA-5055	79.5	69.7	53.9	6.42	2.18	2.94	LB	VOC	4.6	16.60	97
5	28130	Indam-300-007	79.4	70.7	62.9	5.82	2.29	2.54	MS	VOC	4.0	25.69	35
6	28131	SAVA-5065	80.8	71.0	61.5	5.55	1.94	2.86	MS	VOC	3.0	17.54	85
7	28132	LP-19301	80.3	70.9	57.2	6.38	2.17	2.94	LB	A	7.0	19.85	53
8	28133	MEPH-152	81.3	73.4	69.7	5.75	2.24	2.56	MS	VOC	6.0	23.78	22
9	28134	RRX-533	80.5	72.0	66.2	6.41	2.24	2.86	LB	A	7.0	25.81	22
10	28135	US-326	81.1	72.5	66.5	6.52	2.14	3.04	LS	VOC	4.5	22.55	53
11	28136	PHI-19107	81.4	71.0	59.1	6.75	2.07	3.26	LS	VOC	3.0	23.26	70
12	28137	RRX-633	79.8	71.3	64.2	6.42	2.01	3.19	LS	A	4.8	23.58	100
13	28138	US-339	81.0	70.5	47.4	6.03	2.29	2.63	LB	VOC	4.0	22.26	67
14	28139	PHI-19108	80.5	69.0	44.9	6.5	2.36	2.75	LB	VOC	4.0	26.37	40
15	28140	JKRH-2789	81.2	70.8	55.9	6.4	2.16	2.96	LB	VOC	5.1	21.18	54
16	28141	RNC-0158	79.7	71.0	60.8	7.21	2.04	3.53	LS	VOC	4.0	21.82	77
17	28142	MP-3020	79.6	71.2	66.2	6.26	2.01	3.11	LS	VOC	4.3	19.80	43
18	28143	NK-5251++	-	-	-	-	-	-	-	-	-	-	-
19	28144	IIRRH-131	81.5	71.6	55.3	5.82	2.00	2.91	MS	VOC	4.8	23.78	31
20	28145	RNC-0050	79.7	70.6	60.0	6.12	2.28	2.68	LB	VOC	3.5	22.88	61
21	28146	JRH-119	80.1	72.0	62.5	6.81	1.99	3.42	LS	VOC	4.8	25.13	22
22	28147	IIRRH-132	80.4	70.6	56.9	7.31	1.92	3.80	LS	VOC	4.0	25.54	60
23	28148	MTUHR-2104	79.6	70.6	66.3	5.41	1.97	2.74	MS	VOC	4.0	24.25	40
24	28149	IIRRH-133	80.4	70.6	59.6	6.9	1.85	3.72	LS	VOC	4.0	25.78	48
25	28150	IRH-120	79.0	69.7	62.0	6.61	1.96	3.37	LS	VOC	7.0	24.87	22
26	28151	IIRRH-136	80.3	71.5	67.8	5.63	1.99	2.82	MS	VOC	5.5	25.96	22
27	28152	IRH-122	-	-	-	-	-	-	-	-	-	-	-
28	US-312 (NCH)		80.2	71.6	63.1	5.62	2.03	2.76	MS	VOC	4.4	21.88	47
29	Gontra Bidhan-3 (NCV)		80.0	70.2	58.9	5.46	2.28	2.39	SB	VOC	4.0	25.72	40
30	MTU-1010 (ZCV)		77.9	68.1	40.5	6.39	2.02	3.16	LS	VOC	3.5	24.22	60
31	Varadhan (LCV)		-	-	-	-	-	-	-	-	-	-	-

HULL: Hulling (%); Milling (%); HRR: rice recovery (%); KL: Kernal length(mm); KB:Kernal breadth(mm);SS: short slender; L/B Length and breadth ratio; Grain Chalk:Grain Chalkiness;VOC:Very occasionally present; A: Absent;MS:Medium slender; ASV:Alkali spreading value; AC: Amylose content(%); GC:Gel consistency; LB Long bold; SB: short bold; LS: Long slender

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-7: Grain Yield (kg/ha) of hybrids in IHRT-Medium, Kharif 2019

S No.	IET No.	Name	Zone- II				Zone- III (contd)							
			KUL	PNT	LDN	Northern Mean	MSD	NZV	TMT	VRN	UP Mean	PSA	SBR	PHI
1	28153	TMRH-5559	9333(5)	6456	5476	7089	5090	8967	6687(8)	7047	6947	5250(7)	9332(3)	8324
2	28154	MEPH-153	9233(8)	6414	4771	6806	4693	9352(5)	6853(6)	7767	7166	4556	8300	8675(8)
3	28155	RRX-426	8267	6780(5)	6323(5)	7123	5340(10)	9057(9)	5935	8193	7131	3944	8165	8069
4	28156	US-368	9267(7)	6203	5534	7001	4673	8336	7812(1)	7660	7120	5139(10)	9107(6)	8068
5	28157	NPH-X29	8533	5659	5904(9)	6699	5298	9938(1)	6220	5320	6694	4833	8793(9)	8127
6	28158	RRX-445	8900(10)	6662(8)	6336(4)	7300	5257	9041(10)	6403	8837(7)	7384	6472(3)	9287(4)	8051
7	28159	PHI-19103	8767	7166(1)	5450	7128	4735	9357(4)	7037(3)	8277(10)	7351	4111	9646(2)	9355(3)
8	28160	HRI-202	10233(1)	6451	4660	7115	5882(6)	9360(3)	6862(5)	9307(4)	7853	3889	9870(1)	8633(9)
9	28161	RH-169292	9233(9)	6401	6027(7)	7221	6028(3)	8779	6694(7)	8083	7396	5278(6)	7986	8608(10)
10	28162	PHI-19104	9833(2)	6521(9)	5957(8)	7437	5090	9721(2)	6926(4)	10773(1)	8127	6222(4)	8703(10)	9102(5)
11	28163	PHI-19105	9767(3)	7153(2)	5767	7562	5194	9238(7)	6652(9)	8653(8)	7434	4472	8569	9489(2)
12	28164	RH-169257	9300(6)	6678(7)	5049	7009	5340	9311(6)	6461	9093(6)	7551	7056(2)	7582	7750
13	28165	IIRRH-134	3433	6360	2094	3963	4547	8803	5621	3523	5624	5250(8)	3858	5323
14	28166	PHI-19106	8467	6519(10)	6526(2)	7170	6487(1)	9008	6485(10)	8207	7547	4111	8838(8)	9013(6)
15	28167	MP-3310	8000	6156	5811(10)	6656	5507(9)	8327	6164	8487(9)	7121	7611(1)	9242(5)	7892
16	28168	IIRRH-135	7567	6210	4784	6187	5152	7278	5772	6740	6236	3667	7133	5765
17	28169	CP-800	7800	5799	4162	5921	6008(4)	6983	6142	7370	6626	4000	5698	6634
18	28170	CRHR-122	6833	5539	4603	5659	4339	7139	5504	5370	5588	4639	4038	5190
19	28171	RNE-0122	8900	6811(4)	6217(6)	7309	5736(7)	9098(8)	6110	9667(3)	7653	3611		9653(1)
20	28172	IIRRH-137	7100	5688	3404	5397	4485	7746	5767	8193	6548	5194(9)	6595	6881
21	28173	CRHR-148	6933	4588	3598	5040	5549(8)	7623		6517	6563	4111	8255	6948
22	28174	RNE-0148	9567(4)	7053(3)	6451(3)	7690	4819	8524	6359	10177(2)	7470	4417		9127(4)
23	28175	DLRH-6	8100	6277	4431	6269	3942	7245	6307	7883	6345	4528	8703	7757
24	28176	IIRRH-138	8267	5659	4537	6154	5945(5)	8467	6191	6947	6887	4333	8479	7666
25	HRI-174 (NCH)		8233	6750(6)	5741	6908	4088	8737	7078(2)	9137(5)	7260	4889	9062(7)	8946(7)
26	NDR-359 (NCV)		6833	5763	5243	5946	6258(2)	7615	6285	7663	6955	4778	8479	8143
27	PR-121/CR Dhan-300/ IR-64/ Akshayadhan/ Jaya (ZCV)		7500	5895	5375	6257	4005	7156		2900	4687	4806	8165	
28	Local Check Variety (LCV)		7433	5444	6526(1)	6468	5298	6285	6064	4963	5653	5694(5)	8210	6506
Exp. Mean			8273	6252	5241	6589	5171	8446	6400	7598	6890	4888	8081	7915
CD(0.05)			678.84	1212.07	964.24		639.4	1041.15	675.94	921.55		523.22	1042.16	1037.43
CV			5.03	11.87	11.27		7.57	6.01	6.147	7.43		6.56	7.9	8.03
D/S			4.6.19	1.6.19	28.5.19		29.6.19		20.6.19			28.6.19	12.7.19	21.6.19
D/P			10.7.19	4.7.19	29.6.19		22.7.19		16.7.19			26.7.19	10.8-19	11.7.19
Gross Plot Size (Sq.m)			10.0	11.4	7.56		10.0		12.6			8.75	9.45	
Net Plot Size (Sq.m)			10.0	8.76	5.85		7.99	10.0	10.8			6.0	7.43	10.0
Zonal Check Variety			PR-121	PR-121	PR-121		CR Dhan-300	CR Dhan-300	CR Dhan-300	CR Dhan-300		CR Dhan-300	CR Dhan-300	CR Dhan-300
Local Check Variety			HSD-1	Pant Dhan 4	PR121		Narendra Sona		PR 113	HUR-105		Santosh	Sabour Shree	

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-7 (contd): Grain Yield (kg/ha) of hybrids in IHRT-Medium, Kharif 2019

S No.	IET No.	Name	(contd) Zone- III						Zone- IV			Zone- V (contd)		
			SYN	BH Mean	RCI	CHN	CTK	Eastern Mean	TTB	ARD	North-Eastern Mean	JBP	WRS	MP Mean
1	28153	TMRH-5559	7945(9)	7713	4669(7)	7851(10)	6250	7037	6050(10)	6103	6076	6459	5872	6166
2	28154	MEPH-153	6839	7092	4715(6)	6159	6613	6775	5050	5990	5520	5857	7921(7)	6889
3	28155	RRX-426	6407	6646	3175	8698(3)	5862	6622	5517	6545	6031	6411	7652	7031
4	28156	US-368	8213(2)	7632	4949(5)	8980(1)	5960	7172	5867	7246(1)	6556	6740	7986(6)	7363
5	28157	NPH-X29	7557	7328	5649(4)	7710	7278(6)	6975	5950	7036(4)	6493	7414(7)	6589	7001
6	28158	RRX-445	7342	7788	4622(8)	8510(5)	7137(9)	7360	5250	6933(8)	6091	8209(1)	7747(8)	7978
7	28159	PHI-19103	8414(1)	7881	4388	8839(2)	6848(10)	7364	6100(9)	7031(5)	6565	6538	6784	6661
8	28160	HRI-202	8090(5)	7620	4435(10)	8275(8)	7410(4)	7456	6550(4)	7067(2)	6809	7820(4)	8646(2)	8233
9	28161	RH-169292	8035(7)	7476	4108	7334	5888	6984	6183(8)	6648	6416	6296	7817(8)	7057
10	28162	PHI-19104	8117(4)	8036	4388	7851(9)	6814	7610	6650(3)	6392	6521	7658(5)	7166	7412
11	28163	PHI-19105	7084	7403	7937(1)	7616	7260(7)	7469	6767(2)	6926(9)	6847	7901(3)	4418	6160
12	28164	RH-169257	6642	7257	3315	6441	6422	6856	5500	7038(3)	6269	7222(8)	7687(9)	7454
13	28165	IIRRH-134	5058	4872	4015	6347	5779	5284	5617	5187	5402	6037	4540	5288
14	28166	PHI-19106	7958(8)	7480	5836(3)	8275(7)	7173(8)	7399	6217(7)	6868(10)	6542	6429	8759(1)	7594
15	28167	MP-3310	7344	8022	3828	8322(6)	7432(3)	7287	5850	5649	5749	6998	6286	6642
16	28168	IIRRH-135	5919	5621	3875	6159	5972	5767	4517	5610	5063	7146(9)	3746	5446
17	28169	CP-800	6201	5633	3408	6488	5174	5828	4683	5504	5093	6030	5651	5841
18	28170	CRHR-122	5859	4932	3595	6441	5468	5235	5017	4232	4624	6424	4110	5267
19	28171	RNE-0122	8162(3)	7142	3782	8557(4)	7544(2)	7192	6050	6050	6050	7985(2)	8494(3)	8239
20	28172	IIRRH-137	6453	6281	3501	7334	5092	6113	6483(5)	6086	6285	7033	7643(10)	7338
21	28173	CRHR-148	6004	6329	3128	7663	7386(5)	6318	5433	6591	6012	6483	8351(4)	7417
22	28174	RNE-0148	8064(6)	7202	5976(2)	7757	7565(1)	7278	5683	7005(7)	6344	7445(6)	8077(5)	7761
23	28175	DLRH-6	6775	6941	4155	6676	5437	6310	5750	7016(6)	6383	6426	7196	6811
24	28176	IIRRH-138	6981	6865	3128	6441	5479	6369	6433(6)	6626	6530	6655	4293	5474
25	HRI-174 (NCH)		7585(10)	7621	4015	7710	6637	7080	6900(1)	6554	6727	7083	6680	6882
26	NDR-359 (NCV)		7054	7113	2708	6253	5845	6462	6033	6518	6276	7093(10)	7556	7325
27	PR-121/CR Dhan-300/ IR-64/Akshayadhan/ Jaya (ZCV)			6485	4482(9)	7757	6389	5707	5250	5859	5554	5509	4019	4764
28	Local Check Variety (LCV)		7152	6891	3361	6112	5301	5904	5517		5517	6391	3712	5051
Exp. Mean			7158	6975	4255	7448	6408	6686	5817	6382	6084	6846	6621	6734
CD(0.05)			538.33		1247.71	632.11	731.02		550.15	557.39		457.13	1080.96	
CV			4.61		17.96	5.2	6.99		5.79	5.35		4.09	10	
D/S			27.6.19		24.6.19	19.6.19	25.6.19		4.7.19	26.7.19		27.6.19	23.6.19	
D/P			25.7.19		26.7.19	22.7.19	29.7.19		1.8.19	20.8.19		16.7.19	19.7.19	
Gross Plot Size (Sq.m)			10.0		10.0	8.79	9.45		10.0	10.0		10.0	10.0	
Net Plot Size(Sq.m)			10.0		7.14	7.09	7.42		10.0	8.75		7.99	7.68	
Zonal Check Variety			CR Dhan-300		CR Dhan-300	CR Dhan-300	CR Dhan-300		CR Dhan-300	CR Dhan-300		IR-64	IR-64	
Local Check Variety			Sarjoo-52		BPT 5204	Pratikshya	Tapaswini		Sraboni			IR 64	Improved Chinoor	

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-7(contd): Grain Yield (kg/ha) of hybrids in IHRT-Medium, Kharif 2019

S No.	IET No.	Name	(contd) Zone- V							Zone- VI (contd)				
			RPR	@ ADV	VNR	CH Mean	SND	ANK	Central Mean	KJT	SHR	PDG	MH Mean	NWG
1	28153	TMRH-5559	6667	7090	7695	7181	6032(3)	7054(4)	6630	6045(10)	5370(8)	7073	6315	6627
2	28154	MEPH-153	5907	7071	8047	6977	5411	6980(7)	6687	5478	5370(9)	7294	6107	6813(10)
3	28155	RRX-426	6973	7968(9)	7675	7324	4891	5295	6483	5203	4184	8085(6)	5532	4141
4	28156	US-368	5780	7048	8284(9)	7032	6037(2)	7508(1)	7056	6785(6)	5631(5)	8107(5)	6814	7094(7)
5	28157	NPH-X29	7160(9)	8479(5)	7297	7229	4745	5522	6454	6089(9)	3864	8469(4)	5738	7341(5)
6	28158	RRX-445	6470	8126(7)	8804(4)	7637	4831	6733	7132	7107(2)	4192	7430	6059	8312(2)
7	28159	PHI-19103	7492(6)	8582(3)	8323(8)	7907	5644(10)	6894(8)	6946	5937	4924	7836(9)	6247	9005(1)
8	28160	HRI-202	6770	8044(8)	7972	7371	4912	6986(6)	7184	7539(1)	4529	7800(10)	6353	6903(9)
9	28161	RH-169292	7697(3)	7514	8366(6)	8031	6022(4)	6785	7164	6926(5)	5177	7340	6450	6398
10	28162	PHI-19104	7162(8)	8140(6)	8059(10)	7610	5902(6)	7090(3)	7173	7101(3)	5059	7949(8)	6620	6415
11	28163	PHI-19105	5680	8665(2)	7775	6728	4977	6014	6128	5538	6044(4)	9092(1)	6333	5896
12	28164	RH-169257	7170(7)	7742	6089	6630	6007(5)	6836(10)	6835	5103	4941	6052	5788	7360(3)
13	28165	IIRRH-134	7897(2)	4334	9802(1)	8849	4781	5276	6389	5310	3855	5668	4978	4997
14	28166	PHI-19106	6685	8734(1)	7452	7069	4210	5975	6585	7051(4)	5438(6)	7407	6016	7341(4)
15	28167	MP-3310	7517(5)	7888(10)	4961	6239	4816	6594	6195	5261	4268	7687	5725	4585
16	28168	IIRRH-135	6340(4)	7509	4744	5542	4089	5508	5262	5515	5337(10)	7972(7)	5684	5496
17	28169	CP-800	6263	6519	6457	6360	5669(9)	4786	5809	5724	3737	5673	5118	6114
18	28170	CRHR-122	6150	5723	9682(2)	7916	4589	5464	6070	5444	5421(7)	5104	5204	5889
19	28171	RNE-0122	6303	7511	7261	6782	4518	6812	6896	5365	5311	4404	5282	6680
20	28172	IIRRH-137	6863	7787	8644(5)	7754	4891	5592	6778	5274	4933	6500	5438	4345
21	28173	CRHR-148	6720	6453	9312(3)	8016	4762	6880(9)	7085	5546	4402	5578	5434	5896
22	28174	RNE-0148	5243	7239	7406	6324	4649	7391(2)	6702	6132(7)	7264(1)	8875(2)	6862	7095(6)
23	28175	DLRH-6	7067(10)	7129	7023	7045	5760(7)	6185	6609	6123(8)	6237(3)	7791	6419	5473
24	28176	IIRRH-138	6845	8547(4)	5183	6014	4940	5708	5604	5544	3864	6667	5344	4306
25	HRI-174 (NCH)		6923	7659	8346(7)	7635	5699(8)	7049(5)	6963	5082	6970(2)	8568(3)	6674	5655
26	NDR-359 (NCV)		6240	6387	6515	6377	4967	6180	6425	5126	4470	6441	5437	4722
27	PR-121/CR Dhan-300/ IR-64 Akshayadhan/Jaya (ZCV)		7520	4796	6979	7249	6567(1)	5042	5939	5443	4318	6323	5539	7011(8)
28	Local Check Variety (LCV)		8343(1)	7277	7710	8027	4829	5852	6140	5861	4848	5736	5425	6437
Exp. Mean			6780	7356	7567	7173	5184	6285	6547	5880	4998	7104	5891	6227
CD(0.05)			1089.51	449.58	1021.19		684.93	1001.28		771.72	950.59	681.89		1675.9
CV			9.84	2.98	8.26		8.09	9.8		8.04	11.65	5.88		13.12
D/S			24.6.19	24.6.19	8.6.19		25.6.19	25.6.19		14.6.19	18.6.19	25.6.19		19.6.19
D/P			20.7.19	16.7.19	4.7.19		19.7.19	18.7.19		10.7.19	12.7.19	17.7.19		20.7.19
Gross Plot Size (Sq.m)			10.0	12.0	600		10.0	10.8		11.85	5.85	10.125		9.9
Net Plot Size (Sq.m)				10.0	7.56		7.99	8.19		9.11	3.96	7.38		7.56
Zonal Check Variety			IR-64	IR-64	IR-64		IR-64	IR-64		Akshayadhan	Akshayadhan	Akshayadhan		Akshayadhan
Local Check Variety					Mahamaya		PKV HMT	IR 64		Karjat 5	Ratnagiri4			GAR-13

Note: Data of ADV (Advanta) included in the analysis due to low CV

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-7(contd): Grain Yield (kg/ha) of hybrids in IHRT-Medium, Kharif 2019

S No.	IET No.	Name	(contd) Zone- VI				Zone- VII (contd)							
			NVS	DBI	GJ Mean	Western Mean	MTU	BAY	AP Mean	IIRR	WGL	Tiera	TS Mean	MND
1	28153	TMRH-5559	5259	5802	5896	6029	5222(9)	8306(3)	6764	6684(1)	8209(9)	11203(8)	8699	10576
2	28154	MEPH-153	5631	5735	6060	6054	4282	7495(9)	5888	5615	9107(2)	10431	8384	10786
3	28155	RRX-426	5219	5062	4807	5316	5044	7350(10)	6197	5408	5828	11777(6)	7671	11876(4)
4	28156	US-368	6965(4)	6301(5)	6787	6814	4813	4517	4665	6466(2)	8080(10)	11085(9)	8544	10949(10)
5	28157	NPH-X29	6304(10)	5869	6505	6323	3039	8069(4)	5554	6334(3)	7612		6973	9940
6	28158	RRX-445	6936(5)	6611(3)	7286	6765	4432	8458(2)	6445	5571	8606(6)	10301	8159	11832(5)
7	28159	PHI-19103	6287	6760(2)	7351	6792	3405	7585(8)	5495	5822(7)	8661(5)	12110(3)	8864	9716
8	28160	HRI-202	6743(7)	6199(8)	6615	6619	6780(5)	7283	7032	6202(4)	7403	12364(2)	8656	12927(1)
9	28161	RH-169292	5518	5399	5771	6126	3648	6333	4991	5691(10)	7227	10863	7927	11358(7)
10	28162	PHI-19104	5987	6477(4)	6293	6498	7990(1)	8633(1)	8312	5701(9)	10273(1)	10997	8990	11377(6)
11	28163	PHI-19105	7869(1)	5474	6413	6652	4602	6350	5476	5977(5)	8885(3)	10609	8490	11340(8)
12	28164	RH-169257	6032	5948	6447	5906	4051	7667(6)	5859	5661	8323(8)	11212(7)	8399	10299
13	28165	IIRRH-134	3754	4943	4565	4755	5209(10)	6568	5889	4884	4077	10246	6403	6055
14	28166	PHI-19106	7237(2)	6962(1)	7180	6906	4166	7625(7)	5896	5532	8755(4)	11925(5)	8737	12539(2)
15	28167	MP-3310	6646(8)	5647	5626	5682	7076(4)	5622	6349	5037	7817	9873	7576	9899
16	28168	IIRRH-135	5308	5461	5422	5848	3253	7147	5200	4773	5873	8248	6298	1114
17	28169	CP-800	4366	6007(10)	5496	5270	4449	7041	5745	2842	7059	9661	6520	10055
18	28170	CRHR-122	3730	6035(9)	5218	5270	4972	5774	5373	4248	6324	6629	5734	3664
19	28171	RNE-0122	5908	5980	6190	5608	5142	7975(5)	6559	4809		13011(1)	8910	10831
20	28172	IIRRH-137	5798	4549	4897	5233	3711	7177	5444	5040	4765	10479	6761	7841
21	28173	CRHR-148	5616	6007	5839	5508	6114(7)	4652	5383		7048	11009(10)	9028	9652
22	28174	RNE-0148	7209(3)	6281(6)	6862	7143	4110	6858	5484		8423(7)	11929(4)	10176	12048(3)
23	28175	DLRH-6	6406(9)	5318	5732	6225	3838	6828	5333	4991	5119	9371	6493	9799
24	28176	IIRRH-138	5950	5232	5163	5260	4634	6447	5540	4662	5967	9375	6668	8861
25	HRI-174 (NCH)		6834(6)	5876	6122	6498	7941(2)	6901	7421	5819(8)	6746	10711	7759	10986(9)
26	NDR-359 (NCV)		5025	4802	4850	5098	6129(6)	4800	5464	5898(6)	7555	10673	8042	8200
27	PR-121/CR Dhan-300/ IR-64 Akshayadhan/Jaya (ZCV)		4974	6207(7)	6064	5713	5305(8)	6850	6078	4881	8006	9721	7536	7895
28	Local Check Variety (LCV)		4940	5180	5519	5500	7604(3)	6445	7024	3986	7052		5519	9455
Exp. Mean			5873	5790	5963	5979	5034	6884	5959	5328	7363	10608	7783	9710
CD(0.05)			936.12	455.28			602.1	859.25		1062.69	1005.85	1249.42		1282.51
CV			9.76	4.82			7.32	7.64		12.21	11.1	7.21		8.09
D/S			19.6.19	8.6.19			5.7.19	1.7.19		14.6.19	25.6.19	21.6.19		
D/P			10.7.19	11.7.19			29.7.19	24.7.19		6.8.19	26.7.19	18.7.19		
Gross Plot Size (Sq.m)			9.18	12.96			10.56	12.0		8.44	8.91	6.0		
Net Plot Size (Sq.m)			7.05	10.2			8.1	10.0		6.73	6.72	5.0		
Zonal Check Variety			Akshayadhan	Akshayadhan			Jaya	Jaya		Jaya	Jaya	Jaya		Jaya
Local Check Variety				GAR-14			MTU 1075	MTU 1001		DRR Dhan 38	Somnath			Thanu

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-7(contd): Grain Yield (kg/ha) of hybrids in IHRT-Medium, Kharif 2019

S No.	IET No.	Name	(contd) Zone- VII					Over All Mean
			@ BRM	KA Mean	CBT	@ KRK	Southern Mean	
1	28153	TMRH-5559	4030(8)	10576	6549	4260	8107	6958
2	28154	MEPH-153	4212(7)	10786	6672	5465	7770	6766
3	28155	RRX-426	2909	11876	6959	5055	7749	6609
4	28156	US-368	4242(5)	10949	8141(6)	6670(7)	7721	7151
5	28157	NPH-X29	2455	9940	8260(5)	5385	7209	6757
6	28158	RRX-445	3455	11832	6664	6940(5)	7981	7265
7	28159	PHI-19103	3061	9716	7942(8)	5675	7892	7234
8	28160	HRI-202	3424	12927	9124(1)	4850	8869	7482
9	28161	RH-169292	3242	11358	6474	8645(2)	7371	6933
10	28162	PHI-19104	4333(4)	11377	8604(3)	5340	9082	7562
11	28163	PHI-19105	4364(2)	11340	8494(4)	7910(3)	8037	7185
12	28164	RH-169257	4030(9)	10299	4600	6235(8)	7402	6778
13	28165	IIRRH-134	3667	6055	7329(9)	5160	6339	5487
14	28166	PHI-19106	3515	12539	5301	7255(4)	7977	7222
15	28167	MP-3310	3091	9899	5605	5465	7276	6680
16	28168	IIRRH-135	1939	1114	6020	5775	5204	5577
17	28169	CP-800	2394	10055	6928		6862	5902
18	28170	CRHR-122	2333	3664	4772	6155(9)	5198	5378
19	28171	RNE-0122	3848	10831	6831		8100	6957
20	28172	IIRRH-137	2758	7841	4745	5545	6251	6052
21	28173	CRHR-148	4333(3)	9652	6170	5055	7441	6380
22	28174	RNE-0148	4212(6)	12048	7956(7)		8554	7362
23	28175	DLRH-6	3758	9799	6778	6035(10)	6675	6420
24	28176	IIRRH-138	1879	8861	6721	6935(6)	6667	6098
25	HRI-174 (NCH)		3939(10)	10986	8705(2)	9260(1)	8259	7161
26	NDR-359 (NCV)		2606	8200	6112	5765	7052	6285
27	PR-121/CR Dhan-300/ IR-64 Akshayadhan/Jaya (ZCV)		2515	7895	5133	5010	6828	6039
28	Local Check Variety (LCV)		4909(1)	9455	7012(10)	5825	6926	6099
Exp. Mean			3409	9710	6807	6067	7386	6635
CD(0.05)			1008.49		1124.48	71.61		
CV			14.42		10.12	0.64		
D/S			17.6.19		8.7.19	4.9.19		
D/P			16.7.19		9.8.19	1.10.19		
Gross Plot Size (Sq.m)			10.0		9.45	13.5		
Net Plot Size (Sq.m)			8.25		7.56	10.0		
Zonal Check Variety			Jaya		Jaya	Jaya		
Local Check Variety			MO-4			Improved Samba Mahsuri		

Note: Data of BRM (Brahmavar) not included in the analysis due to low experimental mean, Data of KRK (Karaikal) included in the analysis due to low CV

Appendix-8: Days to 50% Flowering (DFF) of hybrids in IHRT-Medium, Kharif 2019

S No.	IET No.	Name	Zone- II				Zone-III (contd)							
			KUL	PNT	LDN	Northern Mean	MSD	NZV	TMT	VRN	UP Mean	PSA	SBR	PHI
1	28153	TMRH-5559	99	107	106	104	100	110	97	106	103	104	92	85
2	28154	MEPH-153	99	105	103	102	102	108	92	93	99	98	93	85
3	28155	RRX-426	102	108	103	104	97	104	95	98	98	98	91	86
4	28156	US-368	106	111	106	108	100	108	100	107	104	107	93	94
5	28157	NPH-X29	107	112	107	109	105	105	102	107	105	104	95	93
6	28158	RRX-445	105	112	105	107	108	109	100	101	105	102	95	90
7	28159	PHI-19103	106	111	107	108	110	109	100	112	108	107	93	89
8	28160	HRI-202	105	112	107	108	106	107	101	104	104	100	90	90
9	28161	RH-169292	102	107	103	104	105	106	96	107	103	102	93	86
10	28162	PHI-19104	103	107	106	105	108	105	96	101	103	102	94	89
11	28163	PHI-19105	104	109	104	106	99	105	95	104	101	102	93	86
12	28164	RH-169257	103	105	103	104	92	106	95	97	98	98	92	86
13	28165	IIRRH-134	102	107	103	104	94	105	96	103	99	100	89	86
14	28166	PHI-19106	108	115	106	110	108	104	102	107	105	105	96	92
15	28167	MP-3310	108	112	107	109	107	107	101	109	106	104	98	92
16	28168	IIRRH-135	111	116	108	111	104	103	103	107	104	104	98	93
17	28169	CP-800	91	96	98	95	100	104	86	82	93	92	89	80
18	28170	CRHR-122	105	109	106	107	104	105	96	101	102	95	93	85
19	28171	RNE-0122	104	108	107	106	98	104	97	97	99	111		88
20	28172	IIRRH-137	104	109	106	106	102	102	98	103	101	102	93	90
21	28173	CRHR-148	104	114	105	108	110	100	105	112	107	102	97	105
22	28174	RNE-0148	105	110	107	107	100	104	96	100	100	105		89
23	28175	DLRH-6	100	110	107	106	100	105	102	108	104	89	93	93
24	28176	IIRRH-138	105	111	107	108	93	99	98	102	98	100	90	88
25	HRI-174 (NCH)		105	112	107	108	103	107	98	107	104	102	95	90
26	NDR-359 (NCV)		102	106	105	105	99	103	96	99	99	103	93	87
27	PR-121/CR Dhan-300/ IR-64 Akshayadhan/Jaya (ZCV)		105	110	103	106	118	102		127	116	112	106	110
28	Local Check Variety (LCV)		102	102	102	102	108	106	99	107	105	106	105	80
Exp. Mean			104	109	105	106	103	105	98	104	103	102	94	90

Appendix-8 (contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Medium, Kharif 2019

S No.	IET No.	Name	(contd) Zone-III						Zone-IV			Zone- V (contd)		
			SYN	BH Mean	RCI	CHN	CTK	Eastern Mean	TTB	ARD	NE Mean	JBP	WRS	MP Mean
1	28153	TMRH-5559	98	95	102	103	100	100	103	101	102	99	96	98
2	28154	MEPH-153	98	94	98	102	101	97	99	94	97	97	95	96
3	28155	RRX-426	97	93	97	105	99	97	100	97	98	96	93	95
4	28156	US-368	104	99	101	109	102	102	102	94	98	101	99	100
5	28157	NPH-X29	101	98	104	111	100	102	102	91	96	99	99	99
6	28158	RRX-445	103	98	103	110	101	102	101	94	98	98	99	99
7	28159	PHI-19103	103	98	102	111	101	103	104	94	99	97	96	97
8	28160	HRI-202	104	96	101	110	101	101	106	96	101	100	96	98
9	28161	RH-169292	97	95	100	101	101	99	99	95	97	99	94	97
10	28162	PHI-19104	101	97	102	108	101	101	100	93	97	100	98	99
11	28163	PHI-19105	103	96	102	109	103	100	104	97	100	100	97	98
12	28164	RH-169257	102	94	100	105	102	98	100	99	99	96	97	97
13	28165	IIRRH-134	96	93	100	97	100	97	100	94	97	100	92	96
14	28166	PHI-19106	103	99	102	111	100	103	105	103	104	100	95	98
15	28167	MP-3310	104	100	104	109	104	104	104	99	101	101	98	99
16	28168	IIRRH-135	102	99	101	109	98	102	100	101	100	96	95	96
17	28169	CP-800	94	89	93	99	99	93	95	99	97	93	88	91
18	28170	CRHR-122	99	93	96	108	100	99	100	96	98	96	95	96
19	28171	RNE-0122	103	101	103	107	103	101	102	93	98	99	95	97
20	28172	IIRRH-137	100	96	103	109	99	100	100	90	95	96	92	94
21	28173	CRHR-148	103	102	104	112	101	105	101	96	98	103	100	101
22	28174	RNE-0148	99	97	102	105	100	100	99	92	95	100	98	99
23	28175	DLRH-6	104	95	101	103	102	100	105	95	100	103	100	101
24	28176	IIRRH-138	98	94	96	105	99	97	103	93	98	96	86	91
25	HRI-174 (NCH)		104	98	106	107	102	102	105	98	101	100	98	99
26	NDR-359 (NCV)		95	95	98	106	101	98	100	93	97	103	92	97
27	PR-121/CR Dhan-300/ IR-64 Akshayadhan/Jaya (ZCV)			109	109	120	104	112	106	97	101	91	97	94
28	Local Check Variety (LCV)		103	99	108	110	100	103	100		100	94	125	110
Exp. Mean			101	97	101	107	101	101	102	95	99	98	97	97

Appendix-8 (contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Medium, Kharif 2019

S No.	IET No.	Name	(contd) Zone- V							Zone- VI (contd)				
			RPR	@ ADV	VNR	CH Mean	SND	ANK	Central Mean	KJT	SHR	PDG	MH Mean	NWG
1	28153	TMRH-5559	101	88	103	102	95	106	100	102	95	97	99	102
2	28154	MEPH-153	100	86	98	99	97	107	99	98	100	91	99	103
3	28155	RRX-426	96	87	98	97	92	105	97	100	93	93	97	104
4	28156	US-368	100	93	104	102	98	105	101	101	100	95	100	103
5	28157	NPH-X29	95	90	102	99	97	103	99	103	99	98	100	104
6	28158	RRX-445	95	89	100	98	92	103	98	100	108	95	100	101
7	28159	PHI-19103	91	88	103	97	96	108	99	102	99	93	100	103
8	28160	HRI-202	92	90	99	96	97	100	97	100	100	93	98	105
9	28161	RH-169292	97	88	101	99	96	104	98	99	92	91	96	102
10	28162	PHI-19104	98	89	103	100	97	108	101	102	98	94	100	101
11	28163	PHI-19105	99	88	99	99	96	108	100	100	101	91	99	104
12	28164	RH-169257	91	86	97	94	98	101	97	102	97	92	98	97
13	28165	IIRRH-134	97	87	102	99	94	104	98	103	93	90	97	100
14	28166	PHI-19106	98	90	105	102	97	107	100	102	100	97	101	104
15	28167	MP-3310	96	92	91	94	96	107	98	105	100	93	100	102
16	28168	IIRRH-135	90	86	92	91	93	104	95	96	93	86	95	104
17	28169	CP-800	91	81	97	94	91	95	93	94	94	91	93	98
18	28170	CRHR-122	97	84	101	99	93	105	98	97	92	93	96	105
19	28171	RNE-0122	99	89	100	100	95	107	99	99	99	97	99	100
20	28172	IIRRH-137	98	87	111	105	96	108	100	101	97	93	99	103
21	28173	CRHR-148	100	95	100	100	101	111	102	104	92	97	101	104
22	28174	RNE-0148	87	90	106	96	95	106	99	103	100	92	99	102
23	28175	DLRH-6	100	94	98	99	95	111	101	103	101	90	100	105
24	28176	IIRRH-138	94	83	93	94	95	99	94	97	91	88	94	101
25	HRI-174 (NCH)		93	91	101	97	97	108	100	100	97	95	100	102
26	NDR-359 (NCV)		99	88	98	99	99	109	100	98	95	92	99	100
27	PR-121/CR Dhan-300/ IR-64 Akshayadhan/Jaya (ZCV)		92	77	99	95	88	97	94	102	110	97	99	105
28	Local Check Variety (LCV)		95	90	102	98	92	104	102	101	99	99	99	104
Exp. Mean			96	88	100	98	95	105	99	101	98	93	98	102

Appendix-8 (contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Medium, Kharif 2019

S No.	IET No.	Name	(contd) Zone- VI				Zone- VII (contd)							
			NVS	DBI	GJ Mean	Western Mean	MTU	BAY	AP Mean	IIRR	WGL	Tiera	TS Mean	MND
1	28153	TMRH-5559	92	102	98	98	90	123	107	110	102	100	104	105
2	28154	MEPH-153	91	101	98	97	90	122	106	107	97	97	101	102
3	28155	RRX-426	88	100	97	96	89	122	105	108	97	95	100	104
4	28156	US-368	94	106	101	100	93	125	109	110	104	101	105	103
5	28157	NPH-X29	94	106	101	101	95	125	110	107	102	99	103	104
6	28158	RRX-445	93	107	100	101	95	124	109	109	104	99	104	100
7	28159	PHI-19103	93	105	100	99	93	123	108	105	102	96	101	97
8	28160	HRI-202	90	105	100	99	94	126	110	112	105	100	106	102
9	28161	RH-169292	91	101	98	96	92	122	107	104	101	98	101	101
10	28162	PHI-19104	94	104	100	99	94	122	108	108	100	99	103	103
11	28163	PHI-19105	93	104	100	99	97	124	110	111	103	97	103	101
12	28164	RH-169257	92	102	97	97	94	123	109	113	104	100	106	101
13	28165	IIRRH-134	88	98	95	95	87	117	102	106	98	96	100	101
14	28166	PHI-19106	92	106	101	100	95	125	110	115	103	97	105	101
15	28167	MP-3310	93	107	101	100	95	126	110	113	105	101	106	101
16	28168	IIRRH-135	88	108	100	96	89	123	106	105	100	94	100	90
17	28169	CP-800	80	91	90	91	86	119	102	108	90	92	97	100
18	28170	CRHR-122	88	108	100	97	86	122	104	104	98	94	99	94
19	28171	RNE-0122	89	104	98	98	89	126	108	105		100	102	100
20	28172	IIRRH-137	89	103	98	98	90	122	106	106	95	94	98	87
21	28173	CRHR-148	98	105	102	100	95	126	110		109	105	107	102
22	28174	RNE-0148	93	108	101	100	87	122	105		98	98	98	97
23	28175	DLRH-6	93	107	102	100	91	126	108	110	106	101	106	101
24	28176	IIRRH-138	85	105	97	94	86	116	101	103	94	93	97	88
25	HRI-174 (NCH)		92	105	99	97	95	123	107	106	104	100	102	101
26	NDR-359 (NCV)		92	104	99	99	91	123	109	108	100	98	103	101
27	PR-121/CR Dhan-300/ IR-64 Akshayadhan/Jaya (ZCV)		93	107	101	102	90	122	106	104	93	97	98	102
28	Local Check Variety (LCV)		88	89	94	97	113	125	119	109	106		108	99
Exp. Mean			91	103	99	98	92	123	108	108	101	98	102	100

Appendix-8 (contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Medium, Kharif 2019

S No.	IET No.	Name	(contd) Zone- VII					Over All Mean
			@ BRM	KA Mean	CBT	@ KRK	Southern Mean	
1	28153	TMRH-5559	110	105	108	85	106	101
2	28154	MEPH-153	109	102	106	90	103	99
3	28155	RRX-426	110	104	102	85	102	99
4	28156	US-368	113	103	106	93	106	103
5	28157	NPH-X29	113	104	106	89	105	102
6	28158	RRX-445	109	100	106	90	105	102
7	28159	PHI-19103	106	97	103	84	103	102
8	28160	HRI-202	104	102	107	91	107	102
9	28161	RH-169292	105	101	105	91	103	100
10	28162	PHI-19104	112	103	109	89	105	101
11	28163	PHI-19105	110	101	104	87	105	101
12	28164	RH-169257	110	101	108	86	106	100
13	28165	IIRRH-134	107	101	101	85	101	98
14	28166	PHI-19106	105	101	105	86	106	103
15	28167	MP-3310	107	101	108	90	107	103
16	28168	IIRRH-135	93	90	98	80	100	100
17	28169	CP-800	93	100	101		99	94
18	28170	CRHR-122	95	94	101	82	100	99
19	28171	RNE-0122	107	100	111		105	101
20	28172	IIRRH-137	94	87	103	80	100	100
21	28173	CRHR-148	118	102	109	88	108	104
22	28174	RNE-0148	107	97	101		101	100
23	28175	DLRH-6	107	101	99	85	105	102
24	28176	IIRRH-138	95	88	94	80	96	97
25	HRI-174 (NCH)		111	101	102	88	104	102
26	NDR-359 (NCV)		107	101	105	85	104	100
27	PR-121/CR Dhan-300/ IR-64 Akshayadhan/Jaya (ZCV)		109	102	106	84	102	104
28	Local Check Variety (LCV)		121	99	108	93	110	103
Exp. Mean			106	100	104	86	104	101

Appendix 9: Quality Characteristics of hybrids in IHRT-Medium, Kharif 2019

S No.	IET No	Name	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
1	28153	TMRH-5559	81.2	70.2	49.5	6.58	2.15	3.06	LS	VOC	4.3	24.49	59
2	28154	MEPH-153	77.9	69.0	61.7	6.39	2.19	2.91	LB	VOC	4.4	25.37	37
3	28155	RRX-426	79.1	69.9	54.8	5.33	2.18	2.44	SB	VOC	3.0	24.87	45
4	28156	US-368	80.3	69.1	43.1	5.73	2.33	2.45	SB	VOC	5.2	25.98	46
5	28157	NPH-X29	80.3	68.7	48.8	5.72	2.32	2.46	SB	VOC	4.0	26.84	61
6	28158	RRX-445	80.1	71.6	63.2	5.76	2.07	2.78	MS	VOC	5.7	25.02	22
7	28159	PHI-19103	80.1	70.0	53.1	6.44	2.19	2.94	LB	VOC	4.0	26.54	39
8	28160	HRI-202	80.0	71.0	60.4	6.13	2.31	2.65	LB	VOC	4.0	22.58	56
9	28161	RH-169292	80.6	67.5	35.0	6.45	2.2	2.93	LB	VOC	3.5	22.05	55
10	28162	PHI-19104	78.2	67.0	48.5	6.72	2.28	2.94	LB	VOC	3.0	24.61	67
11	28163	PHI-19105	80.7	69.9	55.2	6.44	2.2	2.92	LB	VOC	3.0	23.08	70
12	28164	RH-169257	80.1	70.9	57.9	5.73	2.37	2.41	SB	VOC	3.5	24.78	24
13	28165	IIRRH-134	81.4	70.8	49.6	6.57	2.38	2.76	LB	VOC	5.3	25.81	37
14	28166	PHI-19106	79.8	69.1	58.7	6.27	2.22	2.82	LB	VOC	4.6	24.72	46
15	28167	MP-3310	78.9	69.8	54.8	5.56	2.2	2.52	MS	VOC	4.0	23.29	31
16	28168	IIRRH-135	79.3	69.6	59.2	5.42	2.19	2.47	SB	VOC	4.0	25.81	48
17	28169	CP-800	80.7	71.1	61.5	6.32	2.14	2.95	LB	VOC	4.8	23.96	60
18	28170	CRHR-122	78.8	70.4	64.9	6.42	2.15	2.98	LB	VOC	5.5	24.75	44
19	28171	RNE-0122	79.2	70.3	56.3	5.99	2.34	2.55	MS	VOC	5.0	26.31	40
20	28172	IIRRH-137	79.8	71.2	49.8	5.67	2.21	2.56	MS	VOC	4.0	24.93	31
21	28173	CRHR-148	-	-	-	-	-	-	-	-	-	-	-
22	28174	RNE-0148	-	-	-	-	-	-	-	-	-	-	-
23	28175	DLRH-6	81.0	70.9	45.4	5.96	2.17	2.74	MS	VOC	4.6	23.14	48
24	28176	IIRRH-138	79.0	69.8	53.3	5.57	2.16	2.57	MS	VOC	4.0	24.34	52
25	HRI-174 (NCH)		80.4	70.8	55.3	6.36	2.24	2.83	LB	VOC	4.6	25.87	57
26	NDR-359 (NCV)		79.5	71.2	64.5	6.5	2.46	2.64	LB	VOC	4.0	24.55	25
27	Jaya (ZCV)		77.6	67.2	41.7	5.49	2.48	2.21	SB	VOC	7.0	24.66	22
28	DRR Dhan 38 (LCV)		-	-	-	-	-	-	-	-	-	-	-

HULL: Hulling (%) Milling (%): HRR rice recovery (%); KL: Kernal length (mm); KB: Kernal breadth (mm); SS: short slender; L/B Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent; MS: Medium slender; ASV: Alkali spreading value; AC: Amylose content (%); GC: Gel consistency; LB Long bold; SB: short bold; LS: Long slender

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-10: Grain Yield (kg/ha) of hybrids in IHRT-Medium Slender, Kharif 2019

S No.	IET No.	Name	Zone – III										Zone – IV		
			MSD	NZV	UP Mean	@ PSA	@ SYN	@ BH Mean	@ RCI	CHN	CTK	Eastern Mean	TTB	ARD	North-Eastern Mean
1	28177	MEPH-155	5611(3)	6884(9)	6248	3233	6392	4812	4876(3)	5877	6612(8)	6246	6183(2)	4148	5166
2	28178	US-308	5465(4)	7606(3)	6536	4100(4)	6095	5098	4167(5)	7475(6)	6666(6)	6803	4917	5092(2)	5004
3	28179	NPH-X28	4234(9)	7905(1)	6070	3433	6686(10)	5060	3812(8)	6441	6579(9)	6290	4900	4506(7)	4703
4	28180	PHI-19101	4193	7627(2)	5910	4400(3)	6956(8)	5678	4433(4)	7099(9)	5541	6115	5400(5)	5122(1)	5261
5	28181	HRI-203	4276(8)	7475(5)	5876	2833	7187(6)	5010	3635	7945(2)	7879(1)	6894	4800	4930(3)	4865
6	28182	MTUHR-2105	4339(7)	2877	3608	3100	7148(7)	5124	1241	5736	5098	4512	4350	3330	3840
7	28183	MTUHR-2107	3796	3491	3644	2233		2233	1152	6159	6659(7)	5026	3450	3487	3468
8	28184	TNTRH-99	4589(5)	6893(8)	5741	3933(6)	5845	4889	5142(1)	7287(7)	7721(2)	6622	6000(3)	4576(4)	5288
9	28185	CRHR-145	3421	5852	4636	3933(5)	7908(1)	5921	3679(10)	7240(8)	5543	5514	4800	4519(6)	4659
10	28186	TNRH-294	3525	7032(7)	5279	5733(1)	6174	5953	3723(9)	6911	7325(3)	6198	5400(6)	3954	4677
11	28187	CRHR-150	3588	7475(6)	5531	2633	7687(2)	5160	3856(7)	8745(1)	6407	6554	5950(4)	4438(9)	5194
12	JKRH-3333 (NCH-1)		5924(1)	7494(4)	6709	2667	7417(4)	5042	3679	7851(3)	5256	6631	6600(1)	3394	4997
13	27P63 (NCH-2)		4068	6770(10)	5419	3633(8)	6004	4819	4920(2)	7616(5)	6011	6116	5150	4461(8)	4805
14	WGL-14 (NCV-1)		5799(2)	6557	6178	4467(2)	7206(5)	5836	2748	5689	6693(5)	6184	4883	4537(5)	4710
15	BPT-5204 (NCV-2)			5819	5819	2500	6929(9)	4714	4122(6)	7757(4)	6375	6650	5250(7)	4273	4762
16	Improved Samba Mahsuri/Ketekejoha/ Karjat-6/ADT-49 (ZCV)		4547(6)	4598	4573	3900(7)	7484(3)	5692	2571	4795	6780(4)	5180	4650	3720	4185
Exp Mean			4492	6397	5486	3546	6874	5210	3610	6914	6447	6096	5168	4280	4724
CD(0.05)			348.7	1666.29		446	448.12		1052.09	574.63	795.64		681.59	439.21	
CV			4.64	12.22		7.54	3.9		17.48	4.98	7.4		7.91	6.15	
D/S			19.6.19			28.6.19	27.6.19		24.6.19	19.6.19	25.6.19		1.7.19	12.7.19	
D/P			23.7.19			29.7.19	25.7.19		26.7.19	22.7.19	30.7.19		4.8.19	13.8.19	
Gross Plot Size (Sq.m)			10.0			7.5	10.0		10.0	8.79	9.99			13.5	
Net Plot Size (Sq.m)			7.99	10.0		5.0	10.0		7.52	7.09	7.875		10.0	13.5	
Zonal Check Variety			I.S.M	I.S.M		I.S.M	I.S.M		I.S.M	I.S.M	I.S.M		Ketekejoha	Ketekejoha	

Note: Data of PSA (Pusa) and RCI (Ranchi) not included in the analysis due to low Experimental Mean; Data of SYN (Syngenta) not included in the analysis due to low CV

Appendix-10 (contd): Grain Yield (kg/ha) of hybrids in IHRT-Medium Slender, Kharif 2019

S No.	IET No.	Name	Zone-V										
			JBP	WRS	MP Mean	RPR	@ ADV	VNR	CH Mean	SND	SKL	ANK	Central Mean
1	28177	MEPH-155	6386(2)	6328(9)	6357	5535	7975(7)	8423(6)	6979	4965(9)	7589(1)	5567(2)	6399
2	28178	US-308	5802(6)	8003(3)	6903	8398(1)	8180(5)	8127(9)	8262	4341	7071(2)	5214(7)	6708
3	28179	NPH-X28	6449(1)	4340	5395	6847(5)	7521(8)	5680	6264	5717(3)	5035	5272(5)	5620
4	28180	PHI-19101	6005(3)	9049(1)	7527	5450	8026(6)	9136(3)	7293	5095(8)	5540(7)	5646(1)	6560
5	28181	HRI-203	5746(7)	5148	5447	6717(6)	8731(3)	8629(5)	7673	3928	4118	5113(9)	5628
6	28182	MTUHR-2105	525	7548(4)	4036	7167(3)	2611	2866	5016	5810(2)	2950	2296	4166
7	28183	MTUHR-2107	909	5260	3085	3740	3579	3904	3822	5696(4)	3158	2910	3654
8	28184	TNTRH-99	5165	5048	5107	2963	8766(1)	8006(10)	5485	4474	5682(5)	5275(4)	5231
9	28185	CRHR-145	5690(8)	6628(8)	6159	3437	6216	10465(1)	6951	5580(5)	5407(8)	5316(3)	6075
10	28186	TNRH-294	5826(4)	4123	4974	6107(8)	7180(10)	7469	6788	4584	5198	4328	5376
11	28187	CRHR-150	5670(9)	8989(2)	7329	7217(2)	7238(9)	9563(2)	8390	5966(1)	5590(6)	5181(8)	6882
12	JKRH-3333 (NCH-1)		5814(5)	4418	5116	5112	8457(4)	8337(8)	6724	5420(6)	6771(3)	4850	5817
13	27P63 (NCH-2)		5644(10)	4609	5127	6623(7)	8761(2)	7412	7018	4899	6479(4)	5260(6)	5847
14	WGL-14 (NCV-1)		4871	6827(7)	5849	6103(9)	6272	9018(4)	7561	3887	5361(9)	5106(10)	5882
15	BPT-5204 (NCV-2)		4815	6871(6)	5843	6910(4)	5470	8342(7)	7626	3522	4405	4967	5690
16	Improved Samba Mahsuri/ Ketekejoha/Karjat-6/ADT-49 (ZCV)		4863	6966(5)	5915	4477	5394	7810	6143	5179(7)	3667	4958	5417
Exp Mean			5011	6260	5636	5800	6899	7699	6750	4941	5251	4829	5685
CD(0.05)			413.11	945.44		976.55	306.5	933.35		763.09	981.24	574.64	
CV			4.94	9.06		10.1	2.08	7.27		9.26	11.21	7.14	
D/S			27.56.19	24.6.19		24.6.19	24.6.19	7.6.19		25.6.19	25.6.19	25.6.19	
D/P			18.7.19	14.7.19		17.7.109	16.7.19	2.7.19		18.7.19	19.7.19	28.7.19	
Gross Plot Size (Sq.m)			10.0	10.0		10.0	12.0	600		10.0	10.0	10.8	
Net Plot Size (Sq.m)			7.99	7.68		10.0	10.0	9.72		7.99	7.99	8.19	
Zonal Check Variety			I.S.M	I.S.M		I.S.M	I.S.M	I.S.M		I.S.M	I.S.M	I.S.M	

Note: Data of ADV (Advanta) not included in the analysis due to low CV

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-10(contd): Grain Yield (kg/ha) of hybrids in IHRT-Medium Slender, Kharif 2019

S No.	IET No.	Name	Zone-VI									Zone-VII (contd)			
			KJT	SHR	PDG	MH Mean	NWG	NVS	@ DBI	GJ Mean	Western Mean	MTU	BPT	BAY	AP Mean
1	28177	MEPH-155	6284(6)	7465(1)	5383(7)	6209	6344(2)	4882(10)	6059(4)	5613	6072	4966	6564(4)	6970(4)	6167
2	28178	US-308	6561(5)	5833(4)	5410(6)	5739	4937(10)	5159(8)	5444	5048	5580	5534(4)	5380	4740	5218
3	28179	NPH-X28	5817	5394(5)	6670(2)	5651	5103(6)	5318(7)	5497	5211	5660	4258	6818(2)	5905	5660
4	28180	PHI-19101	5469	5145(6)	5289(8)	5364	6145(3)	5979(2)	5953(5)	6062	5605	6967(3)	6727(3)	7783(1)	7159
5	28181	HRI-203	6906(2)	6551(3)	6137(3)	5459	6929(1)	4337	6582(2)	5633	6172	5191(6)	5145	7083(3)	5807
6	28182	MTUHR-2105	6258(7)	3466	2709	3915	2143	1925	4448	2034	3300	4776	5157	4733	4889
7	28183	MTUHR-2107	5104	3438	3224	3922	4562	3157	6062(3)	3859	3897	4626	5217	5503	5116
8	28184	TNTRH-99	7375(1)	3721	5719(5)	5374	5043(7)	4578	5931(6)	4810	5287	3926	4921	7417(2)	5421
9	28185	CRHR-145	5051	4745	4576	5113	4984(9)	6254(1)	5686(8)	5619	5122	3683	5640	6870(5)	5398
10	28186	TNRH-294	6702(4)	6817(2)	5955(4)	5598	3743	5463(6)	5220	4603	5736	5465(5)	4867	5650	5327
11	28187	CRHR-150	5042	4780	4720	5213	5019(8)	5907(3)	5303	5463	5094	4042	5519	5653	5072
12	JKRH-3333 (NCH-1)		5498	4624	6761(1)	5654	5184(4)	5760(4)	6647(1)	5472	5565	3695	6558(5)	6743(6)	5665
13	27P63 (NCH-2)		6795(3)	4120	5247(9)	5467	5112(5)	4933(9)	5784(7)	5022	5241	6970(2)	6836(1)	6150(7)	6652
14	WGL-14 (NCV-1)		5051	4965(7)	3450	4637	4572	4420	5088	4496	4492	5103(7)	5731(6)	4481	5105
15	BPT-5204 (NCV-2)		5810	4468	4630	4633	4406	5552(5)	4818	4979	4973	7161(1)	5248	5453	5954
16	Improved Samba Mahsuri/ Ketekejoha/Karjat-6/ ADT-49 (ZCV)		6062(8)	3854	4375	4683	3599	4092	4709	3845	4396	4935	4632	5283	4950
Exp Mean			5987	4962	5016	5164	4864	4857	5577	4861	5137	5081	5685	6026	5597
CD(0.05)			738.78	947.08	605.44		1557.22	996.22	338.28			577.62	1174.79	679.67	
CV			7.4	11.45	7.24		15.02	12.3	3.64			6.82	12.39	6.76	
D/S			14.6.19	18.6.19	25.6.19		19.6.19	19.6.19	8.6.19			5.7.19	12.8.19	1.7.19	
D/P			11.7.19	11.7.19	18.7.19		20.7.19	6.7.19	11.7.19			29.7.19	7.9.19	24.7.19	
Gross Plot Size (Sq.m)			8.17	8.1	11.97		9.9	13	12.96			10.56	7.5	12	
Net Plot Size (Sq.m)			5.87	5.76	9.18		7.56	10.54	10.2			8.1	5.52	10	
Zonal Check Variety			Karjat-6	Karjat-6	Karjat-6		Karjat-6	Karjat-6	Karjat-6			ADT-49	ADT-49	ADT-49	

Note: Data of DBI (Dabhoi) not included in the analysis due to low CV

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Appendix-10(contd): Grain Yield (kg/ha) of hybrids in IHRT-Medium Slender, Kharif 2019

S No.	IET No.	Name	(contd) Zone-VII												Over all Mean
			IIRR	WGL	TS Mean	MND	@ BRM	MLG	@ MGD	@ SRS	KA Mean	CBT	@ KRK	Southern Mean	
1	28177	MEPH-155	6697(6)	6005(4)	6351	11811(1)	2879(9)	4260	9378(1)	4980(2)	8035	6042	4775	6664	6299
2	28178	US-308	6332(8)	6214(1)	6273	8086(10)	3273(4)	5340(4)	9112(2)	4026(4)	6713	7607(6)	5493	6154	6204
3	28179	NPH-X28	6859(3)	5620(5)	6240	9646(4)	2576	4180	8698(3)	3964(6)	6913	8084(2)		6421	5907
4	28180	PHI-19101	8015(2)	6044(3)	7030	9406(6)	3121(5)	5000(7)	7129(9)	4509(3)	7203	8033(4)	5727	7247	6419
5	28181	HRI-203	6284(9)	5571(6)	5928	8881(7)	3303(2)	3220	7209(8)	3520(10)	6051	7380(7)	6760(7)	6095	6012
6	28182	MTUHR-2105	1692	3842	2767	1203	2788	1900	1744	1274	1551	3755	7770(5)	3382	3786
7	28183	MTUHR-2107	1651	3227	2439	1886	2939(7)	2100	2372	1761	1993	4741	6097	3619	3887
8	28184	TNTRH-99	5442	5273(8)	5357	11652(2)		5460(3)	7507(7)	3818(9)	8556	6542	9147(2)	6329	5798
9	28185	CRHR-145	5909	4831	5370	8468(8)	2818(10)	5080(5)	7746(6)	3336	6774	7051(9)	6450(9)	5942	5655
10	28186	TNRH-294	5687	4717	5202	8104(9)	2394	5020(6)	6001	3057	6562	8042(3)	9073(3)	5944	5693
11	28187	CRHR-150	6010(10)	4986	5498	6967	3061(6)	4900(9)	8205(4)	3905(7)	5934	7973(5)	4467	5756	6011
12	JKRH-3333 (NCH-1)		6764(4)	4884	5824	11403(3)	2909(8)	5660(2)	8122(5)	3983(5)	8531	7107(8)	9357(1)	6602	6072
13	27P63 (NCH-2)		8228(1)	4338	6283	9417(5)	3303(2)	5700(1)	3546	5073(1)	7558	8343(1)	8507(4)	6998	6046
14	WGL-14 (NCV-1)		6353(7)	6057(2)	6205	7031	2182	4540(10)	5012	3890(8)	5786	6649	6473(8)	5743	5528
15	BPT-5204 (NCV-2)		6728(5)	5398(7)	6063	6125	2121	4980(8)	6738(10)	3376	5552	5741	4653	5854	5640
16	Improved Samba Mahsuri/Ketekejoha/ Karjat-6/ ADT-49 (ZCV)			3123	3123	7627	4394(1)	3800	2269	1525	5713	3616	7627(6)	4716	4880
Exp Mean			5910	5008	5372	7982	2937	4446	6299	3500	6214	6669	6825	5842	5615
CD(0.05)			1514.04	890.29		861.84	587.63	589.83	4084.52	1649.8		830.88	60.76		
CV			15.32	10.66		6.48	9.33	6.23	30.43	22.12		7.47	0.53		
D/S			24.619	25.6.19			17.6.19	7.7.19	7.6.19	20.6.19		14.6.19	4.9.19		
D/P			13.8.19	26.7.19			22.7.19	28.7.19		20.7.19		17.7.19	1.10.19		
Gross Plot Size (Sq.m)			8.44	9.6			10.0	5.0	6.0	9.0		9.18	13.5		
Net Plot Size (Sq.m)			6.73	8.55			8.25	5.0	6.0	6.72		7.2	10.0		
Zonal Check Variety			ADT-49	ADT-49		ADT-49	ADT-49	ADT-49	ADT-49	ADT-49		ADT-49	ADT-49		

Note: Data of BRM (Brahmavar) and SRS (Sirsi) not included in the analysis due to low experimental mean; Data of KRK (Karailkal) included in the analysis due to low CV; Data of MGD (Mugad) included in the analysis due to High CV

Appendix-11: Days to 50% Flowering (DFF) of hybrids in IHRT-Medium Slender, Kharif 2019

S. No.	IET No.	Name	Zone – III										Zone – IV		
			MSD	NZV	UP Mean	@ PSA	@ SYN	@ BH Mean	@ RCI	CHN	CTK	Eastern Mean	TTB	ARD	North-Eastern Mean
1	28177	MEPH-155	99	107	103	101	104	102	106	103	102	103	109	100	105
2	28178	US-308	104	109	107	104	108	106	111	108	106	107	109	106	108
3	28179	NPH-X28	100	106	103	106	106	106	108	106	103	104	109	106	108
4	28180	PHI-19101	101	107	104	106	105	106	108	109	104	105	110	106	108
5	28181	HRI-203	103	108	106	101	106	104	106	112	101	106	110	100	105
6	28182	MTUHR-2105	105	108	107	109	111	110	112	111	104	107	111	111	111
7	28183	MTUHR-2107	112	106	109	111	111	111	114	115	108	110	113	111	112
8	28184	TNTRH-99	92	100	96	97	98	98	104	101	101	99	107	97	102
9	28185	CRHR-145	100	101	101	109	112	110	105	115	104	105	113	109	111
10	28186	TNRH-294	95	103	99	98	101	99	104	103	101	101	106	98	102
11	28187	CRHR-150	99	102	100	112	109	111	107	111	105	104	113	110	112
12	JKRH-3333 (NCH-1)		91	101	96	105	105	105	108	110	103	101	110	106	108
13	27P63 (NCH-2)		108	104	106	106	107	107	108	113	107	108	111	106	109
14	WGL-14 (NCV-1)		114	110	112	111	112	111	112	119	104	112	113	109	111
15	BPT-5204 (NCV-2)			105	105	116	116	116	114	119	109	111	115	111	113
16	Improved Samba Mahsuri/ Ketekejoha/Karjat-6/ ADT-49 (ZCV)		114	102	108	113	115	114	112	117	105	109	112	108	110
Exp. Mean			102	105	104	107	108	107	109	111	104	106	111	106	108

Appendix-11 (contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Medium Slender, Kharif 2019

S No.	IET No.	Name	Zone-V										
			JBP	WRS	MP Mean	RPR	@ ADV	VNR	CH Mean	SND	SKL	ANK	Central Mean
1	28177	MEPH-155	99	91	95	98	88	98	98	97	91	106	97
2	28178	US-308	110	97	104	97	95	106	101	99	100	109	103
3	28179	NPH-X28	103	94	98	102	91	101	101	97	91	109	100
4	28180	PHI-19101	101	97	99	100	93	102	101	98	95	109	100
5	28181	HRI-203	106	88	97	99	85	98	99	98	87	106	98
6	28182	MTUHR-2105	111	101	106	100	94	104	102	100	93	109	103
7	28183	MTUHR-2107	112	104	108	112	96	106	109	101	101	111	107
8	28184	TNTRH-99	100	84	92	103	83	97	100	98	86	104	96
9	28185	CRHR-145	112	94	103	104	98	108	106	103	99	110	104
10	28186	TNRH-294	101	92	97	108	87	100	104	95	86	109	99
11	28187	CRHR-150	112	97	104	92	99	108	100	102	100	112	103
12	JKRH-3333 (NCH-1)		106	95	101	104	91	103	104	98	92	105	101
13	27P63 (NCH-2)		108	95	102	91	92	101	96	98	93	109	99
14	WGL-14 (NCV-1)		111	103	107	95	96	107	101	103	100	111	104
15	BPT-5204 (NCV-2)		115	106	111	94	101	110	102	103	110	115	108
16	Improved Samba Mahsuri/ Ketekejoha/Karjat-6/ADT-49 (ZCV)		112	99	106	112	98	110	111	102	100	111	106
Exp. Mean			107	96	102	101	93	104	102	100	95	109	102

Appendix-11 (contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Medium Slender, Kharif 2019

S No.	IET No.	Name	Zone-VI									Zone-VII (contd)			
			KJT	SHR	PDG	MH Mean	NWG	NVS	@ DBI	GJ Mean	Western Mean	MTU	BPT	BAY	AP Mean
1	28177	MEPH-155	96	95	90	96	101	90	105	95	94	99	95	123	106
2	28178	US-308	103	101	99	102	104	92	109	98	100	100	96	123	106
3	28179	NPH-X28	100	95	94	98	105	92	106	98	97	94	82	126	101
4	28180	PHI-19101	103	97	98	100	102	90	107	96	98	97	97	125	106
5	28181	HRI-203	94	109	93	98	104	83	101	94	97	92	92	124	103
6	28182	MTUHR-2105	106	100	92	100	109	92	110	101	100	98	104	125	109
7	28183	MTUHR-2107	106	100	99	103	109	99	113	104	103	98	97	126	107
8	28184	TNTRH-99	98	128	90	101	103	83	96	93	100	84	85	121	97
9	28185	CRHR-145	106	101	93	102	108	88	120	98	99	108	94	129	110
10	28186	TNRH-294	101	95	88	96	104	85	99	94	95	86	82	122	97
11	28187	CRHR-150	105	99	95	102	107	91	118	99	99	101	99	126	109
12	JKRH-3333 (NCH-1)		102	100	92	98	103	91	108	97	97	93	96	123	104
13	27P63 (NCH-2)		101	100	98	100	103	95	108	99	99	96	92	124	104
14	WGL-14 (NCV-1)		106	101	101	104	107	99	119	103	103	95	104	129	109
15	BPT-5204 (NCV-2)		100	112	103	107	113	99	123	106	105	115	102	132	116
16	Improved Samba Mahsuri/ Ketekejoha/Karjat-6/ADT-49 (ZCV)		102	112	109	106	105	98	120	101	105	95	87	114	99
Exp. Mean			102	103	96	101	105	92	110	98	99	97	94	125	105

Appendix-11 (contd): Days to 50% Flowering (DFF) of hybrids in IHRT-Medium Slender, Kharif 2019

S No.	IET No.	Name	(contd) Zone-VII												Over all Mean
			IIRR	WGL	TS Mean	MND	@ BRM	MLG	@ MGD	@ SRS	KA Mean	CBT	@ KRK	Southern Mean	
1	28177	MEPH-155	113	98	105	99	117	107	110	107	103	110	81	105	101
2	28178	US-308	120	107	114	108	119	115	117	114	112	121	91	111	106
3	28179	NPH-X28	116	99	107	101	117	104	107	111	102	114		104	102
4	28180	PHI-19101	119	103	111	101	119	107	101	112	104	114	81	108	104
5	28181	HRI-203	111	98	104	92	105	97	100	102	95	107	78	102	101
6	28182	MTUHR-2105	116	105	111	103	118	119	105	114	111	120	86	111	106
7	28183	MTUHR-2107	120	105	113	106	118	119	110	114	113	119	91	111	108
8	28184	TNTRH-99	114	93	104	95		99	109	107	97	109	72	100	99
9	28185	CRHR-145	117	106	112	101	101	115	111	114	108	115	86	111	106
10	28186	TNRH-294	108	97	103	98	118	100	103	107	99	107	82	100	99
11	28187	CRHR-150	117	107	112	102	116	115	99	114	109	115	86	110	105
12	JKRH-3333 (NCH-1)		116	104	110	101	118	109	110	111	105	114	87	107	103
13	27P63 (NCH-2)		118	103	110	104	116	109	111	111	107	117	85	108	104
14	WGL-14 (NCV-1)		121	106	114	104	120	114	113	114	109	121	91	112	108
15	BPT-5204 (NCV-2)		121	111	116	107	120	118	111	118	113	120	93	116	111
16	Improved Samba Mahsuri/ Ketekejoha/Karjat-6/ADT-49 (ZCV)			113	113	86	105	96	104	99	91	94	75	98	105
Exp. Mean			116	103	110	100	115	109	107	111	105	114	84	107	104

Appendix-12: Quality Characteristics of hybrids in IHRT-Medium Slender, Kharif 2019

S. No	IET No	Name	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	VER	WU	KLAC	ER	ASV	AC	GC
1	28177	MEPH-155	79.2	69.9	58.0	5.31	1.91	2.78	MS	VOC	5.3	350	9.4	1.77	5.3	24.90	55
2	28178	US-308	79.6	70.0	59.8	5.24	1.95	2.68	MS	A	5.5	245	8.6	1.64	3.5	25.05	53
3	28179	NPH-X28	80.5	70.6	59.5	5.40	1.96	2.75	MS	VOC	5.5	335	9.7	1.79	4.0	24.20	48
4	28180	PHI-19101	79.8	71.0	64.4	5.42	1.94	2.79	MS	VOC	5.6	350	9.0	1.66	6.0	25.66	22
5	28181	HRI-203	79.7	69.3	59.4	5.28	1.89	2.79	MS	A	4.8	330	8.3	1.57	6.2	26.25	22
6	28182	MTUHR-2105	77.7	68.5	62.1	5.23	1.89	2.76	MS	VOC	5.2	220	9.5	1.81	4.0	26.72	24
7	28183	MTUHR-2107	75.2	64.4	58.8	5.29	1.94	2.72	MS	VOC	4.4	255	8.5	1.60	4.7	26.89	43
8	28184	TNTRH-99	79.8	70.7	67.5	5.76	2.08	2.76	MS	VOC	5.2	240	9.6	1.66	4.0	26.28	45
9	28185	CRHR-145	80.9	71.8	66.6	5.47	1.92	2.84	MS	VOC	5.2	325	9.9	1.80	5.5	26.86	42
10	28186	TNRH-294	79.9	68.6	53.6	5.52	1.88	2.93	MS	VOC	5.3	300	9.9	1.79	5.2	25.54	56
11	28187	CRHR-150	79.1	70.4	65.2	5.67	1.99	2.84	MS	VOC	5.3	295	9.6	1.69	5.1	26.54	41
12	JKRH-3333 (NCH-1)		80.0	69.6	65.3	5.25	1.94	2.70	MS	VOC	5	260	9.5	1.80	4.0	26.45	22
13	27P63 (NCH-2)		80.0	69.8	61.4	5.25	1.96	2.67	MS	VOC	4.4	280	8.6	1.63	4.0	24.64	22
14	WGL-14 (NCV-1)		80.0	70.9	67.9	5.27	1.83	2.87	MS	A	4.7	275	8.5	1.61	4.0	26.72	24
15	BPT-5204 (NCV-2)		79.5	70.9	67.0	5.11	1.79	2.85	MS	A	5.3	255	10.1	1.97	3.5	24.69	22
16	ADT-49 (ZCV)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

HULL: Hulling (%); MILLing (%); HRR rice recovery (%); KL: Kernal length (mm); KB: Kernal breadth (mm); SS: short slender; L/B Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent; MS: Medium slender; ASV: Alkali spreading value; AC: Amylose content (%); GC: Gel consistency; LB Long bold; SB: short bold; LS: Long slender

ADVANCE VARIETY TRIAL 1– BASMATI (AVT 1- BT)

Locations:	13	Test Entries: 28
Checks and Recurrent Parents:	Pusa Basmati 1 (YC & RP), Pusa Basmati 1121 (YC, QC & RP), Taraori Basmati (QC), Pusa RH 10 (HC), Local Check (LC), Pusa Basmati 6 (RP) and Pusa Basmati 1509 (RP).	Table:4.1

Advance Variety Trial 1-Basmati constituted of 28 entries including six varietal test entries; two hybrid entries; thirteen Near isogenic lines; four recurrent parents viz., Pusa Basmati 1, Pusa Basmati 6, Pusa Basmati 1121 and Pusa Basmati 1509; five checks namely Pusa Basmati-1 (Yield Check), Pusa Basmati 1121 (Yield and Quality Check), Taraori Basmati (Quality Check), Pusa RH10 (Hybrid Check) and local check. Out of 28 test entries two entries IETs 26995 and 26999 are in 3rd year of testing, six entries are in second year of testing, thirteen entries are in first year of testing while the remaining seven entries are checks and recurrent parents. Trial was conducted at 13 typical locations for Basmati cultivation and the data from Khudwani centre was not received. Out of 12 test locations, the data from only four locations namely New Delhi, Kaul, Karnal and Modipuram was considered for analysis and the data of eight locations viz., Pant Nagar, Gurdaspur, Ludhiana, Rauni, Kapurtala, Chatha, Nagina and Meerut was not considered for analysis due to low experimental mean and or low CV.

Experimental mean of the locations ranged from 1654 kg/ha at Pant Nagar to 5598 kg/ha at IARI, New Delhi while CV ranged from 3.33 % at Meerut to 28.11 % at Pant Nagar. Days to 50% flowering ranged from 76 days (IET 28814) to 100 days (IET 28807). Plant height of the entries ranged from 88.15 cm (IET 28808) to 138.45 cm (Taraori Basmati) while panicles per sq m ranged from 377 (Pusa RH 10) to 585 (IET 27734). Among the checks, hybrid check Pusa RH 10 registered 6304 kg/ha with 3rd rank based on overall mean. The data on yield, days to 50% flowering, plant height, number of panicles/m² and quality are presented in 4.2, 4.3, 4.4, 4.5, 4.6 and 4.7 respectively. The details of best performing entries are elaborated below.

Performance of entries in present in second year of testing in AVT 1-BT

Out of 6 test entries which include 5 varieties and one hybrid entry, only one varietal test entry IET 27720 showed superior yield performance over best varietal and or hybrid check.

IET 27720 (Pusa 1301-95-12-5-2-4-2) derived from the cross Khalsa 7/Improved Sabarmati recorded grain yield of 5517 kg/ha with 9.81 % yield advantage over the best varietal check. It had long slender grains and 83 days to 50% flowering. State-wise performance revealed that this entry recorded 4th rank in New Delhi (7043 kg/ha) with 16.74 % yield advantage over best varietal check. In the state of Haryana, it had grain yield of 4718 kg/ha with 10.91 % yield advantage over the best varietal check. Quality wise also it recorded HRR (50.29%), ASV (6.0), AC (17.9%), GC (61.00 mm), 17.60 mm KLAC and strong scent. **Based on its unacceptable quality parameters, the entry do not qualify to be promoted to next year of testing.**

Performance of promising of entries in second year of testing in AVT 1-BT Kharif, 2019

S. No	IET NO./ Designation/ Cross Combination	GY/ FD	Yield adv %Over (BC)/ (HC)	Performance, rank % increase over best check			
				State	Yield	% Over BC	% Over HC
1	27720 Pusa 1301-95-12-5-2-4-2 (Khalsa 7/Improved Sabarmati)	5517 83 LS	9.81 -	DE (4) HA	7043 4718	16.74 10.91	- -
	Pusa Basmati-1 (YC)	4121 93		DE HA	4536 4254		
	Pusa Basmati-1121 (YC & QC)	3690 96		DE HA	4461 3396		
	Tarori Basmati (QC)	3149 95		DE HA	3350 3147		
	Pusa RH 10 (HC)	6306 82		DE HA	8684 5076		
	Local Check (LC)	5024 89		DE HA	6033 3837		

Summarizing the three years performance of entries found promising in AVT 1-BT

IET 26999 (Indam 100-012) a hybrid entry from Indo-American hybrid seeds exhibited significantly superior performance with 40.11% over the best varietal check and 11.62% yield superiority over hybrid check with (1st rank, 7039 kg/ha) with long slender grains and 90 days to 50% flowering in the third year of testing. This hybrid entry showed consistent performance in basmati area for all the 3 years of testing but not in the single state. State wise it could show consistent performance in the state of Uttar Pradesh in third and second year of testing, whereas in Punjab state, it showed consistent performance in first and second year of testing and not in third year of testing. In Haryana state, it recorded superior performance over checks in third year only and for Delhi state in first year only. Quality wise, it recorded HRR (57.48%), ASV (5.0), AC (20.9%), GC (53.25 mm), 13.13 mm of KLAC and strong scent. **Based on its superior performance over best varietal and hybrid check and acceptable quality parameters, it is found promising for the state of Uttar Pradesh only.**

IET 26995 (Pusa 1692-10-20-1-1-1) derived from the cross between PB1509/P1601 could not show superior performance over best varietal and or hybrid check in third year of testing. This entry could not show consistent performance in basmati area and in any state for all the 3 years of testing. It showed consistent performance in first and second year of testing in Uttar Pradesh and Haryana states, but not in third year of testing. **Hence, it is not found promising for any state.**

Three years performance of promising entries in AVT 1-BT, Kharif 2019

IET No/ Designation / Cross Combination	Year	BT area mean yield FD/GT	Yield adv (%) over BC/HC	% Increase over best check			
				Basmati Region			
				State	Yield	%BC	%HC
26999 Indam 100 -012 (Hybrid)	2019	7039	40.11	HA (1)	6874	49.8	25.5
		90	11.62	UP (1)	7361	15.2	15.2
		LS					
	2018	6593	54.11	PU (1)	6114	39	50.5
		97	6.78	UP (2)	8018	59	15
		LS					
26995 Pusa 1692-10-20-1-1-1 (PB1509/P1601)	2019	6389	26.02	PU (1)	5983	22.15	15.81
		108	8.16	DE (2)	7571	12.93	6.78
		LS					
	2018	5194	-	-	-	-	-
		79	-				
		LS					
		5153	20	DE (9)	5249	6	-
		79	-	HA (7)	5325	43	-
		LS		UP (7)	5641	12	-
	2017	5333	5.19	PU (4)	5370	9.64	-
		89	-	HA	4400	6.02	-
		LS		UP	6013	8.91	-

Performance assessment of Near Isogenic Lines (NIL's) in AVT 1-BT

In AVT 1-BT, a total of 13 test entries and four recurrent parents viz., Pusa Basmati 1, Pusa Basmati 6, Pusa Basmati 1121 and Pusa Basmati 1509 were evaluated for yield and other target traits viz., drought tolerance, bacterial leaf blight and blast resistance and herbicide tolerance. This trial includes two NIL's for drought tolerance, seven NIL's for bacterial leaf blight and blast resistance and four NIL's for herbicide tolerance. The NIL entries are evaluated for their yield performance in the regular basmati trial and for target trait verification, separate trials were conducted. Both yield trial and target trials data were analyzed as per the approved guidelines for testing of NILs during the breeder's group meeting held at 53rd Annual Rice Group Meetings (ARGM) on 13th April 2018 (Draft Proceedings of 53rd ARGM, 2018; Page 45) and 54th Annual Rice Group Meetings (ARGM) on 29th May, 2019 (Draft Proceedings of 54th ARGM, 2019; Page 6, 42-43)

Near Isogenic Lines for Drought Tolerance

The two NIL entries in the genetic background of Pusa Basmati 1 viz., IET 28787 and IET 28788 are the two sister lines derived from the cross Pusa Basmati 1/N22//Pusa Basmati 1*3 and possesses drought tolerant QTL *qDTY 1.1* governing reproductive stage drought tolerance. These two NIL's were evaluated for yield under regular basmati trial and a separate drought trial was conducted at four locations but data from Hazaribagh, Varanasi and Rewa was not included due to low experimental mean yield and or low CV and data from Patna centre only was included in analysis.

IET 28787 (Pusa 1882-12-111-7) derived from the cross Pusa Basmati 1/N22//Pusa Basmati 1*3 possesses reproductive stage drought tolerant QTL *qDTY 1.1*, recorded yield advantage of +11.4% over RP under normal condition. As only one location data was considered for analysis under stress condition and this entry data was not available from the

Patna centre. Quality wise, it had HRR close to acceptable level for basmati rice (44.96%). **Hence, IET 28788 may be repeated.**

IET 28788 (Pusa 1882-12-111-20) derived from the cross Pusa Basmati 1/N22//Pusa Basmati 1*3 possesses reproductive stage drought tolerant QTL *qDTY 1.1*, recorded yield advantage of +5.07% over RP under normal condition, whereas in stress condition, it recorded on par yield performance (+0.45) over RP and had low HRR (42.84%). **Hence, IET 28787 is dropped.**

The yield performance of NIL entries over recurrent parent under normal and drought condition are presented in the following table

IET No	Recurrent Parent (RP) and genes	Gazette notified States of the RP	Normal condition			Drought condition			Remarks
			RP Yield	NIL Yield	% over RP	RP Yield	NIL Yield	% over RP	
28787	Pusa Basmati 1	PU, HA, UT, DE, Western UP, Plains of JK, HP	4121	4330	+5.07	3758	3775	+0.45	Dropped (NIL had on par performance compared to RP under stress)
28788	Pusa Basmati 1	PU, HA, UT, DE, Western UP, Plains of JK, HP	4121	4592	+11.4	3758	NA	-	Repeat (Due to non-availability of yield data in stress condition)

Near Isogenic Lines for Herbicide (Imazethapyr) Tolerance

A total of four NIL entries, two each in the genetic background of Pusa Basmati 1121 (IET 28812 and IET 28813) and Pusa Basmati 1509 (IET 28814 and IET 28815) were evaluated for yield and herbicide tolerance for the first time in AICRIP. All the four NIL's were evaluated for yield performance in the regular basmati trial and for trait confirmation (herbicide tolerance), a separate herbicide trial was conducted at six locations viz., ICAR-IARI, ICAR-IIRR, Kaul, Ludhiana, Nagina and Pantnagar and data from two locations viz., Ludhiana (low experimental mean yield) and Kaul (conduction of trial was not appropriate) were not included.

For yield performance, NIL's were compared to RP in regular basmati trial and those NIL's having on par or superior yield than RP are considered for promotion after target trait verification. For target trait (herbicide tolerance) verification, survival of NIL's (and or resistant check) compared to complete mortality of RP (or susceptible check) after Imazethapyr herbicide spray was considered in herbicide tolerance trial. In this trial four NIL entries in two genetic backgrounds (PB 1121 and PB 1509) were nominated for Imazethapyr herbicide tolerance. Hence from the herbicide tolerance trial, data of Imazethapyr spray was considered for assessing the promotion of NIL entries. Based on herbicide tolerance trial data, complete mortality of RP's viz., PB 1121 and PB 1509 were observed, whereas their respective derived NIL entries survived after Imazethapyr herbicide spray.

IET 28812 (Pusa 1979-14-7-33-99-66) derived from the cross Pusa Basmati 1121/Robin processing Imazethapyr herbicide tolerant allele of AHAS, recorded yield advantage of +8.37% over RP, Pusa Basmati 1121 in normal basmati trial. It had 3.90 t/ha and

100% mortality of RP in herbicide tolerance trial. Quality wise, it recorded HRR (52.55%), ASV (7.0), AC (20.2%), GC (23.75 mm), 17.6 mm of KLAC and mild scent. **Hence, IET 28812 was promoted.**

IET 28813 (Pusa 1979-14-7-33-99-15) derived from the cross Pusa Basmati 1121/Robin processing Imazethapyr herbicide tolerant allele of AHAS, exhibited yield advantage of +9.19% over RP, Pusa Basmati 1121 in normal basmati trial. It had 3.93 t/ha and 100% mortality of RP in herbicide tolerance trial. Quality wise, it recorded HRR (54.0 %), ASV (7.0), AC (21.0 %), GC (22.75 mm), 19.25 mm of KLAC and strong scent. **Hence, IET 28813 was promoted.**

IET 28814 (Pusa 1985-15-7-58-190) derived from the cross Pusa Basmati 1509/Robin processing Imazethapyr herbicide tolerant allele of AHAS, recorded on par yield advantage of +0.04% over RP, Pusa Basmati 1509 in normal basmati trial. It had 3.88 t/ha and 100% mortality of RP in herbicide tolerance trial. Quality wise, it recorded HRR (61.55 %), ASV (7.0), AC (21.6 %), GC (38.75 mm), 17.69 mm of KLAC and strong scent. **Hence, IET 28814 was promoted.**

IET 28815 (Pusa 1985-15-7-112-125) derived from the cross Pusa Basmati 1509/Robin processing Imazethapyr herbicide tolerant allele of AHAS, exhibited on par yield advantage of +2.83 % over RP, Pusa Basmati 1509 in normal basmati trial. It had 3.86 t/ha and complete mortality of RP in herbicide tolerance trial. Quality wise, it recorded HRR (55.45 %), ASV (7.0), AC (21.7 %), GC (26.5 mm), 17.78 mm of KLAC and strong scent. **Hence, IET 28815 was promoted.**

The yield (t/ha) performance of NIL entries over recurrent parent under normal and herbicide tolerance trial are presented in the following table.

IET No	Recurrent Parent (RP)	Normal condition			Herbicide tolerance trial								
		NIL Yield	RP Yield	% over RP	IT		PFB		WRC		% over RP		
					NIL Yield	RP Yield	NIL Yield	RP Yield	NIL Yield	RP Yield	IT	PFB	WFC
28812	Pusa Basmati 1121	3.99	3.69	+8.37	3.90	0	3.96	3.61	4.55	4.01	-	+9.56	+13.4
28813	Pusa Basmati 1121	4.02	3.69	+9.19	3.93	0	3.81	3.61	4.39	4.01	-	+5.47	+9.3
28814	Pusa Basmati 1509	5.41	5.40	+0.04	3.88	0	3.47	3.46	3.77	3.89	-	+0.29	-3.1
28815	Pusa Basmati 1509	5.56	5.40	+2.83	3.86	0	3.62	3.46	4.11	3.89	-	+4.55	+5.5

IT: Imazethapyr treatment; PFB: Pendimethalin fb bispyribacsodium treatment; WFC: Weed Free Check; NIL: Near Isogenic Line; RP: Recurrent Parent

Near Isogenic Lines for Bacterial Leaf Blight and Blast Resistance

A total of seven NIL entries and their respective recurrent parents (Pusa Basmati 6, Pusa Basmati 1121 and Pusa Basmati 1509) were evaluated for yield and grain quality in regular basmati trial and for bacterial leaf blight and blast resistance, a separate trial under NSN

was conducted in hot spot regions across the country to determine the resistance of NILs for bacterial leaf blight and blast disease.\

Two NIL entries IET 28808 and IET 28809 in the genetic background of **Pusa Basmati 6** were evaluated for yield, quality, bacterial leaf blight and blast resistance.

IET 28808 (Pusa 1886-13-91-26-9) derived from the cross Pusa 1884/PB1728 possessing genes *Pi2+Pi54* for blast resistance and *xa13+Xa21* for bacterial blight resistance. It exhibited yield advantage of +19.42 % over RP. It recorded resistance reaction to blast with disease severity index value of 3.9. However, it exhibited susceptible reaction with disease severity index of 5.1 to BLB compared to donor parent (PB 1728: DSI 3.9) and resistant check (ISM: DSI 3.9) and had low HRR (43.93 %). **Hence, IET 28808 is dropped.**

IET 28809 (Pusa 1886-13-201-18-13) derived from the cross Pusa 1884/PB1728 possesses genes *Pi2+Pi54* for blast resistance and *xa13+Xa21* for bacterial blight resistance. It recorded resistance reaction to blast with disease severity index value of 3.6. It exhibited inferior yield (-0.85 %) compared to RP and showed resistance reaction with disease severity index value of 4.8 to BLB and had low HRR (42.5 %). **Hence, IET 28809 is dropped.**

Two NIL entries IET 28806 and IET 28807 in the genetic background of **Pusa Basmati 1121** were evaluated for yield, quality, bacterial leaf blight and blast resistance.

IET 28806 (Pusa 1885-13-242-9-3) derived from the cross Pusa 1883/PB 1718 and possesses genes *Pi2+Pi54* for blast resistance and *xa13+Xa21* for bacterial blight resistance. It exhibited yield advantage of +14.77 % over RP. It recorded resistance reaction with disease severity index value of 4.4 for blast and 4.1 for BLB. Owing to its similarity with RP in morphological attributes, superiority over RP in yield and possessing resistance to blast and BLB, **IET 28806 is promoted.**

IET 28807 (Pusa 1885-13-125-20-6) derived from the cross Pusa 1883/PB 1718 and possesses genes *Pi2+Pi54* for blast resistance and *xa13+Xa21* for bacterial blight resistance. It recorded yield advantage of +16.86 % over RP. It recorded resistance reaction with disease severity index value of 4.6 for blast and 4.1 for BLB. Quality wise, it recorded low HRR (43.96 %). **Hence, IET 28807 is dropped.**

Three NIL entries IET's 28810, 28811 and 27722 in the genetic background of **Pusa Basmati 1509** were evaluated for yield, quality, bacterial leaf blight and blast resistance. It was observed that, RP showed resistance reaction to blast with disease severity index value of 4.0, which indicate RP is resistant to blast.

IET 28810 (Pusa 1847-12-62-184-36-9-155) derived from the cross Pusa Basmati 1509*2/Pusa 1790 possesses genes *Pi2+Pi54* for blast resistance and *xa13+Xa21* for bacterial blight resistance. It recorded resistance reaction to blast with disease severity index value of 3.4 (on par with RP) and DSI of 3.9 to BLB. However, it exhibited inferior yield (-4.57 %) compared to RP. **Hence, IET 28810 is dropped.**

IET 28811 (Pusa 1847-12-62-64-12-6-8) derived from the cross Pusa Basmati 1509*2/Pusa 1790 possesses genes *Pi2+Pi54* for blast resistance and *xa13+Xa21* for bacterial blight resistance. It exhibited on par yield (+0.57 %) compared to RP and showed resistance

reaction with disease severity index value of 3.6 for blast (on par compared to RP) and 3.4 for BLB. Quality wise, it recorded low HRR (43.82 %). **hence IET 28811 is dropped.**

IET 27722 (Pusa 1847-12-62-190-39-7-15) derived from the cross Pusa Basmati 1509*2/Pusa 1790 possesses genes *Pi2+Pi54* for blast resistance and *xa13+Xa21* for bacterial blight resistance. It recorded on par yield advantage of +4.57% over RP. It exhibited resistance reaction to both blast with a severity index value of 3.0 and to BLB with disease severity index value of 4.6. **Hence, IET 27722 is promoted.**

Performance of the NIL entries during Kharif 2019

S. No	IET No	Recurrent Parent (RP) and genes	Normal condition			Severity Index (%) from hot spots				Remarks
			RP Yield	NIL Yield	% over RP	Blast		Bacterial leaf blight		
						RP	NIL	RP	NIL	
1	28808	Pusa Basmati 6 (<i>Pi2, Pi54, xa13, Xa21</i>)	3784	4519	+19.42	5.9	3.9	6.4	5.1	Dropped due to susceptible reaction to BLB and low HRR
2	28809	Pusa Basmati 6 (<i>Pi2, Pi54, xa13, Xa21</i>)	3784	3752	-0.85	5.9	3.6	6.4	4.8	Dropped due to inferior to RP in yield and low HRR
3	28806	PB 1121 (<i>Pi2, Pi54, xa13, Xa21</i>)	3690	4235	+14.77	5.8	4.4	5.6	4.1	Promoted
4	28807	PB 1121 (<i>Pi2, Pi54, xa13, Xa21</i>)	3690	4312	+16.86	5.8	4.6	5.6	4.1	Dropped due to low HRR
5	28810	PB 1509 (<i>Pi2, Pi54, xa13, Xa21</i>)	5409	5162	-4.57	4.0	3.4	5.6	3.9	Dropped due to inferior to RP in yield
6	28811	PB 1509 (<i>Pi2, Pi54, xa13, Xa21</i>)	5409	5440	+0.57	4.0	3.6	5.6	3.4	Dropped due to low HRR
7	27722	PB 1509 (<i>Pi2, Pi54, xa13, Xa21</i>)	5409	5656	+4.57	4.0	3.0	5.6	4.6	Promoted

Mean grain yield (t/ha) data of herbicide (Imazethapyr) tolerance trial at six test locations, Kharif 2019

Imazethapyr treatment								
Sl. No	IET No.	IARI	IIRR	@Kaul	@Ludhiana	Nagina	Pantnagar	Mean
1	28812	4.58	2.22	4.85	1.89	4.43	4.38	3.90
2	28813	4.43	2.1	4.61	1.00	4.53	4.65	3.93
3	28814	4.21	1.86	3.93	3.51	4.67	4.77	3.88
4	28815	4.27	2.04	3.86	3.63	4.72	4.4	3.86
5	PB 1121	0	0	0.17	0	0	0	0.00
6	PB 1509	0	0	1.18	0	0	0	0.00
Mean		2.92	1.37	3.10	1.67	3.06	3.03	2.52
Pendimethalin fb bispyribacsodium treatment								
Sl. No	IET No.	IARI	IIRR	@Kaul	@Ludhiana	Nagina	Pantnagar	Mean
1	28812	4.08	2.87	4.74	2.75	4.47	4.4	3.96
2	28813	3.55	2.75	4.2	2.53	4.35	4.58	3.81
3	28814	2.54	2.51	3.25	3.68	4.58	4.25	3.47
4	28815	3.04	2.13	3.19	3.86	4.61	4.69	3.62
5	PB 1121	3.09	2.69	3.65	2.08	4.43	4.21	3.61
6	PB 1509	2.42	2.1	4.12	3.63	4.52	4.79	3.46
Mean		3.12	2.51	3.86	3.09	4.49	4.49	3.65
Weed Free Check								
Sl. No	IET No.	IARI	IIRR	@Kaul	@Ludhiana	Nagina	Pantnagar	Mean
1	28812	4.38	4.53	4.97	0.37	4.51	4.77	4.55
2	28813	4.05	4.24	4.95	0.24	4.5	4.75	4.39
3	28814	2.81	3.13	4.04	0.68	4.65	4.48	3.77
4	28815	3.67	3.2	4.11	0.86	4.71	4.84	4.11
5	PB 1121	3.43	3.52	3.79	0.18	4.55	4.54	4.01
6	PB 1509	2.58	3.53	4.12	0.73	4.59	4.85	3.89
Mean		3.49	3.69	4.33	0.51	4.59	4.71	4.12

@not included in mean data analysis

The quality parameters of the above entries are given below.

IET No.	HRR (%)			ASV			AC (%)		
	IIRR	IARI	Mean	IIRR	IARI	Mean	IIRR	IARI	Mean
Third year of testing									
26999	47.4	67.56	57.48	5	5	5	23.52	18.34	20.9
26995	42.7	61.92	52.31	7	7	7	24.43	23.15	23.8
Second year of testing									
27720	39.3	61.28	50.29	6	7	6.5	15.57	20.15	17.9
First year of testing (NIL entries)									
28787	37	48.67	42.84	7	7	7	24.4	23.22	23.8
28788	38	51.91	44.96	7	7	7	23.99	21.47	22.7
28812	41.4	63.7	52.55	7	7	7	19.77	20.62	20.2
28813	42.3	65.7	54.00	7	7	7	21.58	20.32	21.0
28814	59.2	63.9	61.55	7	7	7	22.2	20.94	21.6
28815	45.5	65.4	55.45	7	7	7	22.96	20.47	21.7
28808	35	52.85	43.93	7	7	7	24.84	20.5	22.7
28809	31.5	53.5	42.50	7	7	7	24.22	20.94	22.6
28806	42.8	60.25	51.53	5	7	6	22.05	20.15	21.1
28807	35.5	52.42	43.96	6	7	6.5	21.41	20.62	21.0
28810	32	63.83	47.92	7	7	7	22.7	21.59	22.1
28811	24.5	63.14	43.82	7	7	7	23.14	21.19	22.2
27722	40	63.46	51.73	7	7	7	22.85	20.15	21.5

IET No.	GC (mm)			KLAC			Aroma		Remarks
	IIRR	IARI	Mean	IIRR	IARI	Mean	IIRR	IARI	
Third year of testing									
26999	64	42.5	53.25	14.3	11.95	13.13	SS	MS	Promising for the state of Uttar Pradesh only
26995	33	27.5	30.25	19.5	16.05	17.78	SS	SS	Not found promising
Second year of testing									
27720	64	58	61	17.6	17.6	17.60	SS	SS	Dropped due to low AC
First year of testing (NIL entries)									
28787	22	45	33.5	15.9	14	14.95	SS	SS	Dropped due to low HRR
28788	24	28	26	15.1	13.3	14.20	SS	MS	Repeat due to non-availability of yield data in stress condition
28812	25	22.5	23.75	18.8	16.4	17.60	SS	MS	Promoted
28813	22	23.5	22.75	20.7	17.8	19.25	SS	SS	Promoted
28814	50	27.5	38.75	19.5	15.87	17.69	SS	SS	Promoted
28815	22	31	26.5	18.7	16.85	17.78	SS	SS	Promoted
28808	22	35	28.5	18.4	13.85	16.13	SS	MS	Dropped due to susceptible reaction to BLB and low HRR
28809	24	21	22.5	17.2	13.95	15.58	SS	MS	Dropped due to inferior to RP in yield and low HRR
28806	24	45.5	34.75	19.5	16.35	17.93	SS	MS	Promoted
28807	22	35	28.5	18.3	15.18	16.74	SS	MS	Dropped due to low HRR
28810	22	21	21.5	19.5	16.37	17.94	SS	MS	Dropped due to inferior to RP in yield
28811	47	23	35	19.3	16.37	17.84	SS	SS	Dropped due to low HRR
27722	26	28	27	18.6	16.5	17.55	SS	SS	Promoted

List of entries other than NIL's promoted to AVT-2-BT: NONE

The NIL entries promoted to AVT-2-BT: 06 entries

Sl. No.	Target trait	Recurrent Parent	Number of NILs	NIL entries
1	Drought tolerance	Pusa Basmati 1	02	None
2	Imazethapyr herbicide tolerance	Pusa Basmati 1121	02	IET 28812 and IET 28813
3	Imazethapyr herbicide tolerance	Pusa Basmati 1509	02	IET 28814 and IET 28815
4	BLB and Blast resistance	Pusa Basmati 6	02	None
5	BLB and Blast resistance	Pusa Basmati 1121	02	IET 28806
6	BLB and Blast resistance	Pusa Basmati 1509	03	IET 27722

Disease reaction of the entries to Bacterial leaf blight disease during Kharif 2019

IET No.	JGT	IIRR	NVS	PNT	CTK	LDN	CHN	GGV	MSD	KJT	CHT	VRN	NLR	PTN	SI
Improved Samba Mahsuri (RC)	5	1	7	0	3	3	1	3	5	3	5	7	7	4	3.9
28806	5	1	7	0	5	3	1	3	5	5	5	5	5	7	4.1
28807	7	3	5	3	3	3	1	5	5	5	5	3	3	7	4.1
Pusa Basmati 1121 (RP)	7	9	5	3	7	7	5	5	7	5	5	3	3	7	5.6
28808	7	3	7	3	7	3	5	3	5	5	5	7	7	5	5.1
28809	7	3	7	1	5	3	5	7	3	9	3	3	7	4	4.8
Pusa Basmati-6 (RP)	7	9	5	9	7	7	9	9	5	7	3	3	5	4	6.4
28810	7	1	7	1	7	3	1	3	7	5	5	3	1	4	3.9
28811	5	1	5	1	5	3	1	3	5	5	5	5	3	0	3.4
27722	7	9	7	1	5	3	1	7	5	5	5	7	3	0	4.6
Pusa Basmati 1509 (RP)	9	9	5	7	5	7	7	3	7	5	5	3	3	3	5.6
C 101 LAC (DP)	7	9	7	9	7	7	9	5	9	5	7	9	3	4	6.9
C 101 A 51 (DP)	9	9	7	5	5	3	7	7	7	3	7	7	5	4	6.1
Tetep (DP)	3	9	7	9	5	7	7	5	5	3	3	5	5	3	5.4
FBR 1-15 (DP)	7	3	5	3	3	5	1	3	7	3	-	3	5	3	3.9
PAU 3554 (DP)	7	1	7	1	3	3	5	5	5	3	-	5	5	4	4.2
RP Bio Patho -1 (DP)	9	5	5	5	7	3	7	7	7	3	5	3	5	4	5.4
RP Bio Patho -2 (DP)	9	1	7	1	7	3	1	3	7	5	5	7	7	5	4.9
Samba Mahsuri NIL (DP)	7	7	5	5	7	7	5	7	5	3	3	7	1	5	5.3
Pusa 1718 (DP)	9	1	5	1	7	3	1	3	7	3	3	5	3	5	4.0
Pusa 1790 (DP)	9	9	7	1	7	3	1	5	3	5	3	3	5	4	4.6
Pusa 1728 (DP)	7	3	5	1	3	5	1	3	5	5	3	3	7	4	3.9
T(N1)	7	9	9	9	9	7	7	9	9	7	7	7	9	4	7.8

RP: Recurrent Parent; DP: Donor Parent; RC: Resistant check

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Disease reaction of the entries to blast disease during Kharif 2019

IET No.	MND	LNV	NLR	CTK	PNP	RNR	UMM	HZB	NDL	IIRR	JGT	PTB	GNV	CHP	SI
28795	8	6	5	7	2	3	-	6	7	7	7	4	3	5	5.4
Varalu (RP)	9	8	5	5	3	5	-	7	9	7	9	5	2	4	6.0
27285	4	9	6	5	5	7	-	2	3	3	5	6	-	7	5.2
27286	3	7	5	5	5	7	-	3	1	4	5	6	2	7	4.6
Swarna (RP)	9	6	3	5	7	9	-	8	5	5	5	3	3	7	5.8
28014	6	7	5	5	7	3	-	3	5	1	7	4	2	5	4.6
27290	9	7	5	5	8	7	-	8	7	6	4	3	9	5	6.4
28796	8	7	7	5	6	9	-	5	5	6	7	4	6	4	6.1
28797	7	6	8	7	4	7	-	4	3	7	7	3	5	4	5.5
Samba Mahsuri (RP)	8	8	9	7	8	9	-	5	3	7	7	4	9	3	6.7
28798	9	6	7	7	9	7	-	5	3	6	7	3	9	7	6.5
28799	7	7	4	7	7	9	-	6	5	4	5	4	2	7	5.7
28802	6	5	2	5	7	9	-	3	3	3	5	4	7	6	5.0
28803	6	5	2	5	5	7	-	3	7	2	7	4	1	7	4.7
28804	6	6	3	5	6	5	-	3	5	3	7	3	3	7	4.8
28805	5	6	4	5	7	3	-	4	3	4	5	3	2	7	4.5
Improved Samba Mahsuri (RP)	9	5	9	5	8	5	5	4	5	7	5	4	9	7	6.2
28806	5	6	5	7	5	3	-	5	5	2	3	3	3	5	4.4
28807	5	5	3	7	6	3	9	5	3	2	2	3	5	7	4.6
Pusa Basmati 1121 (RP)	9	6	5	7	5	3	-	7	7	3	2	6	9	7	5.8
28808	4	5	4	5	6	3	-	4	3	2	2	3	3	7	3.9
28809	3	5	1	5	7	3	-	5	3	3	1	4	1	6	3.6
Pusa Basmati-6 (RP)	9	6	4	5	7	5	-	4	9	7	1	7	9	4	5.9
28810	2	5	4	5	4	5	-	3	1	1	4	4	2	4	3.4
28811	2	6	5	5	4	3	6	3	3	1	5	3	3	2	3.6
27722	2	7	3	3	3	3	-	3	3	1	4	2	3	2	3.0
Pusa Basmati 1509 (RP)	4	9	4	5	3	5	-	4	3	3	5	2	2	3	4.0
C 101 LAC (DP)	5	5	4	3	5	5	-	4	5	4	5	4	9	4	4.8
C 101 A 51 (DP)	5	6	5	5	4	3	6	4	5	5	5	3	7	5	4.9
RP Bio Patho -1 (DP)	5	5	4	5	6	7	-	3	3	4	5	4	2	7	4.6
RP Bio Patho -2 (DP)	5	4	4	5	5	7	-	3	3	2	4	3	3	6	4.2
Samba Mahsuri NIL (DP)	7	6	3	5	5	7	-	7	5	4	5	4	5	5	5.2
Pusa 1718 (DP)	9	5	3	5	7	1	-	9	7	6	5	8	-	5	5.8
Pusa 1790 (DP)	1	6	4	5	5	1	-	4	1	2	5	6	-	4	3.7
Pusa 1728 (DP)	9	7	7	5	8	1	-	8	9	7	5	8	8	4	6.6
HR-12 (SC)	9	9	7	9	7	9	9	9	9	9	9	7	9	7	8.4
T(N1)	9	9	6	5	5	9	7	8	5	9	5	7	9	7	7.1
Tetep (RC)	4	2	3	5	3	3	4	1	3	1	-	2	2	3	2.8

RP: Recurrent Parent; DP: Donor Parent; SC: Susceptible check; RC: Resistant check

INITIAL VARIETY TRIAL – BASMATI (IVT - BT)

Locations:	12	Test Entries: 24
Checks:	Pusa Basmati 1 (YC), Pusa Basmati 1121 (YC & QC), Taraori Basmati (QC), Pusa RH 10 (HC) and Local Check (LC),	
	Table: 4.9	

Initial Variety Trial – Basmati constituted of 24 entries including one hybrid entry and five checks viz., Pusa Basmati-1 (Yield Check), Pusa Basmati 1121 (Yield & Quality Check), Taraori Basmati (Quality Check), Pusa RH10 (Hybrid Check) and local check. The trial was conducted at 12 typical locations for Basmati cultivation and data was received from all the centres. The data from Pant Nagar, Ludhiana, Kapurtala, Nagina and Meerut was not considered for analysis due to low experimental mean and or low CV. Experimental mean of the locations ranged from 3393 kg/ha at Kapurtala to 6615 kg/ha at IARI, New Delhi while CV ranged from 4.53 % at Meerut to 16.03 % at Pant Nagar. Days to 50% flowering ranged from 90 days (IET 28589 and Pusa RH 10) to 109 days (IET 28576 and IET 28589). Plant height of the entries ranged from 109 cm (IET 28574) to 146 cm (IET 28590) while panicles per sq m ranged from 260 (IET 28572) to 387 (Taraori Basmati).

Among the checks, hybrid check Pusa RH 10 registered 5803 kg/ha with 4th rank based on overall mean. The data on yield, days to 50% flowering, plant height, number of panicles/m² and quality are presented in tables 4.10, 4.11, 4.12, 4.13, 4.14 and 4.15. Out of 24 test entries, eleven varietal and one hybrid entry out yielded the best varietal and or hybrid check with required yield advantage. The details of best performing top three entries in the trial are elaborated below.

IET 28579 (TAJ) a hybrid entry derived from the cross F 501 / 510 R recorded 1st rank (6419 kg/ha) with 35.3 % yield advantage over the best varietal check and 10.6 % over the hybrid check with long slender grains and 91 days to 50% flowering. State-wise performance revealed that this entry recorded 1st rank in New Delhi (8630 kg/ha), Haryana (6280 kg/ha) and Jammu and Kashmir (5600 kg/ha) with 30, 32, 19 % and 9.97, 22, 17 % yield advantage over best varietal and hybrid check respectively. It ranked, 4th in the state of Punjab (5072 kg/ha) with 36 % and 10 % yield advantage over the best varietal and hybrid checks. Quality wise also it recorded HRR (61.99%), ASV (7.0), AC (20.85%), GC (50.00 mm), 13.15 mm KLAC and Mild scent. **Based on its superior performance over best varietal and hybrid check and acceptable quality parameters, the entry qualify to be promoted to next year of testing.**

IET 28575 (HKR 15-455) derived from PAU 3030-29-2 / PAU 2020-10-3-1 exhibited significantly superior performance with 29.2% over the best varietal check and 5.6% yield superiority over hybrid check (2nd, 6130 kg/ha) with long slender grains and 101 days to 50% flowering. State-wise performance of this entry recorded 1st rank in Punjab (5999 kg/ha) and Uttar Pradesh (8900 kg/ha) with 61 % and 33% yield advantage over best check; and 3rd rank in New Delhi (7900 kg/ha) with 19% yield superiority over the best varietal check. Quality wise also it recorded HRR (61.86%), ASV (7.0), AC (23.4%), GC (36.00 mm), 12.02 mm of KLAC and mild scent. **Based on superior performance over best**

check and acceptable quality parameters, the entry qualifies for promotion to second year of testing.

The third best entry IET 28577 (UPR 4079-10-1-1-1) derived from Sugandhamati / Pant Sugandh Dhan 5 yielding 5862 kg/ha recorded 23.6 % yield superiority over the best varietal check. The entry has long slender grains and 91 days to 50% flowering. Quality wise it recorded HRR (60.34%), ASV (7), AC (25.1%), GC (36.5 mm) 14.47 mm KLAC and strong scent. **Based on superior performance over best check and acceptable quality parameters, the entry qualifies for promotion to next year of testing.**

Overall performance of promising of entries in (IVT-BT) Kharif, 2019

S.No.	IET NO./ Designation/ Cross Combination	GY/ FD	Yield adv % Over (BC)/(HC)	Performance, rank % increase over best check			
				State	Yield	% Over	% Over HC
1	28579 TAJ (Hybrid) F 501 / 510 R	6419 91 LS	35.3 10.6	DE (1) PU (4) HA (1) JK (1)	8630 5072 6280 5600	30 36 32 19	9.97 10 22 17
2	28575 HKR 15-455 (PAU 3030-29-2 / PAU 2020-10-3-1)	6130 101 LS	29.2 5.6	DE (3) PU (1) HA (7) UP (1)	7900 5999 5155 8900	19 61 8 33	- 31 - -
3	28577 UPR 4079-10-1-1-1 (Sugandhamati / Pant Sugandh Dhan 5)	5862 91 LS	23.6 -	PU (5) HA (2) UP (3)	5044 5775 8100	35 21 21	10 13 -
4	Pusa RH 10 (Hybrid check)	5803 90 LS					
5	28572 CSR 162-11-917 (CSR 30 / FL 478)	5700 100 LS	20.2 -	DE (5) PU (7) HA (5) UP (4)	7680 4961 5225 8000	16 33 10 19	- 8 - -
6	28586 UPR 4084-14-1-1-1 (Sugandhamati 5 /Type 3)	5575 90 LS	17.5 -	PU (3) JK (2) UP (8)	5174 5150 7400	39 10 10	12 - -
7	28574 Pusa 1630-07-12-2-62 (P 1527 / P 1221)	5561 94 LS	17.2 -	DE (8) PU (2) HA (6) UP (8)	7046 5292 5175 7400	6 42 9 10	- 15 - -
8	28588 UPR 4259-2-1-1-3 (UPR 3506-15-1-1 / Sarbat)	5490 93 LS	15.7 -	DE (2) PU (9) JK (3) UP (4)	8154 4747 4950 8000	23 27 5 19	- - - -
9	28583 UPR 4088-1-1-1 (Pant Sugandh Dhan 15 / Taraori Basmati)	5275 94 LS	11.2 -	PU UP (10)	4362 7150	17 7	- -
10	28573 SJR 103-4-1 (Pusa 2517-2-51-1 / Vasumati)	5130 93 LS	8.2 -	PU (6)	4967	33	8

S.No.	IET NO./ Designation/ Cross Combination	GY/ FD	Yield adv % Over (BC)/(HC)	Performance, rank % increase over best check			
				State	Yield	% Over	% Over HC
11	28582 PAU 5366-47-3-2-2-3 [RYT 3722] (Mushkan/Punjab Mehak 1)	5111 108 LS	7.8 -	PU (10) UP (7)	4726 7450	27 11	- -
12	28589 PAU 5089-3-7-2-1-1-2 [RYT 3727] (Pusa Basmati 1121 / PAU 3429-6-3-4-2)	5049 104 LS	6.5 -	DE (7) PU	7131 4683	8 26	- -
13	28580 UPR 4218-17-1-1-2 (Pant Sugandh Dhan 17 / Pusa Sugandh 5)	5007 92 LS	5.6 -	DE (6) PU (8)	7271 4918	10 32	- -
Pusa Basmati-1 (YC)		4288 104		DE PU HA JK UP	5452 3678 4755 2950 4750		
Pusa Basmati-1121 (YC & QC)		4571 107		DE PU HA JK UP	6627 3555 4255 3300 6450		
Tarori Basmati (QC)		3475 108		DE PU HA JK UP	3584 3182 4190 3500 2500		
Pusa RH 10 (HC)		5803 90		DE PU HA JK UP	7847 4579 5110 4800 8600		
Local Check (LC)		4743 98		DE PU HA JK UP	6204 3725 4075 4700 6700		

The quality parameters of the above entries are given below.

IET No.	HRR (%)		Mean	ASV			AC (%)		
	IIRR	IARI		IIRR	IARI	Mean	IIRR	IARI	Mean
28579	53	61.99	57.50	3	7	5	24.93	20.85	22.9
28575	55.3	68.41	61.86	7	7	7	25.75	21.14	23.4
28577	53.5	67.17	60.34	7	7	7	25.84	24.27	25.1
28572	44.8	64.08	54.44	7	7	7	27.25	23.08	25.2
28586	52.1	65.35	58.73	7	7	7	24.2	25.51	24.9
28574	55	65.30	60.15	3	3	3	19.41	17.52	18.5
28588	48.8	60.49	54.65	5	6	5	16.1	15.44	15.8
28583	40.6	64.30	52.45	7	7	7	25.37	25.04	25.2
28573	52.2	67.82	60.01	7	7	7	23.93	21.27	22.6
28582	47.7	62.86	55.28	7	7	7	25.6	24.47	25.0
28589	54.2	66.52	60.36	7	7	7	22.9	21.99	22.4
28580	29	52.72	40.86	7	7	7	26.84	24.44	25.6

IET No.	GC (mm)			KLAC			Aroma		Remarks
	IIRR	IARI	Mean	IIRR	IARI	Mean	IIRR	IARI	
28579	61	50	55.5	13.1	13.15	13.13	SS	MS	Promoted
28575	24	48	36	12.9	11.13	12.02	MS	MS	Promoted
28577	46	27	36.5	15.3	13.63	14.47	SS	MS	Promoted
28572	22	62	42	15.2	13.48	14.34	SS	SS	Promoted
28586	25	47.5	36.25	15.0	13.93	14.47	SS	MS	Promoted
28574	78	45	61.5	16.0	15.18	15.59	SS	MS	Dropped due to low AC
28588	90	61	75.5	11.6	11.95	11.78	SS	MS	Dropped due to low AC
28583	24	69	46.5	14.7	14.60	14.65	SS	MS	Promoted
28573	46	64.5	55.25	14.5	12.73	13.62	SS	MS	Promoted
28582	36	62.5	49.25	18.1	16.87	17.49	SS	SS	Promoted
28589	45	51.5	48.25	17.9	15.30	16.60	SS	MS	Promoted
28580	24	52.5	38.25	14.9	13.40	14.15	SS	MS	Dropped due to low HRR

Three entries IET 28574 (low AC 18.5%), 28588 (low AC 15.8%) and 28580 (low HRR 40.86%) were dropped due to poor quality parameters. Remaining 07 entries could not exhibit the required yield advantage of 5 or more than 5% hence are not promoted to second year of testing.

List of entries promoted to second year of testing are as follows:

- IETs 28579, 28575, 28577, 28572, 28586, 28583, 28573, 28582 and 28589.

Table 4.1: Composition of entries in Advance Variety Trial 1 - Basmati (AVT 1 - BT), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
2nd Year of testing:				
1801	27720	Pusa 1301-95-12-5-2-4-2	Khalsa-7 / Imp.Sabarmati	LS
1802	27734	CSR B - 31	Trichy / Pusa Basmati 1	LS
1803	27733	SJBR 118	Secondary Selection from local traditional basmati	LS
1804	27728	Pusa RH 55 (Hybrid)	Pusa 6A / PRR1009	LS
1805	27732	SJR 76-1-2	HKR-02-486 / Saanwal Basmati	LS
1806	27723	CSR - B - 99	Trichy / Pusa Basmati 1	LS
3rd Year of testing:				
1807	26999	Indam 100-012 (Hybrid)	-	LS
1808	26995	Pusa 1692-10-20-1-1-1	PB 1509 / P1601	LS
1st Year of testing:				
1809	28808	Pusa 1886-13-91-26-9	Pusa 1884 / PB 1728	LS
1810	28809	Pusa 1886-13-201-18-13	Pusa 1884 / PB 1728	LS
1811	Pusa Basmati 6 (RP)			LS
1812	28787	Pusa 1882-12-111-7	PB 1 / N 22 // PB1*3	LS
1813	28788	Pusa 1882-12-111-20	PB 1 / N 22 // PB1*3	LS
1814	Pusa Basmati -1 (YC & RP)			LS
1815	28806	Pusa 1885-13-242-9-3	Pusa 1883 / PB 1718	LS
1816	28807	Pusa 1885-13-125-20-6	Pusa 1883 / PB 1718	LS
1817	28812	Pusa 1979-14-7-33-99-66	Pusa 1121 / Robin	LS
1818	28813	Pusa 1979-14-7-33-99-15	Pusa 1121 / Robin	LS
1819	Pusa Basmati 1121 (YC, QC & RP)			LS
1820	28810	Pusa 1847-12-62-184-36-9-155	PB 1509 * 2 / Pusa 1790	LS
1821	28811	Pusa1847-12-62-64-12-6-8	PB 1509 * 2 / Pusa 1790	LS
1822	27722 (R)	Pusa 1847-12-62-190-39-7-15	PB 1509 * 2 / Pusa 1790	LS
1823	28814	Pusa 1985-15-7-58-190	PB 1509 / Robin	LS
1824	28815	Pusa 1985-15-7-112-25	PB 1509 / Robin	LS
1825	Pusa Basmati 1509 (RP)			LS
1826	Taroari Basmati (QC)			
1827	Pusa RH 10 (HC)			
1828	Local Check (LC)			

Table 4.2: Grain Yield of entries in AVT 1 BT, Kharif 2019

Entry No	IET No													
		DE (1)			UK		PU							
		IAR			@PNT		@GDP		@LDN		@RUN		@KPT	
1801	27720	7043	4	17%	2902	2	3754	3	3197		2880	5	3117	5
1802	27734	4870			1374		2391		2851		2352		2906	7
1803	27733	5914			1788	10	3279	7	3525		2131		2273	
1804	27728	9022	1*	50%	2770	4	3557	4	3571	10	3473	2	2844	9
1805	27732	4122			1588		1397		3267		1627		2537	
1806	27723	5193			400		2046		2765		1953		1959	
1807	26999	8046	3 *	33%	2582	6	4457	1	5004	1	3555	1	2763	
1808	26995	6517	5	8%	2670	5	4105	2	4563	2	2951	3	2880	8
1809	28808	5232			2559	8	2762		3391		2911	4	2816	10
1810	28809	3978			743		1516		2844		1497		1944	
1811	Pusa Basmati 6 (RP)	3915			1183		1944		3263		2120		2396	
1812	28787	4777			1696		2445		3545		2364		2532	
1813	28788	4700			1269		2754		3289		2070		2693	
1814	Pusa Basmati -1 (YC & RP)	4536			1706		2220		2727		1715		2265	
1815	28806	4508			755		2308		2925		2223		2061	
1816	28807	4845			707		1894		2861		2557	6	1955	
1817	28812	4612			1001		1824		2963		1941		1842	
1818	28813	5788			1848	9	1824		3038		1987		2393	
1819	Pusa Basmati 1121 (YC, QC & RP)	4461			788		1854		3011		2343		1956	
1820	28810	6131	7		910		1929		4092	3	2347		2651	
1821	28811	6033			1565		3273	8	3580	9	2552	7	2534	
1822	27722 (R)	6080	9		2577	7	3496	5	3929	5	2428	10	3202	4
1823	28814	6193	6		1595		3247	9	3995	4	1835		2956	6
1824	28815	6125	8		2852	3	3390	6	3510		1977		3402	2
1825	Pusa Basmati 1509 (RP)	6022			1260		2941	10	3686	6	2461	9	3364	3
1826	Taroari Basmati (QC)	3350			552		1984		2897		1740		2365	
1827	Pusa RH 10 (HC)	8684	2		3203	1	2041		3598	8	2519	8	3463	1
1828	Local Check (LC)	6033	10		1459		2264		3624	7	1756		2275	
Exp. Mean		5598			1654		2603		3411		2295		2584	
CD		1383.89			760.87		457.27		696.55		781.89		582.06	
CV%		15.1			28.11		10.73		12.47		20.81		13.76	
D/S		7/13/2019			7/17/2019		7/22/2019		7/17/2019		7/17/2019		7/13/2019	
D/P		8/1/2019			8/6/2019		8/14/2019		9/8/2019		8/19/2019		8/7/2019	
Local Check Name		PB-1509			Pant Basmati 1		Pb Bas 5		Pb Bas 5		Pb Bas 5		Pb Bas 5	

Table 4.2 contd.: Grain Yield of entries in AVT 1 BT, Kharif 2019

Entry No	IET No										
		HA				HA(2)				JK	
		KUL		KRL		mean				@CHT	
1801	27720	5319	4	4117		4718	8	11%		2978	7
1802	27734	4610	9	6063	1 * #	5337	2 *	25%			
1803	27733	3955		3890		3923				2756	9
1804	27728	5674	2	4570		5122	4 *	20%		3978	1
1805	27732	4501		3687		4094					
1806	27723	3492		5837	3 * #	4665	10	10%			
1807	26999	6874	1 * #	5873	2 * #	6374	1 * #	50% 25%		2933	8
1808	26995	4173		3733		3953				3356	3
1809	28808	4583	10	3540		4062				2400	
1810	28809	3819		3633		3726					
1811	Pusa Basmati 6 (RP)	3301		4933	10 *	4117					
1812	28787	3301		5147	6 *	4224					
1813	28788	4637	8	5247	5 *	4942	6 *	16%			
1814	Pusa Basmati -1 (YC & RP)	5210	6	3298		4254				2689	
1815	28806	4119		4057		4088					
1816	28807	4119		4259		4189					
1817	28812	3546		4020		3783				2489	
1818	28813	2237				2237					
1819	Pusa Basmati 1121 (YC, QC & RP)	2755		4037		3396					
1820	28810	4201		4029		4115				3333	4
1821	28811	4910	7	4707	*	4809	7 *	13%		2333	
1822	27722 (R)	5319	3	5071	7 *	5195	3 *	22%		2733	10
1823	28814	4228		4973	9 *	4601	,	8%			
1824	28815	4119		4990	8 *	4555	,	7%		3289	5
1825	Pusa Basmati 1509 (RP)	4119		5253	4 *	4686	9	10%		2289	
1826	Taroari Basmati (QC)	2673		3620		3147					
1827	Pusa RH 10 (HC)	5292	5	4860		5076	5			3156	6
1828	Local Check (LC)	3873		3800		3837				3533	2
Exp. Mean		4249		4491		4329				2950	
CD		570.17		658.62		466.25				450.47	
CV%		8.2		8.95		6.58				9.13	
D/S		7/12/2019		7/12/2019						7/11/2019	
D/P		8/7/2019		8/1/2019						8/1/2019	
Local Check Name		Haryana Bas-2		Basmati CSR30						Jammu Basmati 129	

Table 4.2 contd.: Grain Yield of entries in AVT 1 BT, Kharif 2019

Entry No	IET No										
		UP						UP(1)		Overall(4)	
		@NGN		MDP		@MRT		mean		mean	
1801	27720	3164	6	5590		5330	3	5590		5517	6 10%
1802	27734	2155		4198		4948	8	4198		4935	
1803	27733	2237		5260		2804		5260		4755	
1804	27728	3273	4	6545	3	5188	5	6545	3	6453	2 * 28%
1805	27732	2291		3493		3583		3493		3951	
1806	27723	2073		2014		3655		2014		4134	
1807	26999	4283	1	7361	1 * #	3938		7361	1 * # 15% 15%	7039	1 * # 40% 12%
1808	26995	2373		6354	6	4495		6354	6	5194	10
1809	28808	2100		4722		3707		4722		4519	
1810	28809	2100		3576		4073		3576		3752	
1811	Pusa Basmati 6 (RP)	2073		2986		5243	4	2986		3784	
1812	28787	2155		4094		4058		4094		4330	
1813	28788	2209		3785		5011	7	3785		4592	
1814	Pusa Basmati -1 (YC & RP)	2237		3438		5145	6	3438		4121	
1815	28806	3082	8	4257		3779		4257		4235	
1816	28807	2373		4024		4262		4024		4312	
1817	28812	2428		3819		4000		3819		3999	
1818	28813	3219	5	4063		4465		4063		4029	
1819	Pusa Basmati 1121 (YC, QC & RP)	2400		3507		4111		3507		3690	
1820	28810	2237		6285	7	4348		6285	7	5162	
1821	28811	2264		6111		4606		6111		5440	7 8%
1822	27722 (R)	2891	10	6153	10	5353	2	6153	10	5656	4 13%
1823	28814	2591		6250	8	4794	10	6250	8	5411	8 8%
1824	28815	3273	3	7014	2	4821	9	7014	2 9.78% 9.78%	5562	5 * 11%
1825	Pusa Basmati 1509 (RP)	2755		6243	9	4719		6243	9	5409	9 8%
1826	Taroari Basmati (QC)	3955	2	2951		4584		2951		3149	
1827	Pusa RH 10 (HC)	3001	9	6389	4	5415	1	6389	5	6306	3
1828	Local Check (LC)	3082	7	6389	4	4459		6389	4	5024	
Exp. Mean		2653		4888		4460		4888		4708	
CD		234.72		876.21		242.8		876.21		495	
CV%		5.41		10.95		3.33		10.95		6.42	
D/S		7/17/2019		7/11/2019		7/8/2019					
D/P		8/14/2019		8/3/2019		8/2/2019					
Local Check Name		Pusa 1509		PB 1509		Vallabh Basmati 22					

Table 4.3: Days to 50% flowering of entries in AVT 1 BT, Kharif 2019

Entry No.	IET No.	DE (1)	UK	PU				HA		HA(2)
		IAR	@PNT	@GDP	@LDN	@RUN	@KPT	KUL	KRL	mean
1801	27720	86	83	87	86	89	84	84	81	83
1802	27734	103	108	107	99	103	103	96	94	95
1803	27733	92	86	95	91	95	90	86	87	86
1804	27728	82	82	93	84	99	86	88	91	89
1805	27732	96	104	103	96	104	95	96	93	95
1806	27723	99	111	106	103	103	103	93	96	95
1807	26999	95	89	95	89	95	94	90	89	90
1808	26995	85	80	85	83	96	83	76	76	76
1809	28808	99	110	106	98	100	99	95	98	97
1810	28809	101	111	107	101	106	102	95	93	94
1811	Pusa Basmati 6 (RP)	105	109	107	96	102	103	95	93	94
1812	28787	97	103	103	100	103	99	94	83	89
1813	28788	98	110	103	98	105	103	93	86	90
1814	Pusa Basmati -1 (YC & RP)	97	108	105	97	103	99	94	86	90
1815	28806	103	109	106	95	101	101	97	95	96
1816	28807	104	109	107	101	103	104	99	94	96
1817	28812	99	95	101	94	96	97	96	92	94
1818	28813	98	94	98	93	95	94	96		96
1819	Pusa Basmati 1121 (YC, QC & RP)	99	96	100	95	98	98	98	92	95
1820	28810	81	80	87	82	88	82	76	102	89
1821	28811	84	83	87	82	87	84	77	76	76
1822	27722 (R)	92	84	95	90	93	88	88	87	88
1823	28814	81	78	83	80	86	81	77	73	75
1824	28815	82	78	85	80	87	82	77	72	74
1825	Pusa Basmati 1509 (RP)	83	79	85	79	87	80	77	74	76
1826	Taroari Basmati (QC)	104	95	99	92	96	95	90	94	92
1827	Pusa RH 10 (HC)	83	85	84	84	96	81	84	82	83
1828	Local Check (LC)	81	107	109	97	97	102	98	104	101
Exp. Mean		93	95	98	92	97	93	89	88	89

Table 4.3 contd.: Days to 50% flowering of entries in AVT 1 BT, Kharif 2019

Entry No.	IET No.	JK	UP			UP(1)	ZONEI(4)
		@CHT	@NGN	MDP	@MRT	mean	mean
1801	27720	90	86	82	97	82	83
1802	27734		109	99	108	99	98
1803	27733	90	90	86	99	86	88
1804	27728	95	91	81	101	81	85
1805	27732		105	87	106	87	93
1806	27723		104	98	105	98	97
1807	26999	105	91	86	107	86	90
1808	26995	89	83	77	94	77	79
1809	28808	111	103	101	119	101	98
1810	28809		106	100	119	100	97
1811	Pusa Basmati 6 (RP)		107	100	100	100	98
1812	28787		104	97	112	97	93
1813	28788		107	99	116	99	94
1814	Pusa Basmati -1 (YC & RP)	103	102	96	112	96	93
1815	28806		103	98	117	98	98
1816	28807		101	103	118	103	100
1817	28812	104	97	91	116	91	95
1818	28813		94	89	116	89	94
1819	Pusa Basmati 1121 (YC, QC & RP)		97	95	117	95	96
1820	28810	91	85	76	94	76	84
1821	28811	94	90	78	94	78	79
1822	27722 (R)	88	90	85	115	85	88
1823	28814		81	75	95	75	76
1824	28815	91	79	76	95	76	77
1825	Pusa Basmati 1509 (RP)	91	85	77	97	77	78
1826	Taroari Basmati (QC)		97	92	91	92	95
1827	Pusa RH 10 (HC)	93	86	79	94	79	82
1828	Local Check (LC)	93	85	74	120	74	89
Exp. Mean		95	95	88	106	88	90

Table 4.4: Plant Height of entries in AVT 1 BT Kharif 2019

Entry No.	IET No.	DE (1)	UK	PU				HA		HA(2)
		IAR	@PNT	@GDP	@LDN	@RUN	@KPT	KUL	KRL	mean
1801	27720	108	97	98	88	93	100	102	106	104
1802	27734	95	127	93	80	82	95	96	115	105
1803	27733	130	134	118	103	91	114	115	124	119
1804	27728	104	101	99	86	79	97	93	102	97
1805	27732	105	102	94	78	76	88	95	101	98
1806	27723	127	119	104	79	87	104	101	126	113
1807	26999	108	102	101	94	83	112	110	117	114
1808	26995	101	99	90	86	84	98	98	104	101
1809	28808	91	96	98	77	73	83	83	91	87
1810	28809	97	97	81	69	71	85	90	86	88
1811	Pusa Basmati 6 (RP)	92	99	88	68	71	86	84	95	90
1812	28787	103	125	99	73	76	91	94	108	101
1813	28788	100	101	100	67	76	89	98	110	104
1814	Pusa Basmati -1 (YC & RP)	105	117	96	70	76	88	99	110	104
1815	28806	109	111	103	87	89	91	94	90	92
1816	28807	125	115	107	85	86	104	99	109	104
1817	28812	108	112	105	93	88	94	101	114	107
1818	28813	118	95	114	100	95	105	98		98
1819	Pusa Basmati 1121 (YC, QC & RP)	114	120	102	89	89	105	96	96	96
1820	28810	92	100	83	82	81	93	90	87	88
1821	28811	93	101	89	81	82	87	90	95	92
1822	27722 (R)	98	99	91	89	85	95	90	108	99
1823	28814	97	114	91	85	76	92	93	92	92
1824	28815	100	111	93	83	80	95	87	100	94
1825	Pusa Basmati 1509 (RP)	98	105	92	85	80	100	87	96	91
1826	Taroari Basmati (QC)	145	133	131	118	114	129	126	137	132
1827	Pusa RH 10 (HC)	107	99	94	84	81	88	93	121	107
1828	Local Check (LC)	100	106	104	91	84	127	96	124	110
Exp. Mean		106	108	99	85	83	98	96	106	101

Table 4.4 contd.: Plant Height of entries in AVT 1 BT Kharif 2019

Entry No.	IET No.	JK	UP			UP(1)	Overall (4)
		@CHT	@NGN	MDP	@MRT	mean	mean
1801	27720	97	90	116	70	116	108
1802	27734		87	106	99	106	103
1803	27733	113	100	131	97	131	125
1804	27728	86	88	112	87	112	103
1805	27732		89	101	95	101	100
1806	27723		96	113	88	113	117
1807	26999	90	99	118	99	118	113
1808	26995	98	89	111	100	111	103
1809	28808	72	65	88	62	88	88
1810	28809		67	87	80	87	90
1811	Pusa Basmati 6 (RP)		68	87	75	87	90
1812	28787		79	103	75	103	102
1813	28788		77	99	90	99	102
1814	Pusa Basmati -1 (YC & RP)	87	88	101	93	101	104
1815	28806		96	102	100	102	99
1816	28807		81	104	100	104	109
1817	28812	102	84	116	98	116	110
1818	28813		76	122	100	122	113
1819	Pusa Basmati 1121 (YC, QC & RP)		100	113	105	113	105
1820	28810	96	86	107	95	107	94
1821	28811	88	84	107	100	107	96
1822	27722 (R)	86	89	106	95	106	101
1823	28814		85	113	105	113	99
1824	28815	82	93	114	80	114	100
1825	Pusa Basmati 1509 (RP)	83	97	112	92	112	98
1826	Taroari Basmati (QC)		126	146	106	146	138
1827	Pusa RH 10 (HC)	89	94	116	95	116	109
1828	Local Check (LC)	98	90	113	100	113	108
Exp. Mean		91	88	109	92	109	104

Table 4.5: Panicle/m2 of entries in AVT 1 BT Kharif 2019

Entry No.	IET No.	DE (1)	UK	PU				HA		HA(2)
		IAR	@PNT	@GDP	@LDN	@RUN	@KPT	KUL	KRL	mean
1801	27720	520	256	266	249	225	284	430	744	587
1802	27734	707	331	343	238	217	275	439	810	624
1803	27733	530	272	353	233	199	275	387	836	612
1804	27728	428	242	313	194	168	301	348	708	528
1805	27732	694	293	339	271	211	283	370	832	601
1806	27723	578	253	388	224	193	316	369	742	555
1807	26999	612	282	382	238	224	338	330	479	405
1808	26995	581	267	367	242	169	299	370	759	564
1809	28808	724	275	420	209	209	299	402	601	501
1810	28809	775	284	400	218	200	321	429	592	510
1811	Pusa Basmati 6 (RP)	775	254	393	312	197	328	409	495	452
1812	28787	728	280	355	293	183	290	396	506	451
1813	28788	673	262	370	222	179	316	347	349	348
1814	Pusa Basmati -1 (YC & RP)	605	283	383	220	191	323	372	495	433
1815	28806	639	302	413	218	204	275	398	421	409
1816	28807	772	256	440	275	215	276	466	562	514
1817	28812	748	262	360	304	222	334	425	643	534
1818	28813	755	292	480	253	194	294	394		394
1819	Pusa Basmati 1121 (YC, QC & RP)	639	253	387	253	243	301	384	586	485
1820	28810	612	234	340	255	203	303	394	725	560
1821	28811	571	293	380	235	211	303	398	840	619
1822	27722 (R)	466	266	257	251	212	272	314	558	436
1823	28814	554	312	357	231	195	267	366	665	516
1824	28815	554	260	283	242	214	358	398	711	554
1825	Pusa Basmati 1509 (RP)	615	292	447	216	187	334	400	500	450
1826	Taroari Basmati (QC)	700	306	430	282	203	323	414	440	427
1827	Pusa RH 10 (HC)	483	233	277	240	213	336	326	403	365
1828	Local Check (LC)	510	287	387	268	241	305	435	378	406
Exp. Mean		627	274	368	246	204	305	390	607	494

Table 4.5 contd.: Panicle/m2 of entries in AVT 1 B Kharif 2019

Entry No.	IET No.	JK	UP			UP(1)	Overall (4)
		@CHT	@NGN	MDP	@MRT	mean	mean
1801	27720	278	301	375		375	518
1802	27734		202	384		384	585
1803	27733	291	244	307		307	515
1804	27728	301	272	312		312	449
1805	27732		191	320		320	554
1806	27723		276	410		410	524
1807	26999	291	314	275		275	424
1808	26995	289	226	314		314	506
1809	28808	293	245	344		344	518
1810	28809		185	339		339	534
1811	Pusa Basmati 6 (RP)		203	387		387	517
1812	28787		199	334		334	491
1813	28788		163	295		295	416
1814	Pusa Basmati -1 (YC & RP)	291	217	311		311	446
1815	28806		277	354		354	453
1816	28807		185	433		433	558
1817	28812	297	286	360		360	544
1818	28813		252	401		401	516
1819	Pusa Basmati 1121 (YC, QC & RP)		323	381		381	497
1820	28810	296	299	365		365	524
1821	28811	282	313	352		352	540
1822	27722 (R)	298	293	300		300	409
1823	28814		300	387		387	493
1824	28815	283	319	352		352	504
1825	Pusa Basmati 1509 (RP)	289	286	369		369	471
1826	Taroari Basmati (QC)		289	473		473	507
1827	Pusa RH 10 (HC)	288	284	294		294	377
1828	Local Check (LC)	297	291	357		357	420
Exp. Mean		291	258	353		353	493

Table 4.6: Summary of grain quality characteristics of entries in Advance Variety Trial 1- Basmati (AVT 1-BT) conducted and analysed at ICAR-IARI, New Delhi Kharif 2019.

Entry No.	IET No.	Hull (%)	Mill (%)	HRR (%)	KL (mm)	KB (mm)	L/B	Grain Type	Grain Chalk	VER	WU (ml)	KLAC (mm)	ER	ASV	AC (%)	GC	Aroma
1801	27720	77.73	71.51	61.28	9.15	1.65	5.56	ELS	VOC	4.57	380.00	17.60	1.92	7	20.15	58.00	SS
1802	27734	75.23	68.83	60.18	6.85	1.62	4.24	LS	ABS	5.40	367.50	12.00	1.75	7	19.05	21.50	MS
1803	27733	78.64	72.74	65.53	6.62	1.65	4.02	LS	OC	5.30	205.00	12.17	1.84	7	20.32	27.00	MS
1804	27728	81.36	75.67	66.58	7.23	1.63	4.44	LS	VOC	5.30	257.50	12.33	1.71	7	23.15	40.00	MS
1805	27732	77.95	72.63	60.67	7.20	1.62	4.46	LS	VOC	4.94	280.00	12.13	1.69	7	21.94	24.00	MS
1806	27723	72.05	66.28	54.99	6.96	1.47	4.75	LS	ABS	5.66	327.50	12.55	1.80	7	19.80	21.50	MS
1807	26999	80.91	74.98	67.56	7.26	1.53	4.75	LS	VOC	5.85	277.50	11.95	1.65	5	19.18	42.50	MS
1808	26995	77.73	72.16	61.92	8.27	1.62	5.12	ELS	P	5.04	322.50	16.05	1.94	7	23.15	27.50	SS
1809	28808	72.73	67.15	52.85	7.62	1.38	5.52	ELS	ABS	5.60	360.00	13.85	1.82	7	20.50	35.00	MS
1810	28809	74.55	69.33	53.30	7.58	1.55	4.91	ELS	ABS	5.26	365.00	13.95	1.84	7	20.94	21.00	MS
1811	Pusa Bas-6	74.77	69.54	54.71	7.25	1.38	5.25	LS	ABS	4.95	370.00	14.07	1.94	7	21.61	21.50	SS
1812	28787	75.45	69.04	48.67	7.26	1.37	5.32	LS	VOC	4.64	405.00	14.00	1.93	7	23.22	45.00	SS
1813	28788	75.23	68.71	51.91	6.88	1.37	5.04	LS	VOC	5.33	405.00	13.30	1.93	7	21.47	28.00	MS
1814	Pusa Bas.1	77.27	71.48	58.34	6.71	1.43	4.69	LS	VOC	4.64	355.00	13.17	1.96	7	21.22	27.50	MS
1815	28806	77.95	72.63	60.28	7.23	1.65	4.40	LS	VOC	4.71	305.00	16.35	2.26	7	20.15	45.50	MS
1816	28807	77.27	70.83	52.42	7.32	1.52	4.83	LS	VOC	5.60	330.00	15.18	2.08	7	20.62	35.00	MS
1817	28812	78.64	73.92	63.70	7.05	1.42	4.98	LS	P	5.60	325.00	16.40	2.33	7	20.62	22.50	MS
1818	28813	79.32	74.29	65.70	7.58	1.53	4.95	ELS	P	5.57	320.00	17.80	2.35	7	20.32	23.50	SS
1819	Pusa Bas.1121	77.73	72.80	64.25	7.64	1.63	4.68	ELS	P	5.65	322.50	16.63	2.18	7	23.97	24.00	SS
1820	28810	78.64	73.26	63.83	8.22	1.57	5.25	ELS	P	5.28	330.00	16.37	1.99	7	21.59	21.00	MS
1821	28811	79.09	74.08	63.14	8.25	1.63	5.06	ELS	OC	5.75	335.00	16.37	1.98	7	21.19	23.00	SS
1822	27722	78.18	72.84	63.46	8.31	1.62	5.15	ELS	ABS	5.26	355.00	16.50	1.99	7	20.15	28.00	SS
1823	28814	79.32	74.43	63.98	7.63	1.56	4.89	ELS	P	5.92	355.00	15.87	2.08	7	20.94	27.50	SS
1824	28815	78.86	74.00	65.46	8.05	1.61	5.00	ELS	P	6.00	305.00	16.85	2.09	7	20.47	31.00	SS
1825	Pusa Bas.1509	79.09	74.21	65.12	7.83	1.61	4.86	ELS	P	5.65	305.00	16.75	2.14	7	21.14	21.00	MS
1826	Taroari Basmati	79.09	75.00	61.30	6.72	1.44	4.67	LS	NC	4.78	180.00	13.03	1.94	5	22.51	22.50	MS
1827	Pusa RH-10	82.27	77.75	69.79	7.17	1.65	4.36	LS	VOC	5.30	380.00	12.15	1.70	7	21.17	44.50	MS
1828	Local Check	78.41	73.70	65.34	7.98	1.63	4.90	ELS	P	5.92	352.50	17.20	2.16	7	22.68	24.50	SS

HULL: Hulling (%); Milling (%): HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent; KLAC: Kernel Length after cooking; WU: Water uptake; VER: Volume expansion ratio; ER: Elongation ratio; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB: Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

Table 4.7: Summary of grain quality characteristics of entries in Advance Variety Trial 1-Basmati (AVT 1-BT) conducted at ICAR-IARI, New Delhi and analysed at ICAR-IIRR, Hyderabad Kharif 2019

Entry No.	IET No.	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	VER	WU	KLAC	ER	ASV	AC	GC	AROMA
1801	27720	76.6	66.0	39.3	8.85	1.81	4.88	LS	VOC	5.5	360	17.6	1.98	6.0	15.57	64	SS
1802	27734	75.0	67.2	52.0	7.00	1.76	3.97	LS	A	5.0	325	15.1	2.15	7.0	23.40	22	SS
1803	27733	78.1	68.9	54.1	7.08	1.79	3.95	LS	VOC	4.1	275	15.3	2.16	6.0	23.26	24	SS
1804	27728	80.5	73.2	60.8	7.48	2.06	3.63	LS	VOC	5.5	285	15.7	2.09	7.0	21.88	47	SS
1805	27732	75.0	63.0	46.3	7.32	1.83	4.00	LS	VOC	5.3	340	14.7	2	7.0	21.79	22	SS
1806	27723	75.1	66.1	43.2	7.46	1.72	4.33	LS	A	4.1	290	15.3	2.05	7.0	21.82	22	SS
1807	26999	79.0	70.6	47.4	7.65	1.83	4.18	LS	A	4.7	325	14.3	1.86	5.0	23.52	64	SS
1808	26995	76.3	67.5	42.7	8.56	1.92	4.45	LS	OC	4.1	340	19.5	2.27	7.0	24.43	33	SS
1809	28808	73.1	64.6	35.0	7.98	1.77	4.50	LS	A	4.2	350	18.4	2.3	7.0	24.84	22	SS
1810	28809	77.2	63.5	31.5	7.74	1.70	4.55	LS	A	4.2	345	17.2	2.22	7.0	24.22	24	SS
1811	Pusa Basmati-6	73.8	64.6	32.6	7.70	1.72	4.47	LS	A	5.6	355	17.2	2.23	7.0	23.17	22	SS
1812	28787	76.6	66.1	37.0	7.39	1.69	4.37	LS	A	5.6	310	15.9	2.15	7.0	24.40	22	SS
1813	28788	73.5	64.5	38.0	7.49	1.67	4.48	LS	VOC	4.7	325	15.1	2.01	7.0	23.99	24	SS
1814	Pusa Basmati-1	76.7	67.8	56.8	7.39	1.77	4.17	LS	A	4.7	330	17.3	2.34	7.0	24.40	22	SS
1815	28806	73.4	64.8	42.8	8.11	2.00	4.05	LS	VOC	5.6	270	19.5	2.40	5.0	22.05	24	SS
1816	28807	71.5	62.2	35.5	7.91	1.92	4.11	LS	A	5.5	305	18.3	2.31	6.0	21.41	22	SS
1817	28812	76.7	68.1	41.4	8.34	1.81	4.60	LS	VOC	4.7	300	18.8	2.25	7.0	19.77	25	SS
1818	28813	76.1	68.1	42.3	8.35	1.92	4.34	LS	VOC	5.6	295	20.7	2.47	7.0	21.58	22	SS
1819	Pusa Basmati-1121	75	61.1	44.0	8.27	1.98	4.17	LS	VOC	4.8	340	20.1	2.43	7.0	23.58	22	SS
1820	28810	75.7	66.4	32.0	8.82	1.85	4.76	LS	VOC	4.6	345	19.5	2.21	7.0	22.70	22	SS
1821	28811	71.6	62.5	24.5	8.86	1.84	4.81	LS	VOC	4.2	340	19.3	2.17	7.0	23.14	47	SS
1822	27722	74.7	67.1	40.0	8.66	1.94	4.46	LS	A	5.5	350	18.6	2.14	7.0	22.85	26	SS
1823	28814	77	67.9	59.2	8.52	1.95	4.36	LS	VOC	4.4	350	19.5	2.28	7.0	22.20	50	SS
1824	28815	76.3	68.4	45.5	8.69	1.99	4.36	LS	VOC	5.3	335	18.7	2.15	7.0	22.96	22	SS
1825	Pusa Basmati -1509	74.1	64.5	39.8	8.41	1.93	4.35	LS	OC	5.6	330	18.9	2.24	7.0	23.46	23	SS
1826	Taroari Basmati	76.4	67.8	41.7	7.05	1.76	4.00	LS	A	4.8	250	16.9	2.39	5.0	21.61	22	SS
1827	Pusa RH-10	81.1	73.9	61.4	7.79	1.91	4.07	LS	A	5.5	330	14.4	1.84	7.0	23.52	59	SS
1828	Local Check	76.3	68.0	43.0	8.42	1.92	4.38	LS	VOC	5.5	370	19.6	2.32	7.0	24.28	87	SS

HULL: Hulling (%); MILLING (%): HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent; KLAC: Kernel Length after cooking; WU: Water uptake; VER: Volume expansion ratio; ER: Elongation ratio; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB: Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

Table No. 4.8: Panel Test Scores of entries in Advance Variety Trial 1- Basmati (AVT 1-BT), ICAR-IARI, New Delhi Kharif 2019.

IET No.	Appearance	Cohesive- ness	Tender- ness on Touching	Tender- ness on Chewing	Taste	Aroma	Elongation	Overall accepta- bility	Total	Mean	Rank
27720	4.5	4	4.75	4.5	3.75	3.25	4.5	4.50	33.75	4.22	3
27734	3.75	4.25	4	4.25	3	3.25	2.5	1.75	26.75	3.34	27
27733	4.75	4.5	4.5	4.5	3.25	3	3	2.50	30.00	3.75	17
27728	5	4.5	3.75	3.75	2.5	3.25	2.75	1.75	27.25	3.41	25
27732	3.75	4	4.5	4	3	3.25	2.25	1.50	26.25	3.28	28
27723	4.25	4.5	5	4.25	3.5	3.5	3.25	2.25	30.50	3.81	14
26999	5	3.25	4.5	4.25	3.25	3.25	2.5	1.75	27.75	3.47	23
26995	4.25	4	4.5	4.75	3.5	4	4.25	3.25	32.50	4.06	8
28808	4	4	4.75	4.5	3.25	3.75	4.25	2.75	31.25	3.91	12
28809	3.75	4.5	4.75	4.5	3.5	3.5	3.5	2.00	30.00	3.75	18
Pusa Basmati-6	3.75	4.25	4.25	4	3.25	3.5	3	3.25	29.25	3.66	21
28787	5	4.75	4.75	4.75	3.75	3.5	4.5	4.25	35.25	4.41	1
28788	5	4	4.75	5	3.25	3.5	4	3.25	32.75	4.09	7
Pusa Basmati-1	4	3.75	4.5	4.5	3.25	3.25	2.75	1.75	27.75	3.47	24
28806	4	4.5	4.75	4.5	3.75	3.75	4.5	4.25	34.00	4.25	2
28807	3.25	4.5	5	4.75	4	3.75	4.25	4.00	33.50	4.19	4
28812	3.75	3.75	4.75	4.5	3.25	3.5	4	3.00	30.50	3.81	15
28813	3.75	4	4.75	4.75	3.25	3.75	4.25	3.50	32.00	4.00	10
Pusa Bas.1121	2.75	4.5	4.5	4.75	3	3.5	4.5	3.75	31.25	3.91	13
28810	4.75	4	4	4.25	3	3.5	3.5	2.50	29.50	3.69	19
28811	4.25	4	4.25	4.5	3.75	3.75	4.75	4.00	33.25	4.16	5
27722	4	4	4.5	4.5	3	3.5	3.75	3.25	30.50	3.81	16
28814	4	3.5	4.5	4	2.75	3	3.5	3.25	28.50	3.56	22
28815	4.75	4	4	4.25	3.25	3.25	4.25	4.00	31.75	3.97	11
Pusa Bas.1509	4.75	4.5	4.5	4.25	3	3.5	4.5	4.25	33.25	4.16	6
Taroari Basmati	4	4.75	5	4.75	3	3	2.75	2.25	29.50	3.69	20
Pusa RH-10	5	3	4.5	4.5	3	2.75	2.25	2.25	27.25	3.41	26
Local Check	4.5	3.5	4.75	4.75	3.5	3.5	4.25	3.75	32.50	4.06	9

Table 4.9: Composition of entries in Initial Variety Trial -Basmati (IVT- BT), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
1st Year of testing:				
1901	28572	CSR 162-11-917	CSR 30 / FL 478	LS
1902	28573	SJR 103-4-1	Pusa 2517-2-51-1 / Vasumati	LS
1903	28574	Pusa 1630-07-12-2-62	P 1527 / P 1221	LS
1904	28575	HKR 15-455	PAU 3030-29-2 / PAU 2020-10-3-1	LS
1905	Pusa Basmati -1 (YC)			LS
1906	28576	PAU 5093-1-1-2-2-1-3 (RYT 3818)	Pusa Basmati 1121 / PAU 3429-16-5-4-1	LS
1907	28577	UPR 4079-10-1-1-1	Sugandhamati / Pant Sugandh Dhan 15	LS
1908	28578	TBP-100-82	Trichy 1 / PB 1	LS
1909	Pusa Basmati 1121 (YC & QC)			LS
1910	28579	TAJ (Hybrid)	F 501 / 510 R	LS
1911	28580	UPR 4218-17-1-1-2	Pant Sugandh Dhan 17 / Pusa Sugandh 5	LS
1912	28581	CSR 179-11-23S	CSR 30 / FL 478	LS
1913	28582	PAU 5366-47-3-2-2-3 (RYT 3722)	Mushkan / Punjab Mehak-1	LS
1914	Taroari Basmati (QC)			LS
1915	28583	UPR 4088-1-1-1	Pant Sugandh Dhan 15 / Taroari Basmati	LS
1916	28584	CPB 100-50	CSR89IR 15 /PB1	LS
1917	28585	Pusa 1557-06-8-176	P 1463 / P 1460	LS
1918	Pusa RH 10 (HC)			LS
1919	28586	UPR 4084-14-1-1-1	Sugandhamati 5 / Type 3	LS
1920	28587	CSR 179-11-66S	CSR 30 / FL 478	LS
1921	28588	UPR 4259-2-1-1-3	UPR 3506-15-1-1 / Sarbati	LS
1922	28589	PAU 5089-3-7-2-1-1-2 (RYT 3727)	Pusa Basmati 1121 / PAU 3429-6-3-4-2	LS
1923	28590	HKR 15-482	Selection from Taroari Basmati	LS
1924	Local Check			LS

Table 4.10: Grain yield (Kg/h) of entries of IVT BT, Kharif 2019

Entry No.	IET No.	DE (1)		UK		PU					PU (2)	
		IAR		@ PNT	GDP	@LDN	RUN	@KPT	Mean			
1901	28572	7680	5 16%	3750	5409	9 3740	4513	6 2703	4961	7 * 33%	8%	
1902	28573	5810		3927	5918	2 4138	8 4015		4967	6 * 33%	8%	
1903	28574	7046	8 6%	3229	5606	7 4016	10 4977	3 * 3104	5292	2 * 42%	# 15%	
1904	28575	7900	3 * 19%	4063	6318	1 4922	2 5679	1 * # 4988	5999	1 * 61%	# 31%	
1905	Pusa Basmati -1 (YC)	5452		2677	3457	2527	3898	3162	3678			
1906	28576	6663		2333	3999	3258	3415	2657	3707			
1907	28577	6546		4938	4867	4196	6 5221	2 * # 4013	5044	5 * 35%	10%	
1908	28578	5390		2542	4812	2580	4134	10 3766	4473	* 20%		
1909	Pusa Basmati 1121 (YC & QC)	6627		2844	3802	3142	3308	3543	3555			
1910	28579	8630	1 * 30% 9.97%	4531	5799	4 4296	4 4345	7 3166	5072	4 * 36%	10%	
1911	28580	7271	6 10%	4177	5629	6 3994	4206	9 3289	4918	8 * 32%		
1912	28581	5872		1302	4568	2946	3256	2803	3912	5%		
1913	28582	6884	9	3031	5455	8 4159	7 3996	3750	4726	10 * 27%		
1914	Taroari Basmati (QC)	3584		1656	3352	2050	3012	2797	3182			
1915	28583	6811	10	3552	4917	4111	9 3806	2735	4362	* 17%		
1916	28584	5857		4219	4362	3926	3994	3880	4178	12%		
1917	28585	6709		3740	4702	3783	2884	2552	3793			
1918	Pusa RH 10 (HC)	7847	4 18%	5281	4927	3830	4230	8 3561	4579	* 23%		
1919	28586	6756		4552	5817	3 4243	5 4531	5 3842	5174	3 * 39%	#12%	
1920	28587	5592		2604	4922	4736	3 3684	3094	4303	* 16%		
1921	28588	8154	2 * 23%	5000	4789	4975	1 4705	4 3138	4747	9 * 27%		
1922	28589	7131	7 8%	3833	5730	5 3756	3635	3708	4683	* 26%		
1923	28590	6345		1292	4931	10 2384	3134	4111	4033	8%		
1924	Local Check	6204		2917	3939	3698	3510	3604	3725			
Exp. Mean		6615.03		3416.23	4917.74	3725.19	4003.74	3393.49	4460.74			
CD		1234.73		1133.17	855.37	1036.53	880.2	890.9	570.59			
CV%		9.02		16.03	8.41	13.45	10.63	12.69	6.18			
D/S		6/20/2019		6/17/2019	6/15/2019	6/19/2019	6/23/2019	6/21/2019				
D/P		7/26/2019		7/6/2019	7/16/2019	7/23/2019	7/22/2019	7/22/2019				
Local Check Name		PB 1509		Pant Basmati 1	Punjab Bas 5	Punjab Bas 5	Punjab Bas 5	Punjab Bas 5				

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 4.10 contd.: Grain yield (Kg/h) of entries of IVT BT, Kharif 2019

Entry No.	IET No.	HA				HA (2)			JK		JK (1)	
		KUL		KRL		Mean			CHT		Mean	
1901	28572	4400		6050	2	5225	5 10%		3850	4	3850	
1902	28573	4250		4170		4210			4900		4900	4
1903	28574	5900	2 * #	4450		5175	6 9%		3550		3550	
1904	28575	4800		5510		5155	7 8%		3800		3800	
1905	Pusa Basmati -1 (YC)	4200		5310	10	4755	10		2950		2950	
1906	28576	2750		3540		3145			3200		3200	
1907	28577	5750	4 * #	5800	7	5775	2 * # 21% 13%		4750	7	4750	7
1908	28578	3200		6060	1 #	4630			3950	10	3950	10
1909	Pusa Basmati 1121 (YC & QC)	4350		4160		4255			3300		3300	
1910	28579	6700	1 * #	5860	4	6280	1 * 32% # 22%		5600	1 *	5600	1 * 19% 17%
1911	28580	4250		4790		4520			3650		3650	
1912	28581	3900		5890	3	4895	9		4450	9	4450	9
1913	28582	3900		4390		4145			3700		3700	
1914	Taroari Basmati (QC)	5350	7	3030		4190			3500		3500	
1915	28583	5500	5	3890		4695			4850	5	4850	5
1916	28584	5050	9	5810	5	5430	4 * 14%		3650		3650	
1917	28585	5750	3 * #	3180		4465			3050		3050	
1918	Pusa RH 10 (HC)	4850		5370	9	5110	8 7%		4800	6	4800	6
1919	28586	5400	6	3970		4685			5150	2 *	5150	2 10%
1920	28587	5200	8	5810	5	5505	3 * 16%		2950		2950	
1921	28588	4800		3030		3915			4950	3 *	4950	3 5%
1922	28589	5050	9	3330		4190			3500		3500	
1923	28590	5050	9	4200		4625			3750		3750	
1924	Local Check	4800		3350		4075			4700	8	4700	8
Exp. Mean		4797.92		4622.92		4710.42			4020.83		4020.83	
CD		838.61		759.39		647.46			846.27		846.27	
CV%		8.45		7.94		6.64			10.17		10.17	
D/S		6/21/2019		6/18/2019					6/14/2019			
D/P		7/20/2019		7/15/2019					7/13/2019			
Local Check Name		Haryana Bas-2		Basmati CSR 30					Jammu Basmati 129			

Table 4.10 contd.: Grain yield (Kg/h) of entries of IVT BT, Kharif 2019

Entry No.	IET No.	UP						UP (1)		Overall (7)	
		@NGN		MDP			@MRT	Mean		Mean	
1901	28572	4036	10	8000	4*		5485	2	8000	4 * 19%	5700
1902	28573	3971		6850			5013	7	6850		5130
1903	28574	3776		7400	8		4734	8	7400	8 10%	5561
1904	28575	5208	4	8900	1*		4545	9	8900	1 * 33%	6130
1905	Pusa Basmati -1 (YC)	2344		4750			4063		4750		4288
1906	28576	2409		5950			3587		5950		4217
1907	28577	5143	5	8100	3*		5436	3	8100	3 * 21%	5862
1908	28578	2279		5950			3863		5950		4785
1909	Pusa Basmati 1121 (YC & QC)	2474		6450			4029		6450		4571
1910	28579	6771	1	8000	4		5369	4	8000	4 * 19%	6419
1911	28580	4297	8	5250			5170	5	5250		5007
1912	28581	3516		3500			3574		3500		4491
1913	28582	2344		7450	7		4505	10	7450	7 11%	5111
1914	Taroari Basmati (QC)	2734		2500			3457		2500		3475
1915	28583	5013	6	7150	10		5047	6	7150	10 7%	5275
1916	28584	4036	10	5900			3703		5900		4946
1917	28585	3516		6650			5539	1	6650		4704
1918	Pusa RH 10 (HC)	5859	3	8600	2*		4461		8600	2 * 28%	5803
1919	28586	4818	7	7400	8		3983		7400	8 10%	5575
1920	28587	4167	9	2750			4033		2750		4415
1921	28588	5990	2	8000	4*		4119		8000	4 * 19%	5490
1922	28589	3190		6965			3906		6965		5049
1923	28590	2995		2150			3567		2150		4223
1924	Local Check	3581		6700			4249		6700		4743
Exp. Mean		3936.09		6304.79			4393.15		6304.79		5040.42
CD		416.45		908.64			411.7		908.64		296.47
CV%		5.11		6.97			4.53		6.97		2.84
D/S		6/23/2019		6/19/2019			6/15/2019				
D/P		7/26/2019		7/17/2019			7/10/2019				
Local Check Name		Pusa 1509		PB 1509			Vallabh Basmati 24				

Table 4.11: Days to 50% Flowering of entries of IVT BT, Kharif 2019

Entry No.	IET No.	DE	DE (1)	UK	PU				PU (2)	HA	HA (2)
		IAR	Mean	@ PNT	GDP	@LDN	RUN	@KPT	Mean	KUL	KRL
1901	28572	107	107	93	102	103	95	93	98	96	100
1902	28573	105	105	89	92	96	92	88	92	90	89
1903	28574	102	102	90	96	95	91	90	93	88	94
1904	28575	108	108	94	101	100	98	99	99	99	100
1905	Pusa Basmati -1 (YC)	110	110	108	108	110	109	105	109	81	104
1906	28576	115	115	110	116	115	111	89	114	79	107
1907	28577	102	102	88	94	96	88	90	91	88	94
1908	28578	109	109	95	109	103	106	104	108	82	103
1909	Pusa Basmati 1121 (YC & QC)	111	111	110	109	114	104	107	106	105	105
1910	28579	96	96	90	94	95	89	87	91	84	95
1911	28580	95	95	91	94	94	93	88	93	85	88
1912	28581	102	102	92	96	94	89	89	93	90	98
1913	28582	116	116	106	110	107	102	100	106	105	104
1914	Taroari Basmati (QC)	119	119	114	115	106	101	102	108	86	104
1915	28583	100	100	87	93	96	96	88	95	98	95
1916	28584	102	102	98	101	106	97	98	99	93	103
1917	28585	103	103	94	102	99	96	99	99	101	100
1918	Pusa RH 10 (HC)	93	93	89	99	96	88	90	93	82	95
1919	28586	96	96	89	92	96	89	88	90	82	97
1920	28587	110	110	109	98	100	97	88	98	99	100
1921	28588	94	94	89	106	93	92	89	99	86	94
1922	28589	107	107	109	97	107	102	98	99	101	103
1923	28590	116	116	109	113	106	105	103	109	102	106
1924	Local Check	94	94	106	114	100	96	103	105	102	105
Exp. Mean		105	105	98	102	101	97	95	99	92	99

Table 4.11 contd.: Days to 50% Flowering of entries of IVT BT, Kharif 2019

Entry No.	IET No.	JK	JK (1)	UP			UP(1)	overall (7)
		CHT	Mean	@NGN	MDP	@MRT	Mean	Mean
1901	28572	103	103	103	100	111	100	100
1902	28573	94	94	93	89	101	89	93
1903	28574	97	97	92	89	104	89	94
1904	28575	106	106	104	96	106	96	101
1905	Pusa Basmati -1 (YC)	112	112	121	104	113	104	104
1906	28576	128	128	114	110	122	110	109
1907	28577	88	88	100	87	103	87	91
1908	28578	117	117	120	110	115	110	105
1909	Pusa Basmati 1121 (YC & QC)	116	116	115	102	117	102	107
1910	28579	92	92	96	87	104	87	91
1911	28580	98	98	97	89	105	89	92
1912	28581	104	104	100	89	107	89	95
1913	28582	117	117	112	104	117	104	108
1914	Taroari Basmati (QC)	126	126	111	105	95	105	108
1915	28583	87	87	100	87	102	87	94
1916	28584	104	104	116	98	109	98	100
1917	28585	104	104	100	94	101	94	100
1918	Pusa RH 10 (HC)	90	90	95	86	104	86	90
1919	28586	88	88	101	88	110	88	90
1920	28587	118	118	97	97	112	97	103
1921	28588	95	95	96	87	105	87	93
1922	28589	117	117	105	104	119	104	104
1923	28590	117	117	109	105	120	105	109
1924	Local Check	91	91	91	84	115	84	98
Exp. Mean		104	104	104	95	109	95	99

Table 4.12: Plant height (cm) of entries of IVT BT, Kharif 2019

Entry No.	IET No.	DE	DE (1)	UK	PU				PU(2)	HA		HA(2)
		IAR	Mean	@ PNT	GDP	@LDN	RUN	@KPT	Mean	KUL	KRL	Mean
1901	28572	119	119	129	125	122	113	111	119	112	112	112
1902	28573	116	116	133	128	125	121	107	125	108	120	114
1903	28574	97	97	124	122	119	107	109	115	110	105	108
1904	28575	116	116	136	128	127	119	117	124	117	116	116
1905	Pusa Basmati -1 (YC)	112	112	130	125	117	104	100	115	110	112	111
1906	28576	161	161	159	149	148	134	133	142	148	146	147
1907	28577	116	116	130	126	122	109	111	118	119	109	114
1908	28578	117	117	143	121	116	110	104	116	122	118	120
1909	Pusa Basmati 1121 (YC & QC)	121	121	123	128	118	108	107	118	127	116	121
1910	28579	120	120	117	129	135	124	117	127	129	114	121
1911	28580	121	121	137	131	135	121	121	126	138	129	134
1912	28581	138	138	134	157	148	127	131	142	151	139	145
1913	28582	127	127	146	147	151	131	127	139	154	142	148
1914	Taroari Basmati (QC)	151	151	138	161	146	149	125	155	123	148	136
1915	28583	105	105	114	123	127	111	108	117	121	115	118
1916	28584	116	116	127	123	112	112	112	118	112	117	114
1917	28585	99	99	118	128	106	101	103	115	128	107	118
1918	Pusa RH 10 (HC)	109	109	117	118	120	106	108	112	109	107	108
1919	28586	110	110	122	117	122	110	117	114	111	112	111
1920	28587	146	146	146	123	151	138	134	131	145	140	142
1921	28588	123	123	128	158	131	119	107	139	119	119	119
1922	28589	139	139	151	127	124	123	115	125	126	151	138
1923	28590	152	152	155	148	156	140	144	144	151	137	144
1924	Local Check	93	93	123	124	119	112	129	118	116	141	128
Exp. Mean		122	122	133	132	129	119	116	125	125	124	124

Table 4.12 contd.: Plant height (cm) of entries of IVT BT, Kharif 2019

Entry No.	IET No.	JK	JK (1)	UP			UP (1)	overall (7)
		CHT	Mean	@NGN	MDP	@MRT	Mean	
1901	28572	107	107	107	134	105	134	117
1902	28573	111	111	116	144	130	144	121
1903	28574	94	94	114	130	110	130	109
1904	28575	103	103	104	141	107	141	120
1905	Pusa Basmati -1 (YC)	98	98	92	122	100	122	112
1906	28576	113	113	118	165	119	165	145
1907	28577	98	98	109	133	112	133	116
1908	28578	103	103	97	131	105	131	117
1909	Pusa Basmati 1121 (YC & QC)	98	98	100	141	104	141	120
1910	28579	111	111	113	148	106	148	125
1911	28580	115	115	111	145	120	145	129
1912	28581	113	113	112	152	119	152	140
1913	28582	129	129	112	164	120	164	142
1914	Taroari Basmati (QC)	132	132	140	153	130	153	145
1915	28583	104	104	103	133	105	133	116
1916	28584	108	108	98	136	103	136	118
1917	28585	97	97	97	129	95	129	113
1918	Pusa RH 10 (HC)	88	88	100	128	100	128	109
1919	28586	105	105	101	134	97	134	114
1920	28587	126	126	123	162	115	162	140
1921	28588	110	110	104	141	116	141	127
1922	28589	107	107	118	162	112	162	133
1923	28590	136	136	131	160	136	160	146
1924	Local Check	103	103	101	125	112	125	116
Exp. Mean		109	109	109	142	112	142	125

Table 4.13: Panicle m2 of entries of IVT BT, Kharif 2019

Entry No.	IET No.	DE	DE (1)	UK	PU				PU (2)	HA		HA (2)
		IAR	Mean	@ PNT	GDP	@LDN	RUN	@KPT	Mean	KUL	KRL	Mean
1901	28572	371	371	181	260	178	155	284	208	217	267	242
1902	28573	534	534	308	265	241	190	317	228	223	267	245
1903	28574	707	707	327	290	287	260	287	275	228	292	260
1904	28575	490	490	300	240	267	209	261	225	260	258	259
1905	Pusa Basmati -1 (YC)	503	503	263	350	218	238	287	294	245	308	277
1906	28576	340	340	237	320	241	175	274	248	295	317	306
1907	28577	452	452	266	290	215	191	281	241	363	267	315
1908	28578	534	534	286	280	300	242	294	261	307	383	345
1909	Pusa Basmati 1121 (YC & QC)	571	571	281	350	304	223	264	287	372	258	315
1910	28579	445	445	271	353	251	205	347	279	390	283	337
1911	28580	490	490	252	285	221	234	259	260	351	275	313
1912	28581	707	707	223	325	287	212	294	269	328	367	347
1913	28582	360	360	317	288	261	235	343	262	408	283	346
1914	Taroari Basmati (QC)	653	653	221	350	297	236	274	293	330	392	361
1915	28583	381	381	241	250	218	186	281	218	389	308	348
1916	28584	422	422	319	293	307	191	257	242	258	300	279
1917	28585	554	554	274	350	294	196	294	273	322	392	357
1918	Pusa RH 10 (HC)	415	415	252	294	211	220	290	257	272	317	294
1919	28586	364	364	203	250	224	226	257	238	268	300	284
1920	28587	449	449	236	246	241	185	257	216	327	350	338
1921	28588	374	374	244	275	231	165	267	220	278	283	281
1922	28589	595	595	222	280	218	176	274	228	264	383	324
1923	28590	588	588	253	270	363	204	284	237	413	342	377
1924	Local Check	622	622	290	350	337	197	317	274	364	400	382
Exp. Mean		497	497	261	296	259	206	285	251	311	316	314

Table 4.13 contd.: Panicle m2 of entries of IVT BT, Kharif 2019

Entry No.	IET No.	JK	JK(1)	UP		UP(1)	overall (7)
		CHT	Mean	@NGN	MDP	Mean	Mean
1901	28572	291	291	282	260	260	260
1902	28573	305	305	260	278	278	294
1903	28574	282	282	312	361	361	346
1904	28575	307	307	313	396	396	309
1905	Pusa Basmati -1 (YC)	309	309	288	403	403	337
1906	28576	303	303	282	278	278	290
1907	28577	298	298	269	303	303	309
1908	28578	304	304	280	393	393	349
1909	Pusa Basmati 1121 (YC & QC)	284	284	300	361	361	346
1910	28579	307	307	208	323	323	329
1911	28580	303	303	283	333	333	324
1912	28581	320	320	296	335	335	370
1913	28582	291	291	301	331	331	314
1914	Taroari Basmati (QC)	315	315	296	436	436	387
1915	28583	305	305	268	326	326	306
1916	28584	292	292	283	400	400	308
1917	28585	298	298	291	346	346	351
1918	Pusa RH 10 (HC)	307	307	250	331	331	308
1919	28586	302	302	260	333	333	292
1920	28587	308	308	251	311	311	311
1921	28588	310	310	270	300	300	284
1922	28589	299	299	291	288	288	326
1923	28590	323	323	297	420	420	366
1924	Local Check	303	303	307	380	380	374
Exp. Mean		303	303	281	343	343	325

Table 4.14: Summary of grain quality characteristics of entries in Initial Variety Trial- Basmati (IVT-BT), conducted and analysed at ICAR-IARI, New Delhi Kharif 2019

Entry No.	IET No.	Hull (%)	Mill (%)	HRR (%)	KL (mm)	KB (mm)	L/B	Grain Type	Grain Chalk	VER	WU (ml)	KLAC (mm)	ER	ASV	AC (%)	GC	Aroma
1901	28572	77.05	71.65	64.08	7.63	1.68	4.54	ELS	P	5.33	355.00	13.48	1.77	7	23.08	62.00	SS
1902	28573	78.86	73.61	67.82	7.51	1.57	4.80	ELS	VOC	4.06	330.00	12.73	1.70	7	21.27	64.50	MS
1903	28574	77.27	70.96	65.30	8.30	1.62	5.14	ELS	A	4.80	257.50	15.18	1.83	3	19.97	45.00	MS
1904	28575	78.64	73.92	68.41	7.00	1.60	4.39	LS	A	5.50	335.00	11.13	1.59	7	21.14	48.00	MS
1905	Pusa Bas.1	76.36	69.87	60.58	7.07	1.48	4.77	LS	A	5.33	380.00	14.43	2.04	7	24.42	60.00	MS
1906	28576	79.09	71.58	64.59	8.42	1.63	5.16	ELS	A	5.15	372.50	15.08	1.79	7	21.56	48.50	MS
1907	28577	77.95	73.02	67.17	7.76	1.52	5.12	ELS	VOC	5.50	330.00	13.63	1.76	7	24.27	27.00	MS
1908	28578	72.95	64.81	56.90	6.77	1.58	4.28	LS	VOC	3.42	360.00	13.33	1.97	7	25.19	33.00	MS
1909	Pusa Bas.1121	77.27	71.48	65.30	7.97	1.58	5.04	ELS	P	5.30	305.00	16.95	2.13	7	21.91	64.00	SS
1910	28579	78.64	71.95	61.99	8.27	1.52	5.46	ELS	A	4.65	292.50	13.15	1.59	7	20.85	50.00	MS
1911	28580	76.59	67.66	52.72	7.75	1.43	5.42	ELS	OC	5.23	405.00	13.40	1.73	7	24.44	52.50	MS
1912	28581	76.14	67.13	49.74	7.48	1.46	5.12	LS	VOC	4.95	137.50	12.30	1.64	6	25.11	85.50	MS
1913	28582	76.82	69.78	62.86	8.23	1.65	5.00	ELS	P	4.85	330.00	16.87	2.05	7	24.47	62.50	SS
1914	Taroari Basmati	77.27	70.83	61.17	7.13	1.58	4.51	LS	A	4.14	177.50	13.88	1.95	5	23.80	47.50	MS
1915	28583	79.55	73.58	64.30	7.95	1.37	5.82	ELS	VOC	4.64	302.50	14.60	1.84	7	25.04	69.00	MS
1916	28584	77.95	70.55	61.32	7.36	1.66	4.43	LS	A	5.66	320.00	12.93	1.76	7	24.94	54.00	MS
1917	28585	78.64	71.43	62.25	8.90	1.63	5.46	ELS	A	4.57	370.00	17.50	1.97	7	20.26	53.00	SS
1918	Pusa RH-10	80.23	73.14	65.25	7.51	1.60	4.71	ELS	VOC	4.29	170.00	12.63	1.68	7	20.20	62.50	MS
1919	28586	76.14	71.19	65.35	8.26	1.60	5.18	ELS	A	4.66	320.00	13.93	1.69	7	25.51	47.50	MS
1920	28587	79.09	72.37	65.38	7.51	1.63	4.61	ELS	VOC	4.36	80.00	12.13	1.62	6	25.33	44.00	MS
1921	28588	79.77	72.73	60.49	7.12	1.45	4.92	LS	A	5.85	397.50	11.95	1.68	6	15.44	61.00	MS
1922	28589	77.95	72.11	66.52	8.65	1.66	5.21	ELS	A	6.05	350.00	15.30	1.77	7	21.99	51.50	MS
1923	28590	77.95	71.72	61.45	7.23	1.36	5.32	LS	VOC	5.30	175.00	13.65	1.89	7	22.09	45.00	MS
1924	Local Check	76.59	70.72	62.93	8.48	1.65	5.16	ELS	OC	4.78	307.50	17.00	2.00	7	24.02	26.50	SS

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent; KLAC: Kernel Length after cooking; WU: Water uptake; VER: Volume expansion ratio; ER: Elongation ratio; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB::Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

Table 4.15: Summary of grain quality characteristics of entries in Initial Variety Trial – Basmati (IVT-BT), conducted at ICAR-IARI, New Delhi and analysed at ICAR-IIRR, Hyderabad Kharif 2019.

Entry No.	IET No.	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	VER	WU	KLAC	ER	ASV	AC	GC	AROMA
1901	28572	76.1	68.8	44.8	7.74	2.00	3.87	LS	VOC	4.7	335	15.2	1.96	7.0	27.25	22	SS
1902	28573	78.1	69.2	52.2	7.72	1.92	4.02	LS	VOC	5.3	330	14.5	1.87	7.0	23.93	46	SS
1903	28574	77.3	68.2	55.0	8.34	1.97	4.23	LS	A	4.4	245	16.0	1.91	3.0	19.41	78	SS
1904	28575	76.4	68.8	55.3	7.37	1.95	3.77	LS	A	4.1	355	12.9	1.75	7.0	25.75	24	MS
1905	Pusa Basmati-1	75.3	67.2	44.4	7.53	1.74	4.32	LS	A	5.5	355	16.1	2.13	7.0	24.82	22	SS
1906	28576	80.5	70.4	54.0	8.35	2.06	4.05	LS	A	5.6	365	18.1	2.16	7.0	26.63	24	SS
1907	28577	76.8	68.0	53.5	8.17	1.90	4.30	LS	VOC	5.5	380	15.3	1.87	7.0	25.84	46	SS
1908	28578	74.3	63.3	47.4	6.88	1.88	3.65	LS	A	4.7	380	15.2	2.2	7.0	26.51	25	SS
1909	Pusa Bas.1121	74.7	66.4	49.2	8.39	1.92	4.36	LS	VOC	4.2	360	20.9	2.49	7.0	23.52	22	SS
1910	28579	78.7	68.5	53.0	8.07	1.81	4.45	LS	VOC	5.2	330	13.1	1.62	3.0	24.93	61	SS
1911	28580	75.7	63.2	29.0	7.95	1.72	4.62	LS	VOC	5.2	385	14.9	1.87	7.0	26.84	24	SS
1912	28581	76.3	60.2	30.6	7.67	1.77	4.33	LS	VOC	5.6	225	14.8	1.92	4.0	26.66	40	SS
1913	28582	76.4	65.9	47.7	8.59	2.17	3.95	LS	VOC	4.2	335	18.1	2.1	7.0	25.60	36	SS
1914	Taroari Basmati	76.9	68.0	52.4	7.38	1.82	4.05	LS	A	5.5	280	15.6	2.11	5.0	23.96	24	SS
1915	28583	76.2	65.5	40.6	8.45	1.74	4.85	LS	A	4.2	355	14.7	1.73	7.0	25.37	24	SS
1916	28584	77.5	61.7	39.8	7.38	1.9	3.88	LS	A	4.2	380	14.1	1.91	7.0	27.07	22	SS
1917	28585	79.6	68.6	39.3	9.06	1.88	4.81	LS	A	4.6	365	20.4	2.25	6.0	16.86	65	SS
1918	Pusa RH-10	79.6	71.2	54.5	7.60	1.82	4.17	LS	VOC	4.1	365	11.6	1.52	7.0	23.32	68	SS
1919	28586	77.7	67.4	52.1	8.3	1.86	4.46	LS	A	5.1	335	15.0	1.8	7.0	24.20	25	SS
1920	28587	78.5	69.9	56.4	7.63	1.95	3.91	LS	A	5	185	16.0	2.09	5.0	23.96	22	SS
1921	28588	80.2	69.2	48.8	7.52	1.77	4.24	LS	A	5.5	315	11.6	1.54	5.0	16.10	90	SS
1922	28589	77.4	68.7	54.2	8.76	2.11	4.15	LS	A	5.5	325	17.9	2.04	7.0	22.90	45	SS
1923	28590	78	68.7	50.0	7.41	1.75	4.23	LS	A	5.6	285	16.0	2.15	5.0	21.53	23	SS
1924	Local Check	76.5	64.7	44.8	8.31	1.92	4.32	LS	VOC	5.6	375	18.5	2.22	7.0	23.37	50	SS

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent; KLAC: Kernel Length after cooking; WU: Water uptake; VER: Volume expansion ratio; ER: Elongation ratio; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB:Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

Table No. 4.16: Panel Test Scores of entries in Initial Variety Trial - Basmati (IVT-BT), ICAR-IARI, New Delhi Kharif 2019.

IET No.	Appearance	Cohesive-ness	Tender-ness on Touching	Tender-ness on Chewing	Taste	Aroma	Elongation	Overall accepta-bility	Total	Mean	Rank
28572	4.00	4.50	4.00	4.33	3.33	3.00	2.25	2.00	27.42	3.43	16
28573	4.00	4.50	4.50	5.00	3.67	3.00	2.50	2.33	29.50	3.69	12
28574	5.00	3.00	4.00	3.33	3.00	2.00	4.50	3.00	27.83	3.48	15
28575	4.75	5.00	4.00	3.67	2.67	1.00	1.50	3.33	25.92	3.24	20
Pusa Basmati-1	4.25	4.75	4.75	4.33	3.67	3.50	4.00	3.33	32.58	4.07	4
28576	5.00	4.50	4.50	4.67	3.67	3.00	4.50	3.33	33.17	4.15	3
28577	4.00	4.00	4.00	4.00	3.00	3.00	2.50	2.00	26.50	3.31	19
28578	4.50	4.50	4.50	4.67	4.00	3.00	2.50	3.00	30.67	3.83	10
Pusa Bas.1121	4.25	5.00	5.00	5.00	4.33	3.00	5.00	4.67	36.25	4.53	1
28579	5.00	3.50	4.00	4.00	3.33	2.00	1.67	1.33	24.83	3.10	22
28580	4.75	2.75	3.25	3.33	3.00	3.00	1.67	1.33	23.08	2.89	23
28581	4.25	4.00	4.75	4.67	3.00	2.00	2.50	2.00	27.17	3.40	17
28582	5.00	4.25	4.50	5.00	3.67	3.33	4.25	4.33	34.33	4.29	2
Taroari Bas.	4.75	4.75	4.25	5.00	3.33	3.33	3.25	3.33	32.00	4.00	6
28583	4.50	3.50	4.00	4.67	3.33	3.67	3.25	3.00	29.92	3.74	11
28584	4.75	4.50	3.75	4.67	3.00	2.67	2.25	2.33	27.92	3.49	14
28585	4.00	3.50	4.50	4.67	4.67	3.00	4.25	4.00	32.58	4.07	5
Pusa RH-10	4.25	4.00	4.25	4.00	3.33	3.00	2.25	1.67	26.75	3.34	18
28586	4.50	4.00	4.50	5.00	3.33	3.00	2.25	2.00	28.58	3.57	13
28587	5.00	4.25	4.00	4.33	3.00	2.00	2.00	1.33	25.92	3.24	21
28588	4.75	2.25	3.33	2.33	2.67	2.00	1.50	1.00	19.83	2.48	24
28589	5.00	4.00	3.75	4.00	3.67	3.00	4.00	4.00	31.42	3.93	7
28590	5.00	4.33	5.00	5.00	3.33	3.00	2.67	3.00	31.33	3.92	8
Local Check	4.50	3.75	4.50	4.67	3.33	3.00	4.00	3.50	31.25	3.91	9

INITIAL VARIETY TRIAL-AROMATIC SHORT GRAIN (IVT-ASG)

Locations: 24

Test Entries: 26

Checks: Shobini-National: Badshabhog (Northern & Central), CR Sugandh Dhan 907 (Eastern & North Eastern), Sugandha Samba (Western & Southern)- (Zonal), Dubraj & Ketekejoha (Quality) and Local check

Table: 5.1

Initial Variety Trial- Aromatic Short Grain was constituted with 26 test entries and 5 checks viz., Shobini (NC), 3 Zonal checks: Badshah bhog (Northern and Central), CR Sugandh dhan 907 (Eastern & North Eastern), Sugandh Samba (Western & Southern), and 2 quality checks: Dubraj (QC), Ketikijoha (QC) and Local check. The trial was conducted in six zones namely Zone 2 (Northern): UP, Zone 3 (Eastern) : Odisha, West Bengal and part of UP, Zone 4 (North eastern): Assam, Zone 5 (Central) : Madhya Pradesh and Chhattisgarh, Zone 6 (western) : Maharashtra and Gujarat and Zone 7 (southern): Telangana and Karnataka. The trial data was received from 20 locations covering 10 states and 5 zones across the country. Data not received from seven locations viz., SBPUAT Meerut, Gerua ICAR, Arundhatinagar, Jabalpur Radhanagari, Sirisi and Kumta. Data from 10 locations namely Nagina, Karjat, Rajendranagar, Mugad, Jagdalpur, Cuttack, Jeypore, Pundibhari, Masodha and Varanasi was not considered for analysis as the mean yield of some locations are lower than 4t/ha and or CV of below 5%.

The overall mean yield ranged from 2822 Kg/ha (IET 28561) to 6369 Kg/ha (IET 28563) while flowering duration ranged from 83 days (IET 28555) to 105 days (IET 28565). Among the entries, IET 28570 was tall with 135 cm height, while IET 28751 was the shortest with 110 cm. IET 28570 recorded 234 panicles /m² whereas IET 28558 recorded a maximum of 374 panicles/m². Information pertaining to yield, flowering, plant height, panicles/m² and quality data are presented in the tables 5.2, 5.3, 5.4, 5.5 and 5.6. Among the yield checks, National check is the top yielder (5674 Kg/ha) followed by local check (4027 Kg/ha) and Zonal check (3389 Kg/ha), while the yields of quality checks i.e Dubraj (3912 kg/ha) and Ketekijoha (4091 kg/ha). (**Quality data is awaited.**)

Based on the overall yield performance entry IET 28563 which yielded 6369 kg/ha with yield superiority of 12 percent over better check (NC-Shobini 5674 kg/ha) with days to 50% flowering 93 days, plant height of 125 cms and number of panicles 134 is found superior among the entries tested.

In Zone III a total of 26 entries including one NIL entry (IET 28024) and one recurrent parent (HUR-105) are evaluated. Among the entries IET 28563 recorded maximum grain yield of 6895 kg/ha with an yield increment of 13 percent over the best check NC (Shobini) 6116 kg/ha. While the NIL entry IET 28024 recorded lesser yields 5563 kg/ha compared to the recurrent parent HUR-105 5888 Kg/ha. Under sub normal conditions also the NIL entry IET 28024 recorded lesser yields 1900 kg/ha compared to the recurrent parent HUR-105 2889 Kg/ha, whereas under submergence condition the NIL entry IET 28024 recorded lesser yields 3713 kg/ha compared to the recurrent parent HUR-105 1904 Kg/ha. Hence the NIL entry IET

28024 is dropped for further evaluation, and only the entry IET 28563 is promoted for further evaluation in AVT-1.

In Zone V a total of 24 entries are evaluated. Among the entries IET 28563 recorded maximum grain yield of 6726 kg/ha (Days to 50% flowering 100) with an yield increment of 18 percent and entry IET 28571 recorded grain yield s of 6354 kg/ha (Days to 50% flowering 97) with yield improvement of 13% respectively over the best check NC (Shobini) 5542 kg/ha. Hence the entries IET 28563 and IET 28571 are promoted for further evaluation in AVT-1.

In Zone VI a total of 24 entries are evaluated. Among the entries IET 28556 recorded maximum grain yield of 7223 kg/ha (Days to 50% flowering 99) with an yield increment of 21 percent and entry IET 28566 recorded grain yield s of 7042 kg/ha (Days to 50% flowering 114) with yield improvement of 18 percent and IET 28571 recorded grain yield of 6735 kg/ha (Days to 50% flowering 98) with yield improvement of 13 percent respectively over the best check LC 5970 kg/ha. Hence the entries IET 28556, IET 28566 and IET 28571 are promoted for further evaluation in AVT-1.

In Zone VII a total of 24 entries are evaluated. Among the entries IET 28566 recorded maximum grain yield of 6971 kg/ha (Days to 50% flowering 80) with a yield increment of 15 percent over the best check NC (Shobini) 6071 kg/ha. Hence the entry IET 28566 is promoted for further evaluation in AVT-1.

Performance of entries in different zones in ASG Trial.

S. No.	IET No./ Designation/ Cross combination	GT	Overall		Zone III		Zone V		Zone VI		Remarks
			GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	
	Overall										
1	IET 28563 R1915-115-1-88-1 CN 1269-7-21 / Madhuri	LS	6369 93	12							Promoted for all Zones
	Zone III										
1	IET 28563 R1915-115-1-88-1 CN 1269-7-21 / Madhuri	LS			6895 112	13					Promoted For Z-III
2	IET 28024 (NIL) HUR 105-Sub-1 HUR 105 / IR 64 Sub-1	LS			5563 111						Rejected yield less than RP
3	HUR-105 (RP)				5888 110						
	Zone V										
1	IET 28563 R1915-115-1-88-1 CN 1269-7-21 / Madhuri	LS					6726 100	18			Promoted for Zone V

S. No.	IET No./ Designation/ Cross combination	GT	Overall		Zone III		Zone V		Zone VI		Remarks
			GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	
2	IET 28571 Kudrat-5 (Improved paddy variety)	MS					6354 97	13			Promoted for Zone V
Zone VI											
1	IET 28556 CR 3716-18-2-6 Swarna / Kalajeera	MS							7223 99	21	Promoted for Zone VI
2	IET 28566 NVSR 403 Gurjari / GAR-1	LS							7042 104	18	Promoted for Zone VI
3	IET 28571 Kudrat-5 (Improved paddy variety)	MS							6735 98	13	Promoted for Zone VI
Shobini (NC)			5674 94		6116 110		5542 99		4873 102		
Zonal Check			3389 93		4825 116		2800 100		5427 99		
Local Check			4027 102		4881 108		4427 110		5970 104		
QC Dubraj			3912 97		5111 110		4542 104		5417 102		
QC Ketekejoha			4091 102		5045 111		4405 110		4925 105		
Zone VII											
S. No.	IET No./ Designation/ Cross combination	GT	Zone VII								
			GY (Kg/ha)/ FD	% BC							
1	IET 28566 NVSR 403 Gurjari / GAR-1	LS	6971 80	15							Promoted for Zone VII
Shobini (NC)			6071 80								
Zonal Check			4567 79								
Local Check			2871 78								
QC Dubraj			2024 74								
QC Ketekijoha			3148 80								

List of entries promoted to AVT 1- ASG:

- **Overall: IET 28563**
- **Zone III: IET 28563**
- **Zone V: IET 28563 and IET 28571**
- **Zone VI: IET 28556 and IET 28566**
- **Zone VII: IET 28566**

Table 5.1: Composition of entries in Initial Variety Trial – Aromatic Short Grain (IVT-ASG), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
1st Year of testing:				
1701	28554	OR (CZ)-64	Ketakijoha Mutant	LS
1702	28555	Pusa 1652-07-130-267	Pusa 1638 / Kalanamak	SS
1703	28556	CR 3716-18-2-6	Swarna / Kalajeera	MS
1704	28557	Nagari Dubraj Mutant -1	Nagari Dubraj	MS
1705	28558	RP 4993-BC/RIL-VVR3	BPT 5204 / Chittimuthyalu	SS
1706	28559	R 2054-147-2-104-1	R 1033-2559-1-1 / Gopal Bhog	LS
2nd year of testing				
1707	27801	CR 3663-261-8-4	Basmati 370 / Swarna	MS
1st Year of testing:				
1708	Shobini (NC)			
1709	28560	Pusa 1638-07-5-3	Pusa 1176 / Kalanamak	SS
1710	28561	Indrabhesh Dubraj Mutant -1	Indrabhesh Dubraj	MS
1711	28562	NVSR 2701	GAR 13 / Pusa Sugandh 5	MS
1712	28563	R 1915-115-1-88-1	CN 1269-7-21 / Madhuri	LS
1713	Badshabhog (Northern & Central), CR Sugandh Dhan 907 (Eastern & North Eastern), Sugandh Samba (Western & Southern) -- ZC			
1714	28564	JDP-S-38	Selection from Shri kamal	SB
1715	28565	CR 3710-64-8-2	Ratna / Basmati 370	MS
1716	28566	NVSR 403	Gurjari / GAR-1	LS
1717	Dubraj (QC)			
1718	28567	RNR 15459	RNR 17818 / Chittimutyalu	SB
1719	28568	CR 3714-11-2-1	Kudrat / Naveen	MS
1720	28569	Pusa 1652-07-69-2-29-1-2	Pusa 1638 / Kalanamak	SS
1721	Ketekijoha (QC)			
1722	28570	CR 3662-6-2-1	Swarna / Katrani	MS
1723	Local Check			
1724	28571	Kudrat-5 (Improved paddy variety)	-	MS
1725	28024	HUR 105-Sub-1	HUR 105 / IR 64 Sub-1	LS
1726	HUR 105 (RP)			

Table 5.2: Grain yield (Kg/ha) of entries in IVT ASG Zone -2,4,5 &7, Kharif 2019

Entry No.	IET No.	Zone -II		Zone V												Zone V (3)	
		UP		MP (1)		CH						CH (2)					
		@NGN		WRS		RPR		ABP		@JDP		Mean				Mean	
1701	28554	2409		5819	6 11%	5926	4	5285	4	3861		5606	5	5677	4		
1702	28555	5469	6	4113		3352		3440		2551		3396		3635			
1703	28556	2930		5656	8 8%	4564	9	3610		4788	1	4087		4610	10		
1704	28557	2344		4638		2720		3300		3888	9	3010		3552			
1705	28558	4818	9	3969		4190				3223		4190	10	4079			
1706	28559	5599	4	5500		6161	3	5605	3	3879	10	5883	3	5755	3		
1708	Shobini (NC)	4818		5225		5740	5	5660	2	3952	8	5700	4	5542	5		
1709	28560	5729	2	4319		2899		2895		2695		2897		3371			
1710	28561	2344		2869		2789				2867		2789		2829			
1711	28562	4688		5169		5089	7			3275		5089	6	5129	7		
1712	28563	5729	2	7156	1 37%	6726	1 *			4648	2	6726	1* 18%	6941	1* 25%		
1713	Zonal Check (ZC)	2279		4100		1500				2868		1500		2800			
1714	28564	5339	7	5631	9 8%	2739		4425	8	2966		3582		4265			
1715	28565	2148		4681		3114		4630	7	4358	5	3872		4142			
1716	28566	2214		6681	2 28%	4892	8	4650	6	4531	4	4771	7	5408	6		
1717	Dubraj (QC)	4948	8	6338	3 21%	3658		3630		3999	7	3644		4542			
1718	28567	2083		3350		2873		4105	9	2594		3489		3443			
1719	28568	5599	4	5866	5 12%	4474		3665		4251	6	4069		4668	9		
1720	28569	7682	1	4356		2749	10	3655		2462		3202		3587			
1721	Ketekijoha (QC)	2279		5775	7 11%	3946		3495		3273		3720		4405			
1722	28570	4492		6038	4 16%	3460		5050	5	3027		4255	9	4849	8		
1723	Local Check (LC)	3841		4200		5131	6	3950	10	2448		4540	8	4427			
1724	28571	2018		4925		6634	2 * 16%	6075	1 7%	4577	3	6354	2 11%	5878	2 6%		
EXP.Mean		3991		5060		4145		4285		3521		4190		4501			
	CD	569.68		1534.4		789.79		1074.7		1188		559.22		682.09			
	CV	6.88		14.62		9.18		12.13		16.269							
	D/S	6/28/2019		7/4/2019		6/26/2019		7/10/2019		7/3/2019							
	D/P	7/25/2019		7/26/2019		7/17/2019		7/30/2019		7/26/2019							
	Local Check Name	Type 3		Improved Chinnor		Chhattisgarh Devbhog		Jeeraphool		Vishnubhog							

Table 5.2 contd.: Grain yield (Kg/ha) of entries in IVT ASG Zone -2,4,5& 7, Kharif 2019

Entry No.	IET No.	Zone VII						Zone VII (1)		Overall (4)	
		TE		KE (1)		KA					
		@RNR		PTB		@MGD		Mean		Mean	
1701	28554	3992		5096	8	3435	10	5096	8	5531	6
1702	28555	2292		3860		2124		3860		3691	
1703	28556	7106	2	6113	2	5405	4	6113	2	4986	7
1704	28557	5605	6	3713		2520		3713		3592	
1705	28558	5741	5	2235		2455		2235		3465	
1706	28559	4303	10	6107	3	2421		6107	3	5843	2
1708	Shobini (NC)	6016	4	6071	5	3848	9	6071	5	5674	4
1709	28560	5082	8	4342		1865		4342		3614	
1710	28561	3263		2810		2238		2810		2822	
1711	28562	5431	7	3379		5434	3	3379		4546	10
1712	28563	6110	3	5224	7	5001	5	5224	7	6369	1 12%
1713	Zonal Check (ZC)	2289		4567	10	2413		4567	10	3389	
1714	28564	1649		2765		1392		2765		3890	
1715	28565	2333		6081	4	4614	7	6081	4	4627	9
1716	28566	2593		6961	1 15%	6370	2	6961	1 15%	5796	3
1717	Dubraj (QC)	1675		2024		4650	6	2024		3912	
1718	28567	2773		1707		2892		1707		3009	
1719	28568	4531	9	5720	6	6696	1	5720	6	4931	8
1720	28569	2410		2663		1433		2663		3356	
1721	Ketekijoha (QC)	1895		3148		2621		3148		4091	
1722	28570	1702		3618		2955		3618		4541	
1723	Local Check (LC)	1308		2827		2971		2827		4027	
1724	28571	7133	1	4915	9	4021	8	4915	9	5637	5
EXP.Mean		3793		4172		3468		4172		4406	
	CD	1310.5		1458.5		1312.9		1458.5		760.96	
	CV	16.66		16.86		18.25		16.86		8.32	
	D/S	7/1/2019		8/19/2019		7/18/2019					
	D/P	7/30/2019		9/5/2019					7530		
	Local Check Name	Chittimutyalu		Jeerakasala		Mugad Sugandha					

Table 5.2 contd.: Grain yield (Kg/ha) of entries in IVT ASG Zone –III, Kharif 2019

Entry No.	IET No.	Zone III										
		OD						OD(1)		WB		
		@CTK	@JYP	CHP		Mean		CHN		@PNB		
1701	28554	2586	6442	7	7194	8	7194	8	6203	1		
1702	28555	3616	2232		3354		3354		3195		3210	
1703	28556	4069	6138	10	6132		6132		5451	9	4050	
1704	28557	1930	4162		4361		4361		3358		3300	
1705	28558	2578	4138		4924		4924		5025		2340	
1706	28559	3920	6378	8	7715	4	7715	4	6140	2	5383	8
1707	27801	3081	6464	6	4778		4778		4774		3900	
1708	Shobini (NC)	4150	5774	4	7625	5	7625	5	6021	3	5383	7
1709	28560	2134	2036		4194		4194		3822		2340	
1710	28561	1846	3094		4813		4813		4461		5100	
1711	28562	2921	4161		5944		5944		5470	7		
1712	28563	4891	6529	5	8771	2	8771	2 * 15%	5664	4	5350	9
1713	Zonal Check (ZC)	2444	6668	4	5181		5181		5482	6	3960	
1714	28564	2513	4374		2826		2826		4461		3660	
1715	28565	3849	6953	2	5181		5181		3634		6210	1
1716	28566	3693	7844	1	5444		5444		5075		5583	5
1717	Dubraj (QC)	2942	6347	9	5444		5444		5451	9	4530	
1718	28567	1173	4159		2604		2604		3822		3090	
1719	28568	4088	6838	3	6951	10	6951	10	5050		5640	4
1720	28569	2093	1985		3799		3799		4449		4320	
1721	Ketekijoha (QC)	2716	4943		6396		6396		4398		4860	
1722	28570	3064	5313		8438	3 11%	8438	3 11%	3709		5130	10
1723	Local Check (LC)	4644	5721		6965	9	6965	9	4373		3870	
1724	28571	4507	5047		8924	1 * 17%	8924	1 * 17%	5627	5	5880	2
1725	28024	4131	5175		7444	6	7444	6	5407		5517	6
1726	HUR 105 (RP)	3633	4827		7285	7	7285	7	5464	8	5650	3
	Exp. Mean	3200	5144		5873		5873		4846		4511	
	CD	759.69	366.06		836.57		836.57		591.26		453.31	
	CV%	11.53	3.46		6.92		6.92		5.92		4.86	
	D/S	7/11/2019	7/5/2019		7/11/2019				7/10/2019		7/15/2019	
	D/P	8/28/2019	8/2/2019		8/9/2019				8/17/2019		8/7/2019	
	Local Check Name	CR Dhan910	Kalajeera		Pratikshya				Gandheswari		MTU 7029	

Table 5.2 contd.: Grain yield (Kg/ha) of entries in IVT ASG Zone –III, Kharif 2019

Entry No.	IET No.	Zone III										ZONEIII (4)		
		WB			WB (3)		UP							
		HTW	BNK		Mean		@MSD		@VRN	Mean				
1701	28554	3759		7130	5	5697	5	3650		4194	10	6072	5	
1702	28555	2806		4065		3355		3800	5	2981		3355		
1703	28556	4424		7235	4	5703	4	4000	3	4338	9	5811	9	
1704	28557	3480		4435		3758		3050		3156		3909		
1705	28558	3118		4560		4234		3150		2831		4407		
1706	28559	4775	8	5360	9	5425	7	3750	8	4506	6	5998	7	
1707	27801	4007		6665	6	5149	10	3000				5056		
1708	Shobini (NC)	5036	5	5780	7	5612	6	3500		4394	7	6116	4	
1709	28560	2950		4720		3831		2350		2919		3922		
1710	28561	3541		4580		4194		2430		2275		4349		
1711	28562	3988		4075		4511		4250	1	3769		4869		
1712	28563	5434	3	7710	3	6269	1	12%	3150		4931	4	6895	1 * 13%
1713	Zonal Check (ZC)	4551	10	4085		4706		2950		2981		4825		
1714	28564	3073		4520		4018		3150		2994		3720		
1715	28565	3302		4525		3820		3700	10			4161		
1716	28566	5466	2	8200	2 *	6247	2	11%	2300		5475	2	6046	6
1717	Dubraj (QC)	4498		5050	10	5000		2300		4038		5111		
1718	28567	3172		4200		3731		2850		2900		3450		
1719	28568	5269	4	8215	1 *	6178	3	10%	3550		4363	8	6371	2 4.16%
1720	28569	2960		4700		4036		3800	5	2850		3977		
1721	Ketekijoha (QC)	4815	6	4570		4594		3450				5045		
1722	28570	4186		4581		4159		2700		3875		5229		
1723	Local Check (LC)	3640		4545		4186		4100	2	3775		4881		
1724	28571	4754	9	5380	8	5254	9	3750	8	5794	1	6171	3	
1725	28024	4780	7	4622		4936		3800	5	4894	5	5563	10	
1726	HUR 105 (RP)	5788	1	5015		5422	8	4000	3	4956	3	5888	8	
	Exp. Mean	4137		5328		4770		3326		3878		5046		
	CD	1469.88		2101.11		957.9		427.61		331.79		777.85		
	CV%	17.25		19.15		9.75		6.24		4.13		7.48		
	D/S	7/5/2019		7/5/2019				7/20/2019		7/6/2019				
	D/P	8/16/2019		9/4/2019				8/14/2019		7/22/2019				
	Local Check Name	Lalbadshabhog		Danaguri				Narendra Parag		HUR 917				

Table 5.2 contd.: Grain yield (Kg/ha) of entries in IVT ASG Zone VI, Kharif 2019

Entry No.	IET No.	ZONE VI								ZONE VI (2)	
		MA		GU			GU(2)				
		@KJT		NVS		NWG		Mean		Mean	
1701	28554	4729	2	5436	8	6833	5	6135	5	6135	5
1702	28555	2515		4797		4171		4484		4484	
1703	28556	3057		6656	2	7790	2	7223	1 * 21%	7223	1 * 21%
1704	28557	2600		4736		3306		4021		4021	
1705	28558	2837		4637		5339		4988		4988	
1706	28559	2889		5658	6	6750	6	6204	4	6204	4
1707	27801	4560	6	3578		5470		4524		4524	
1708	Shobini (NC)	3304		3983		5763		4873		4873	
1709	28560	2933		4025		4019		4022		4022	
1710	28561	2346		4682		3947		4315		4315	
1711	28562	4041	8	5336	9	6151	9	5744	8	5744	8
1712	28563	5181	1	5518	7	3347		4433		4433	
1713	Zonal Check (ZC)	4604	4	4913		5940	10	5427	10	5427	10
1714	28564	3682		4278		3095		3687		3687	
1715	28565	4581	5	3488		4589		4039		4039	
1716	28566	4614	3	6445	3	7639	3	7042	2 18%	7042	2 18%
1717	Dubraj (QC)	3187		4476		6358	7	5417		5417	
1718	28567	2650		3094		6965	4	5030		5030	
1719	28568	3200		5304	10	5781		5543	9	5543	9
1720	28569	2797		3920		4755		4338		4338	
1721	Ketekijoha (QC)	2229		5692	4	4158		4925		4925	
1722	28570	3722	10	6671	1 *	5392		6032	6	6032	6
1723	Local Check (LC)	4547	7	5678	5	6261	8	5970	7	5970	7
1724	28571	3980	9	5251		8219	1 *	6735	3 13%	6735	3 13%
Exp. Mean		3533		4927		5502		5214		5214	
CD		803.44		986.35		1824.92		1109.01		1109.01	
CV%		10.99		9.68		16.03		10.28		10.28	
D/S		7/10/2019		7/4/2019		7/7/2019					
D/P		8/10/2019		8/5/2019		8/20/2019					
Local Check Name		Kariat 3		GR-14		GAR-14					

Table 5.3: Days to 50% flowering of entries in IVT ASG Zone -2,4,5& 7, Kharif 2019

Entry No.	IET No.	Zone -II	Zone V					Zone V	Zone VII			Zone	Overall
		UP	MP (1)	CH		CH (2)	(3)	Mean	TE	KE	KA	VII (1)	(4)
		@NGN	WRS	RPR	ABP	@JDP			@RNR	PTB	@MGD	Mean	Mean
1701	28554	118	105	103	104	108	103	104	103	88	108	88	100
1702	28555	117	93	91	87	87	89	90	90	63	75	63	83
1703	28556	112	100	98	99	101	98	99	103	77	102	77	93
1704	28557	137	114	106	97	107	101	105	113	81	105	81	99
1705	28558	124	115	107		101	107	111	102	84	99	84	102
1706	28559	119	84	112	87	92	99	94	90	70	98	70	88
1708	Shobini (NC)	108	100	97	101	100	99	99	102	80	99	80	94
1709	28560	117	95	113	87	85	100	98	89	61	95	61	89
1710	28561	122	91	114		95	114	102	96	76	75	76	93
1711	28562	99	93	113		96	113	103	99	75	99	75	93
1712	28563	104	103	97		102	97	100	104	81	100	81	93
1713	Zonal Check (ZC)	127	99	102		100	102	100	104	79	96	79	93
1714	28564	120	99	95	89	87	92	94	100	64	86	64	86
1715	28565	135	116	111	110	115	110	112	108	85	96	85	105
1716	28566	114	95	94	99	103	96	96	104	80	96	80	92
1717	Dubraj (QC)	127	110	105	99	103	102	104	109	74	106	74	97
1718	28567	129	110	107	107	104	107	108	109	80	99	80	101
1719	28568	116	90	102	100	101	101	97	105	85	100	85	94
1720	28569	115	96	91	87	83	89	91	89	72	75	72	86
1721	Ketekijoha (QC)	135	113	110	107	105	108	110	109	80	100	80	102
1722	28570	115	97	103	100	98	101	100	109	83	111	83	95
1723	Local Check (LC)	104	127	104	101	95	102	110	109	78	100	78	102
1724	28571	109	94	98	100	95	99	97	101	79	99	79	92
EXP.Mean		118	101	103	97	98	101	101	102	77	96	77	94

Table 5.3 contd.: Days to 50% flowering of entries in IVT ASG Zone –III, Kharif 2019

Entry No.	IET No.	Zone III											ZONEIII (4)
		OD			OD(1)	WB				WB (3)	UP		
		@CTK	@JYP	CHP	Mean	CHN	@PNB	HTW	BNK	Mean	@MSD	@VRN	
1701	28554	102	108	109	109	101		116	115	111	105	103	110
1702	28555	80	86	88	88	85	91	93	102	93	108	99	92
1703	28556	96	104	110	110	102	95	120	114	112	110	99	111
1704	28557	94	115	106	106	105	105	124	112	113	114	112	112
1705	28558	102	107	118	118	106	78	128	127	120	118	102	120
1706	28559	91	93	93	93	94	81	98	103	98	114	91	97
1707	27801	107	117	114	114	112	97	124	124	120	112	116	118
1708	Shobini (NC)	97	103	108	108	102	98	114	116	111	111	96	110
1709	28560	81	88	91	91	85	92	96	97	93	108	94	92
1710	28561	96	97	102	102	90	89	113	123	108	106	99	107
1711	28562	95	99	103	103	96		116	120	110	111	87	109
1712	28563	105	114	111	111	104	96	122	113	113	116	101	112
1713	Zonal Check (ZC)	99	107	107	107	106	80	122	129	119	109	120	116
1714	28564	81	91	94	94	99	104	98	109	102	100	102	100
1715	28565	109	112	114	114	112	98	124	126	121	104	117	119
1716	28566	99	104	110	110	100	96	122	118	113	111	101	112
1717	Dubraj (QC)	95	106	103	103	106	80	113	120	113	114	111	110
1718	28567	97	103	105	105	101	107	117	123	113	116	114	111
1719	28568	103	107	103	103	103	102	121	119	114	113	99	111
1720	28569	79	84	87	87	85	97	97	101	94	113	93	92
1721	Ketekijoha (QC)	98	108	109	109	105	81	119	113	112	110	116	111
1722	28570	108	108	115	115	106	96	120	126	117	108	97	116
1723	Local Check (LC)	105	103	108	108	97	110	108	120	108	97	108	108
1724	28571	97	99	105	105	102	95	114	114	110	100	97	109
1725	28024	91	99	106	106	102	93	116	121	113	102	101	111
1726	HUR 105 (RP)	93	101	109	109	101	98	112	118	110	106	92	110
	Exp. Mean	96	102	105	105	100	94	114	116	110	109	102	109

Table 5.3 contd.: Days to 50% flowering of entries of IVT ASG Zone -6, Kharif 2019

Entry No.	IET No.	ZONE VII				ZONE VII (2)
		MA	GU		GU(2)	
		@KJT	NVS	NWG	Mean	Mean
1701	28554	98	95	97	96	96
1702	28555	85	89	88	88	88
1703	28556	97	100	99	99	99
1704	28557	103	110	103	106	106
1705	28558	107	104	109	106	106
1706	28559	91	84	88	86	86
1707	27801	103	114	108	111	111
1708	Shobini (NC)	101	102	103	102	102
1709	28560	85	87	88	88	88
1710	28561	97	90	91	90	90
1711	28562	97	94	96	95	95
1712	28563	107	100	105	102	102
1713	Zonal Check (ZC)	97	98	100	99	99
1714	28564	93	99	97	98	98
1715	28565	108	115	107	111	111
1716	28566	103	106	102	104	104
1717	Dubraj (QC)	107	101	104	102	102
1718	28567	99	95	97	96	96
1719	28568	99	101	101	101	101
1720	28569	81	88	95	91	91
1721	Ketekijoha (QC)	99	104	107	105	105
1722	28570	101	103	109	106	106
1723	Local Check (LC)	91	98	110	104	104
1724	28571	96	95	101	98	98
Exp. Mean		98	98	100	99	99

Table 5.4: Plant height of entries in IVT ASG Zone -2,4,5& 7, Kharif 2019

Entry No.	IET No.	Zone -II	Zone V					Zone V	Zone VII			Zone VII (1)	Overall
		UP	MP (1)	CH			CH (2)	(3)	TE	KE	KA	Mean	Mean
		@NGN	WRS	RPR	ABP	@JDP	Mean	Mean	@RNR	PTB	@MGD		
1701	28554	100	124	127	112	106	120	121	112	122	90	122	121
1702	28555	100	124	127	112	105	119	121	112	121	89	121	121
1703	28556	100	125	128	113	107	121	122	113	122	91	122	122
1704	28557	100	126	129	114	107	121	123	113	122	91	122	123
1705	28558	101	127	130	115	108	123	124	114	124	92	124	124
1706	28559	100	124	132	115	110	124	124	115	126	94	126	124
1708	Shobini (NC)	101	125	134	116	111	125	125	116	126	95	126	125
1709	28560	101	126	135	117	112	126	126	117	127	96	127	126
1710	28561	101	127	137	119	114	128	128	118	129	98	129	128
1711	28562	102	129	140	119	116	130	129	119	130	99	130	130
1712	28563	103	130	143	119	118	131	131	121	132	100	132	131
1713	Zonal Check (ZC)	103	132	146	119	119	132	132	122	132	102	132	132
1714	28564	103	129	145	119	117	132	131	120	134	101	134	132
1715	28565	102	127	145	117	117	131	130	119	133	102	133	131
1716	28566	102	127	132	120	117	126	126	120	135	104	135	128
1717	Dubraj (QC)	102	129	133	120	117	127	127	121	135	104	135	129
1718	28567	101	128	133	120	116	126	127	122	133	102	133	129
1719	28568	100	130	132	122	115	127	128	121	136	101	136	130
1720	28569	101	133	133	123	116	128	130	121	138	100	138	132
1721	Ketekijoha (QC)	101	133	133	127	120	130	131	120	145	100	145	134
1722	28570	102	136	127	130	119	128	131	120	146	97	146	134
1723	Local Check (LC)	101	136	109	123	111	116	122	120	141	86	141	127
1724	28571	87	113	121	98	99	109	111	104	109	89	109	110
EXP.Mean		101	128	133	118	113	125	126	117	130	97	130	127

Table 5.4 contd.: Plant height of entries in IVT ASG Zone –III, Kharif 2019

Entry No.	IET No.	Zone III					Zone III						ZONEIII (4)
		OD			OD(1)	WB		WB		WB (3)	UP		
		@CTK	@JYP	CHP	Mean	CHN	@PNB	HTW	BNK	Mean	@MSD	@VRN	
1701	28554	124	118	119	119	135		99	125	120	111	126	119
1702	28555	77	82	79	79	85	98	100	95	93	121	99	90
1703	28556	105	106	104	104	99	119	100	90	96	125	107	98
1704	28557	85	89	85	85	81	98	110	80	90	109	86	89
1705	28558	81	95	77	77	91	91	130	75	99	116	89	93
1706	28559	90	92	88	88	96	101	93	90	93	121	104	92
1707	27801	119	116	111	111	107	122	109	100	105	123		107
1708	Shobini (NC)	99	97	99	99	102	112	91	95	96	127	93	97
1709	28560	92	80	86	86	105	113	115	105	109	130	109	103
1710	28561	94	88	92	92	83	123	94	77	85	135	87	87
1711	28562	97	90	94	94	99		107	90	99	138	94	97
1712	28563	111	98	104	104	105	103	94	95	98	141	99	99
1713	Zonal Check (ZC)	92	97	81	81	98	111	93	85	92	121	91	89
1714	28564	128	126	111	111	150	148	123	135	136	109	147	130
1715	28565	116	112	115	115	117	119	101	100	106	111		108
1716	28566	115	109	117	117	118	121	115	115	116	115	122	116
1717	Dubraj (QC)	122	128	125	125	129	130	114	130	125	117	131	125
1718	28567	109	123	114	114	103	128	136	120	120	119	118	118
1719	28568	115	119	111	111	109	120	74	115	99	121	117	102
1720	28569	94	90	95	95	107	127	120	125	117	134	135	112
1721	Ketekijoha (QC)	133	127	132	132	124	149	75	120	107	122		113
1722	28570	144	136	142	142	155	150	89	135	126	123	163	130
1723	Local Check (LC)	103	138	102	102	102	131	111	135	116	125	91	113
1724	28571	109	99	105	105	93	118	130	115	113	128	120	111
1725	28024	92	93	91	91	131	102	93	80	101	131	91	99
1726	HUR 105 (RP)	103	94	100	100	102	99	100	120	107	129	102	106
	Exp. Mean	106	105	103	103	109	118	105	106	106	123	110	105

Table 5.4 contd.: Plant height (cm) of entries in IVT ASG Zone -6, kharif 2019

Entry No.	IET No.	ZONE VII				ZONE VII (2) Mean
		MA	GU		GU(2)	
		@KJT	NVS	NWG	Mean	
1701	28554	139	131	137	134	134
1702	28555	97	94	108	101	101
1703	28556	113	113	108	110	110
1704	28557	100	86	86	86	86
1705	28558	102	106	87	96	96
1706	28559	98	118	108	113	113
1707	27801	121	130	131	130	130
1708	Shobini (NC)	102	119	106	113	113
1709	28560	95	119	95	107	107
1710	28561	99	106	91	99	99
1711	28562	114	125	105	115	115
1712	28563	112	112	112	112	112
1713	Zonal Check (ZC)	105	117	84	100	100
1714	28564	133	156	125	141	141
1715	28565	107	128	122	125	125
1716	28566	136	132	110	121	121
1717	Dubraj (QC)	127	140	151	146	146
1718	28567	126	130	131	130	130
1719	28568	124	125	119	122	122
1720	28569	112	134	121	128	128
1721	Ketekijoha (QC)	138	133	145	139	139
1722	28570	155	141	149	145	145
1723	Local Check (LC)	95	117	122	120	120
1724	28571	111	122	116	119	119
Exp. Mean		115	122	115	119	119

Table 5.5: No. of panicles/ m2 of entries in IVT ASG Zone -2,4,5& 7, Kharif 2019

Entry No.	IET No.	Zone -II	Zone V					Zone	Zone VII			Zone VII	Overall
		UP	MP	CH			CH (2)	V (3)	TE	KE	KA	(1)	(4)
		@NGN	WRS	RPR	ABP	@JDP	Mean	Mean	@RNR	PTB	@MGD	Mean	Mean
1701	28554	302	335	229	242	231	235	268	406	431	298	431	309
1702	28555	269	228	213	195	259	204	212	339	410	184	410	261
1703	28556	255	420	239	218	249	228	292	595	434	300	434	328
1704	28557	238	416	288	231	224	259	311	467	441	370	441	344
1705	28558	256	500	269		256	269	384	533	354	360	354	374
1706	28559	277	347	215	212	249	213	258	372	406	241	406	295
1708	Shobini (NC)	206	386	251	230	182	240	289	456	473	260	473	335
1709	28560	240	312	223	226	246	224	253	333	350	196	350	278
1710	28561	277	387	273		244	273	330	544	312	224	312	324
1711	28562	234	307	231		209	231	269	500	305	321	305	281
1712	28563	289	315	221		238	221	268	433	308	302	308	281
1713	Zonal Check (ZC)	206	313	254		253	254	283	461	368	241	368	311
1714	28564	304	289	245	225	224	235	253	561	308	145	308	266
1715	28565	199	325	233	205	235	219	254	463	399	284	399	290
1716	28566	300	385	225	214	160	219	274	517	326	282	326	287
1717	Dubraj (QC)	260	414	219	216	231	217	283	478	308	279	308	289
1718	28567	281	350	223	203	225	213	258	566	343	258	343	280
1719	28568	294	352	218	234	279	226	268	477	406	283	406	302
1720	28569	220	444	208	227	233	217	293	406	410	149	410	322
1721	Ketekijoha (QC)	195	401	262	229	267	246	297	444	396	344	396	322
1722	28570	239	305	235	203	182	219	247	450	193	265	193	234
1723	Local Check (LC)	301	326	225	231	171	228	261	422	449	302	449	308
1724	28571	292	343	244	206	221	225	264	400	378	254	378	293
Exp. Mean		258	356	236	219	229	231	277	462	370	267	370	301

Table 5.5 contd.: No. of panicles/m² of entries in IVT ASG Zone –III, Kharif 2019

Entry No.	IET No.	Zone III							Zone III				ZONE III (3)
		OD			OD(1)	WB			WB (3)	UP			
		@CTK	@JYP	CHP		Mean	CHN	@PNB		BNK	Mean	@MSD	
1701	28554	297	416	244	244	248		218	233	294	144	236	
1702	28555	284	466	383	383	281	298	164	222	309	262	276	
1703	28556	343	426	312	312	248	378	228	238	320	239	262	
1704	28557	300	463	372	372	363	368	157	260	269	318	297	
1705	28558	297	437	287	287	248	280	215	231	290	242	250	
1706	28559	290	333	302	302	231	220	195	213	281	185	242	
1707	27801	290	331	256	256	314	297	238	276	260		269	
1708	Shobini (NC)	300	366	297	297	281	253	182	231	315	198	253	
1709	28560	274	323	297	297	215	203	162	188	251	173	225	
1710	28561	277	315	348	348	264	326	175	220	264	220	262	
1711	28562	294	373	269	269	248		168	208	307	164	228	
1712	28563	314	353	279	279	314	265	194	254	280	180	262	
1713	Zonal Check (ZC)	294	406	270	270	248	192	222	235	290	204	246	
1714	28564	307	313	202	202	264	138	164	214	299	106	210	
1715	28565	340	296	272	272	314	205	186	250	312		257	
1716	28566	294	369	296	296	429	262	180	305	259	240	302	
1717	Dubraj (QC)	304	379	227	227	330	318	188	259	259	191	248	
1718	28567	290	419	264	264	248	307	202	225	281	220	238	
1719	28568	304	380	267	267	363	219	240	302	304	202	290	
1720	28569	287	297	344	344	281	259	178	229	305	194	267	
1721	Ketekijoha (QC)	304	420	373	373	264	403	170	217	255		269	
1722	28570	271	412	233	233	314	210	210	262	271	181	252	
1723	Local Check (LC)	290	401	229	229	281	269	192	236	320	243	234	
1724	28571	323	390	222	222	363	260	185	274	274	159	257	
1725	28024	297	352	322	322	297	277	176	237	291	248	265	
1726	HUR 105 (RP)	290	481	329	329	264	232	209	237	303	239	267	
Exp. Mean		298	381	288	288	289	268	192	240	287	206	256	

Table 5.5 contd.: Panicles/m² of entries in IVT ASG Zone -6, Kharif 2019

ENTRY	IET No.	ZONE VII				ZONE VII (2)
		MA	GU		GU(2)	
		@KJT	NVS	NWG	Mean	
1701	28554	208	292	295	294	294
1702	28555	257	257	280	268	268
1703	28556	210	261	302	281	281
1704	28557	245	237	276	256	256
1705	28558	253	258	288	273	273
1706	28559	208	210	300	255	255
1707	27801	248	222	290	256	256
1708	Shobini (NC)	268	241	291	266	266
1709	28560	260	196	280	238	238
1710	28561	228	243	277	260	260
1711	28562	231	219	291	255	255
1712	28563	226	248	274	261	261
1713	Zonal Check (ZC)	246	236	294	265	265
1714	28564	207	247	271	259	259
1715	28565	275	221	283	252	252
1716	28566	215	237	304	270	270
1717	Dubraj (QC)	189	205	296	250	250
1718	28567	213	243	297	270	270
1719	28568	226	236	283	259	259
1720	28569	221	217	280	248	248
1721	Ketekijoha (QC)	217	200	279	240	240
1722	28570	253	268	288	278	278
1723	Local Check (LC)	276	208	296	252	252
1724	28571	208	226	305	265	265
Exp. Mean		233	234	288	261	261

VARIETY TRIALS-HILLS

The variety trials under hill ecology were conducted in different elevations to identify high yielding cultures with cold, drought tolerance and resistance to pests and diseases under irrigated as well as rainfed uplands. The early and medium duration trials were evaluated under irrigated transplanted conditions whereas the upland trials were conducted at direct seeded rainfed situation. The trials were evaluated under low hills (≤ 950 msl), medium hills (951 to 1500 msl) and high hills (≥ 1501 msl). The trial was sent for evaluation under low elevation hills at Malan, ICAR-Barapani, CAU-Barapani, Lamphalpet, Wangbal, CAU-Imphal, Daulakhan, Sirsi and Ponnampet. However, at ICAR-Barapani the trial was conducted at high elevation instead of low elevation; Medium elevation hills- Rajouri, Palampur, Almora, Bageshwar, Gangtok and Kalimpong; High elevations hills- Khudwani, Wadura, Bandipore, Pombay and Upper Shillong.

A total of 9 trials namely, IVT-E(H), AVT1-E(H), AVT 2-E (H), IVT-M(H), AVT1-M(H), AVT 2-M (H), AVT 1-U (H), IVT-U(H) and IVT-LR (H), were conducted with 23,15,7,23,11,10, 15,10 and 17 entries respectively thus making a total of 131 entries. Each trial was evaluated at low, medium and high hills: IVT-E(H), AVT-1E(H) and AVT 2-E (H) at 28 locations (9 low, 7 medium, 12 high), IVT M(H), AVT 1-M (H) and AVT-2M (H) at 41 locations (18 low, 8 medium, 15 high), IVT-U(H) and AVT 1-U(H) at 12 locations (6 low, 4 medium, 2 high), IVT- LR (H) at 5 locations (3 low, 1 medium and 1 high). The trials were sent to 20 locations to conduct 106 experiments. The data of 86 experiments received from 18 locations indicating 81.13%. (Funded 100%, Voluntary 72.97%).

List of centres and elevations

I.Low Elevation:	
Northern Hills:	
Malan	950 msl
CAU, Barapani	940 msl
Lamphelpat-ICAR	786 msl
CAU, Imphal	808 msl
Daulakhan	350 msl
Wangbal	781 msl
Southern Hills:	
Sirsi	697 msl
Ponnampet	867 msl
II. Medium Elevation:	
Northern Hills:	
Rajouri	960 msl
Almora-ICAR	1250 msl
Palampur	1267msl
Bageshwar	1320 msl
Kalimpong	1097 msl
Gangtok	1322 msl
III. High Elevation:	
Wadura	1590 msl
Khudwani	1560 msl
ICAR- Barapani	1735 msl (Upper Shillong)
Upper Shillong	1699 msl (Sadew) 1735 msl (Upper Shillong)
Pombay	1990 msl

ADVANCE VARIETY TRIAL 2 - EARLY HILLS (AVT 2 – E H)

Locations: 11

Test Entries: 4

Checks: Vivekdhhan 86 (NC), Shalimar Rice 3 (ZC) and Local Check (LC)

Table: 6.1

Advance Variety Trial 2 – Early Hills (AVT 2 – E H) comprised of seven entries that included 4 test entries and three checks Vivekdhhan 86, national check (NC); Shalimar Rice 3, Zonal Check (ZC) and local check (LC). All the four test entries were in the third year of testing, IET 25819 and IET 25826 were repeat entries. The trial was sent to eleven locations, the data from two centers (Bandipore and Rajouri) was not received. The data from Palampur was not considered owing to low experimental mean (2442.18 kg/ha). At Dhaulakuan and Malan, the sowings/plantings were completed in June-July while, at Ponnampet the planting was taken up in 3rd week of August. Similarly, the plantings were completed in June-July in Almora and Palampur. In Khudwani the sowings and plantings were completed in April-May while in Pombay and Wadura, the plantings were taken up in May-June.

Overall, the experimental yield was 4937.8 kg/ha while it ranged from 4388 kg/ha (IET 25826) to 5670 kg/ha (LC). The mean yield across locations was between 2442.2 kg/ha (Palampur) to 6684.5 kg/ha (Malan). The CV spanned from 5.88% (Dhaulakuan) to 19.77% (Khudwani); while the days to 50% flowering (DFF) was 93 in Shalimar Rice 3 (ZC) to 114 in IET 25826, a repeat entry. The plant height ranged between 96.67 cm (IET 25826) to 118.62 cm (IET 25819). Panicles/m² were lowest in Shalimar Rice 3 (269) and highest in LC (366). On overall basis, no test entries exhibited the required 5% yield advantage over the best variety check (BVC) as the LC was the highest yielding entry (5670 kg/ha). The data pertaining to yield, flowering, plant height, panicles/m² and quality data are presented in tables 6.2, 6.3, 6.4, 6.5 and 6.6. Altitude wise performance of test entries is discussed below.

Low Northern Hills

IET 25819 (VL 32224) derived from a cross between Vivekdhhan 82 / VL 31629 was the only entry that exhibited yield advantage (6.7%) over the BVC. The yield, DFF, plant height and panicles/m² of IET 25819 were 6482 kg/ha, 97, 124.9 cm and 255 respectively. IET 25189 had high head rice recovery (HRR) of 61.2% coupled with intermediate amylose content (AC) of 24.2%.

Low Southern Hills

IET 25826 (TRC 2016-2) developed from crossing Fulbadam and Naveen is repeat entry that demonstrated a yield advantage of 18.1% (4536 kg/ha) over the BVC i.e. LC (3840 kg/ha). In this elevation the trial was conducted only at Ponnampet. IET 25826 was 79.9 cm tall with 106 DFF coupled with 389 panicles/m². The HRR and AC of IET 25826 were 51.9% and 26.22% respectively.

Medium Northern Hills

IET 25819 (VL 32224) derived from a cross between Vivekdhhan 82 / VL 31629 had a yield of 4589 kg/ha and showed a yield advantage of 21.6% over the BVC. DFF, plant height and panicles/m² 25819 were 6482 kg/ha, 97, 124.9 cm and 255 respectively. The HRR was high (61.2%) with intermediate AC of 24.2%.

Altitude wise performance of the entries in AVT2-E (H), Kharif 2019

Rank	IET No./Designation/Cross Combination	GY (kg/ha)/ DFF/GT	% Yield Advantage over NC/ZC/LC	Quality data HRR (%) / AC (%) / GC (mm) / ASV
Low Northern Hills				
1	25819 (Repeat); VL 32224; Vivekdhan 82 / VL 31629	6482 97 LB	6.7 32.0 19.0	61.2 24.2 24 4.0
	Vivekdhan 86 (NC)	6078 90		
	Shalimar Rice3 (ZC)	4909 86		
	Local Check (LC)	5446 92		
Low Southern Hills (±)				
1	25826 (Repeat) TRC 2016-2 Fulbadam / Naveen	4536 106 LS	24.5 42.9 18.1	51.9 26.22 49 4.0
	Vivekdhan 86 (NC)	3644 94		
	Shalimar Rice3 (ZC)	3175 90		
	Local Check (LC)	3840 100		
Medium Northern Hills (±)				
1	25819 (Repeat) VL 32224 Vivekdhan 82 / VL 31629	4859 103 LB	33.3 131.6 21.6	61.2 24.2 24 4.0
2	25826 (Repeat) TRC 2016-2 Fulbadam / Naveen	4457 114 LS	22.2 121.0 11.5	51.9 26.22 49 4.0
	Vivekdhan 86 (NC)	3646 96		
	Shalimar Rice3 (ZC)	2016 86		
	Local Check (LC)	3996 94		
High Hills				
1	26576 SKAU 500 SR-1 / Dular	7380 102 SB	50.5 36.5 5.6	66.6 26.92 45 4.0
	Vivekdhan 86 (NC)	4903 122		
	Shalimar Rice3 (ZC)	5406 101		
	Local Check (LC)	6988 104		

(±), single location considered, hence 10% yield advantage over the BVC is required; Bold Italics: Best check & over the best check; NC- National Check; ZC- Zonal Check; LC- Local Check; GY- Grain yield; DFF- Days to 50% flowering; GT- Grain type; HRR- Head Rice Recovery (%); AC- Amylose content(%); GC- Gel consistency(mm); ASV- Alkali Spreading Value; LB-Long Bold; SB-Short Bold; MS-Medium Slender, LS-Long Slender,

IET 26565 and IET 25826 both exhibited a yield advantage of 7.4% and 11.5% respectively over the BVC. But, the trial data of only one center i.e. Almora was considered as Palampur had low experimental mean and data was not received from Rajouri, therefore a yield advantage of $\geq 10\%$ over the BVC is required for promotion. Therefore, despite the yield advantage IET 26565 was not considered.

High Hills

IET 26576 (SKAU 500) is a product of SR-1/Dular cross, had a yield of 7380 Kg/ha and showed 5.6% yield superiority over the BVC i.e. the LC. The DFF, plant height and panicles/m² of IET 26576 were 102, 119.6 cm, and 380 respectively. IET 26576 had high HRR of 66.6% and AC (26.92%) as well.

Three year (2017, 2018, 2019) performance of the entries at different elevations

S No	IET No. / Designation / Cross Combination	Year	% Yield Advantage over BVC				
			Low Hills		Medium Hills		High Hills
			Northern	Southern	Northern	Southern	
1	25819 (Repeat) VL 32224 Vivekdhan 82 / VL 31629	2017	9.0	-	13.0	-	-
		2018	-	-	35.4	-	-
		2019	6.7	-	21.6	-	-
2	25826 (Repeat) TRC 2016-2 Fulbadam / Naveen	2017	21.0	-	-	-	-
		2018	-	-	44.3	-	-
		2019	-	18.1	-	-	-
3	26576 SKAU 500 SR-1 / Dular	2017	-	-	7.6	-	-
		2018	-	-	-	-	10.3
		2019	-	-	-	-	5.6

Three year (2017, 2018, 2019) performance of the entries at different elevations

S No	IET No. / Designation / Cross Combination	Year	% Yield Advantage over BVC						
			Low Elevation			Medium Elevation			High Hills
			Northern		Southern	Northern			
			ME	HP	KA	UK	HP	JK	
1	25819 (Repeat) VL 32224 Vivekdhan 82 / VL 31629	2017	9 [#]	12	@	-	-	-	-
		2018	@	-	-	35	@	-	-
		2019	-	7	-	22	@	-	-
2	25826 (Repeat) TRC 2016-2 Fulbadam / Naveen	2017	7 [#]	44	@	-	-	@	-
		2018	@	-	5 [#]	44	@	-	-
		2019	-	-	18.1	12 [#]	@	-	-
3	26576 SKAU 500 SR-1 / Dular	2017	-	7	-	-	8 [#]	@	-
		2018	@	-	-	-	-	-	10
		2019	@	-	-	-	@	-	6

@ data not considered due to experimental yield or high CV%;# single location data, required yield advantage to be $\geq 10.0\%$

Three year (2017, 2018, 2019) performance of the entries

Among the four test entries in the third year of testing, only three entries (IET 25819, IET 25826 and IET 26576) performed better than the BVC exhibiting the required yield superiority are discussed below.

IET 25819 (VL 32224) derived from a cross between Vivekdhan 82 / VL 31629 exhibited yield advantage over the BVC in Low Northern Hills only during 2017 and 2019. It

exhibited yield advantage over the BVC in Himachal Pradesh during 2017 (IVT-EH; 12.0%) and 2019 (AVT 2 – EH; 7.0%). In Medium Northern Hills, IET 25819 showed yield superiority over the BVC continuously in 2017, 2018, and 2019. IET 25819 had desirable quality with high HRR (61.2%) and intermediate AC of 24.2%. It outperformed the BVC in 2018 (AVT 1 EH) and 2019 (AVT 2 EH) in Uttarakhand, therefore it is found promising for the state of Uttarakhand and Himachal Pradesh.

IET 25826 (TRC 2016-2) developed from crossing Fulbadam and Naveen is repeat entry that exhibited yield advantage over the BVC, but in three different elevations in the 2017 (Low Northern), 2018 (Medium Northern), and 2019 (Low Southern). Hence, owing to its inconsistent performance it is discontinued.

IET 26576 (SKAU 500) is a product of SR-1 / Dular cross, this entry showed yield superiority of 10.3% in AVT 1 EH (2018) and 5.6% in AVT 2 EH (2019) over BVC in High Hills elevation. IET 26576 exhibited the same yield (10.3% and 5.6%) superiority in Jammu & Kashmir. It had high HRR of 66.6%, AC of 26.92%, and GC was 45%, hence it is found promising for Jammu & Kashmir only.

ADVANCE VARIETY TRIAL 1-EARLY HILLS (AVT 1-E H)

Locations: 11

Test Entries: 12

Checks: Vivekdhan 86 (NC), Shalimar Rice 3 (ZC) and Local Check (LC) Table: 6.7

Advance Varietal Trial 1- Early Hills (AVT 1- E H) consisted of fifteen entries including twelve test entries and three check entries, Vivekdhan 86 as National check, Shalimar rice 3 as Zonal check and a local check. All the test entries were in the second year of testing. The trial was sent to eleven locations, while the data from nine locations was received. At Almora, Khudwani, Pombay and Wadura, sowing and transplanting of trial was taken up during May-June, at Daulakhan, Palampur and Malan during June-July, while at Ponnampet during July-August. The data from Upper Shillong was not included in the analysis as many entries did not flower and hence very low experimental mean. Incidence of blast and BLB was reported among the test entries at Upper Shillong.

Among the check entries, National check- Vivekdhan 86 is the best check on overall basis (4951 kg/ha), at low elevation- Northern (3775 kg/ha) and southern (4947 kg/ha), medium elevation- Northern (4129 kg/ha), while Zonal check- Shalimar Rice 3 is the best check (7534kg/ha) under high elevation. Overall mean yield among the test entries ranged from 2408 kg/ha (IET 27461) to 5085 kg/ha (IET 27472). The experimental mean across test locations varied from 2592 kg/ha (Palampur) to 6400 kg/ha (Khudwani). CV% varied from 4.47 (Wadura) to 12.68 (Ponnampet). Days to 50% flowering varied from 87 days (IET 27464) to 118 days (IET 27461); plant height ranged from 83.78 cm (IET 27461) to 117.7cm (IET 27474) and the number of panicles per square meter ranged from 287 (IET 27466) to 343 (LC).

The data on yield performance, flowering, plant height, panicles per square meter and quality are presented in 6.8, 6.9, 6.10, 6.11 and 6.12. Altitude wise performance of entries is discussed below:

Low Altitude-Northern Hills

AVT 1-E (H) at low altitude Northern hill trial data was received from two centers namely Daulakhan and Malan. The mean yield of the test entries ranged from 2813 kg/ha (IET 27461) to 4351 kg/ha (IET 27468) compared to National Check (3775 kg/ha), Zonal Check (3039 kg/ha) and LC (3313 kg/ha). Days to 50% flowering varied from 84 days (IET 27464) to 116 days (IET 27461) compared to National Check (92), Zonal check (84) and LC (95). Similarly, plant height also exhibited a range from 96.8 cm (IET 27464, IET 27461) to 118.6 cm (IET 27465). The panicles/m² ranged from 225 (IET 27462) to 338 (IET 27472). Among the test entries, IET 27468 ranked first (4351 kg/ha) followed by IET 27471 (4014 kg/ha) and IET 27472 (4002 kg/ha). **Hence, IET 27468, IET 27471 and IET 27472 with required yield superiority and quality were found eligible for promotion AVT2 E (H) under Low Altitude-Northern Hills.**

Low Altitude - Southern Hills

Under low altitude- southern hills, the trial was conducted only at one location namely Ponnampet. The mean yield of the test entries ranged from 58 kg/ha (IET 27464) to 5213 kg/ha (IET 27467) compared to National Check (4947 kg/ha), Zonal Check (1972 kg/ha) and LC (3566 kg/ha). Days to 50% flowering varied from 78 days (IET 27464) to 116 days (IET 27466) compared to National Check (94), Zonal check (98) and LC (96). Similarly, plant height exhibited a range from 74.1 cm (LC, IET 27461) to 122 cm (IET 27463). The panicles/m² ranged from 292 (IET 27472) to 495 (LC). None of the entries recorded the required 10% yield superiority over the best check and **hence none found eligible for promotion AVT2 E (H) under Low Altitude-Southern Hills.**

Medium Altitude – Northern Hills

Medium Altitude - Northern hills, trial data was received from two centers namely Almora and Palampur. The mean yield of the test entries ranged from 935 kg/ha (IET 27464) to 4689 kg/ha (IET 27474) compared to National Check (4129 kg/ha), Zonal Check (3031 kg/ha) and LC (3551 kg/ha). Days to 50% flowering varied from 80 days (IET 27464) to 118 days (IET 27461) compared to National Check (91), Zonal check (88) and LC (90). Similarly, plant height exhibited a range from 89.0 cm (IET 27466) to 122.1 cm (IET 27474). The panicles/m² ranged from 188 (IET 27464) to 261 (LC). Among the test entries, one entry IET 27474 (VL 32308) ranked first (4689 kg/ha) having 13.55% yield superiority over best check. However, quality wise this culture possessed low HRR (35%) and hence discontinued. **None found eligible for promotion AVT2 E (H) under Medium Altitude – Northern Hills.**

High Altitude Hills

High Altitude Hills trial data was received from four locations namely Khudwani, Pombay and Wadura and Upper Shillong. The data received from Upper Shillong was not included in analysis due to low experimental mean (<2500kg/ha). The mean yield of the test entries ranged from 3369 kg/ha (IET 27461) to 7780 kg/ha (IET 27464) compared to National Check (6285 kg/ha), Zonal Check (7534 kg/ha) and LC (6973 kg/ha). Days to 50% flowering varied from 96 days (IET 27464) to 124 days (IET 27466) compared to National Check (123), Zonal check (104) and LC (104). Similarly, plant height exhibited a range from 72.8 cm (IET

27461) to 118.7 cm (LC). The panicles/m² ranged from 275 (IET 27461) to 389 (ZC). None of the entries recorded the required yield superiority over the best check and **hence none found eligible for promotion AVT2 E (H) under High Altitude Hills.**

Performance of the entries in AVT 1-E H, Kharif, 2019

Rank	IET No/ Designation/Cross Combination	GY/ GT	DFF/	% Adv. BC	Yield over	Quality data HRR (%)/AC (%)/GC (mm)/ASV
Low elevation-Northern						
1	IET 27468 (TRC BN-83-372-B-B-18) Bhalum 3 /Naveen	4351 106 LS		15.25 43.17 31.33		55.5 27.28 47 5.0
2	IET 27471 (VL 32292) VL Dhan 85/ RIL 29	4014 89 SB		6.32 32.08 21.15		64.4 24.78 22 4.0
3	IET 27472 (HPR 2865) PLP Purple/ Kasturi	4002 100 LB		6.0 31.68 20.79		54.4 23.78 22 4.0
	Vivekdhan 86 (NC)	3775 92				
	Shalimar Rice 3 (ZC)	3039 84				
	Local Check	3313 95				
Medium Elevation- Northern						
1	IET 27474 (VL 32308) VL Dhan 86 /VL Dhan 221	4689 92 SB		13.55 54.7 32.04		35 26.07 38 4.0
	Vivekdhan 86 (NC)	4129 91				
	Shalimar Rice 3 (ZC)	3031 88				
	Local Check	3551 90				

Best check & over the best check; NC- National Check; ZC- Zonal Check; LC- Local Check; GY- Grain yield; DFF- Days to 50% flowering; GT- Grain type; HRR- Head Rice Recovery (%); AC- Amylose content(%); GC- Gel consistency(mm); ASV- Alkali Spreading Value; LB-Long Bold; SB- Short Bold; MS-Medium Slender, LS-Long Slender,

Entries promoted to third year of testing

IET 27468, IET 27471 and IET 27472: **Low Altitude-Northern Hills**

INITIAL VARIETY TRIAL- EARLY (HILLS) IVT-E (H)**Locations: 10****Test Entries: 20****Checks: Vivekdhan 86 (NC), Shalimar Rice 3 (ZC) and Local Check (LC) Table: 6.13**

Initial Variety Trial – Early Hills [IVT- E (H)] was constituted with 20 test entries and three checks namely Vivekdhan 86 (NC), Shalimar Rice 3 (ZC) and local check. The trial was sent to 11 locations and data was received from ten locations; the data from Bandipore was not received. Of the ten locations, two locations namely Upper Shillong (1078 kg/ha) and Ponnampet (2340 kg/ha) were not considered for data analysis due to low location mean yield (<2500 kg/ha). Data for remaining ten locations was analyzed under three elevations namely low elevations (northern low and southern low), medium elevation and high elevation. Overall mean grain yield ranged from 2663 kg/ha (IET 28199) to 5055 kg/ha (IET 28193), days to 50% flowering ranged from 87 days (IET 28207) to 109 days (IET 28200), plant height from 85.83cm (IET 28202) to 118.55cm (IET 28201) and number of panicles/m² from 203 (IET 28198) to 313 (Local Check). The data pertaining to yield, flowering, plant height and panicles/m² are presented in tables 6.14, 6.15, 6.16 and 6.17. The performance of test entries is described below.

Northern low elevation

Data from Malan and Dhaulakuan of Himachal Pradesh was considered for analysis under northern low elevation. The mean grain yield of entries ranged from 2038 kg/ha (IET 28199) to 4346 kg/ha (IET 28200) while days to 50% flowering ranged from 84 days (IET 28207) to 105 days (IET 28200). Among checks, national check (Vivekdhan 86) recorded maximum grain yield of 3862 kg/ha followed by local check with 3330 kg/ha and zonal check 3074 kg/ha.

Among the test entries, two test entries namely IET 28200 and IET 28196 recorded the required yield advantage over the best check, hence they have been promoted to second year of testing in northern low elevation.

Performance of superior test entries at Northern low elevation in IVT-E (H) during Kharif 2019

IET No./ Designation / Cross Combination	Grain Yield (Kg/ha) Days to 50% Flowering Grain Type	% Yield superiority over (NC/ZC/LC)
IET 28200	4346	12.53
TRC BN-1311-B-B-43-11-1	105	41.37
Bhalum 3/Naveen	LS	30.51
IET 28196	4225	9.39
TRC KS-1512-B-B-1-12-1	100	37.44
Kataktara/Swarna	MB	26.87
Vivekdhan 86 (NC)	3862	
	93	
Shalimar Rice 3 (ZC)	3074	
	86	
Local Check (LC)	3330	
	93	

Bold Italics: Best check & over the best check; NC- National Check; ZC- Zonal Check; LC- Local Check; LB-Long Bold; SB-Short Bold; MS-Medium Slender, LS-Long Slender,

Southern low elevation

Under Southern low elevation, the trial was conducted at only one location i.e. Ponnampet but the data from this location was not considered for analysis due low grain yield (2340 kg/ha). Hence none of the entries is promoted under southern low elevation.

Northern medium elevation

Data from Almora (UT), Palampur (HP) and Rajouri (J&K) was considered for analysis under northern medium elevation. The mean grain yield of the location ranged from 1666 kg/ha (IET 28207) to 3902 kg/ha (IET 28202) with days to 50% flowering from 78 days (IET 28207) to 100 days (IET 28206). Among the checks, national check (Vivekdhhan 86) recorded highest grain yield of 3554 kg/ha followed by local check 3485 kg/ha.

Among the test entries at northern medium elevation, two test entries viz., IET 28202 and IET 28206 recorded significant yield advantage over 5% the best check, hence they have been promoted to second year of testing.

Performance of superior test entries at Northern medium elevation in IVT-E (H) during Kharif 2019

IET No./ Designation/ Cross Combination	Grain Yield (Kg/ha) Days to 50% Flowering Grain Type	% Yield superiority over (NC/ZC/LC)
IET 28202	3902	9.8
VL 32462	92	38.07
VL 31630 / BL 122	LS	11.96
IET 28206	3820	7.48
HPR 3106	100	35.17
HPR 2336 / AC 19146 // HPR 2143	LS	9.61
Vivekdhhan 86 (NC)	3554	
	90	
Shalimar Rice 3 (ZC)	2826	
	84	
Local Check (LC)	3485	
	90	

High elevation

Three locations namely, Khudwani, Pombay and Wadura were considered for analysis at high elevations. Mean grain yield was ranged from 3337 kg/ha (IET 28198) to 7979 kg/ha (IET 28193), while days to 50% flowering ranged from 99 days (IET 28207) to 123 days (Vivekdhhan 86, NC). Among the checks, local check recorded maximum grain yield (7338 kg/ha) followed by local check Vivekdhhan 86 (5580 kg/ha).

Among the test entries at high elevation, three entries, IETs 28193, 28205 and 28192 recorded 8.73%, 6.61% and 5.69% yield gain respectively over the best check. Hence these three entries IETs 28193, 28205 and 28192 are promoted to second year of testing.

Performance of superior test entries at High elevation in IVT-E (H) during Kharif 2019

IET No. / Designation/ Cross Combination	Grain Yield (Kg/ha) Days to 50% Flowering Grain Type	% Yield superiority over (NC/ZC/LC)
IET 28193	7979	42.99
VL 32465	107	62.67
WAB-450-25/Anjali	MS	8.73
IET 28205	7823	40.19
SKUA 536-2	100	59.49
China 1039 / IR 24	MS	6.61
IET 28192	7755	38.97
SKUA 537	101	58.10
Jhelum / IR 24	SB	5.69
Vivekdhan 86 (NC)	5580 123	
Shalimar Rice 3 (ZC)	4905 106	
Local Check (LC)	7338 106	

List of test entries promoted to AVT-1 E (H) for second year of testing are

Elevation	Entries promoted to AVT-1 E (H)
Northern low elevation	IET 28200 and IET 28196
Northern medium elevation	IET 28202 and IET 28206
High elevation	IET 28193, IET 28205 and IET 28192

Table 6.1: Composition of entries in Advanced Variety Trial 2- Early Hills, AVT 2-E (H), Kharif 2019

Entry No.	IET No.	Designation	Cross Combination	Grain Type
3rd Year of testing:				
2101	26565	HPR 2870	HPR 2143 / AC 19146 // VL 30424	LS
2102	Vivekdhan 86 (NC)			
2103	25819 (R)	VL 32224	Vivekdhan 82 / VL 31629	LB
2104	26576	SKAU 500 (K 1356-6-4)	SR-1 / Dular	SB
2105	Shalimar Rice 3 (ZC)			
2106	25826 (R)	TRC 2016-2	Fulbadam / Naveen	LS
2107	Local Check			

Table 6.2: Grain yield (Kg/ha) of entries in AVT-2-E(H) Kharif 2019

IET No	Low Northern								Low Southern(1)	
	HP				HP(2) Mean		Low Northern (2) Mean		SH(1)	
	DLK		MLN						PNP(1)	
26565	5388	3 *	7063	3	6226	2	6226	2	3528	4
Vivekdhan 86 (NC)	4613	4	7542	1	6078	3	6078	3	3644	3
25819 (R)	5438	2 *	7525	2	6482	1 * 7%	6482	1 * 7%	3010	6
26576	4350	6	7054	4	5702	5	5702	5	1398	7
Shalimar Rice3 (ZC)	4125	7	5692	6	4909	7	4909	7	3175	5
25826 (R)	6288	1 *	5463	7	5876	4	5876	4	4536	1 *
Local Check(LC)	4438	5	6454	5	5446	6	5446	6	3840	2
Exp. Mean	4948		6685		5816		5816		3304	
CD	432.33		794.33		350.5		350.5		760.2	
CV%	5.88		8		4.06		4.06		15.49	
D/S	06-06-2019		01-06-2019						14-07-2019	
D/P	07-07-2019		16-07-2019						19-08-2019	
Local Check Name	HPR 1156		HPR-1068						IR-64	

Table 6.2 contd.: Grain yield (Kg/ha) of entries in AVT-2-E(H) Kharif 2019

IET No	Medium Northern						High										Overall(7) Mean				
	UT(1)		HP		Medium Northern (1)		JK						JK(3) Mean		High (3) Mean						
	ALM	PLM@	Mean		KHD		PMB		WDR		JK(3) Mean		High (3) Mean								
26565	4293	3	2321	4	4293	3	7%	4781	5	3264	5	4086	5	4044	5	4044	5	4629	4		
Vivekdhan 86 (NC)	3646	5	3571	1	3646	5		5957	3	3535	4	5218	4	4903	4	4903	4	4879	3		
25819 (R)	4859	1 *	2897	2	4859	1 *	22%	3821	6	3146	6	3391	6	3453	6	3453	6	4456	6		
26576	3185	6	1881	6	3185	6		8560	1	6387	1	7192	1	7380	1	6%	7380	1	6%	5447	2
Shalimar Rice3 (ZC)	2016	7	2274	5	2016	7		5881	4	4817	3	5520	3	5406	3	5406	3	4461	5		
25826 (R)	4457	2	1583	7	4457	2	12%	2695	7			2887	7	2791	7	2791	7	4388	7		
Local Check(LC)	3996	4	2567	3	3996	4		7998	2	6119	2	6846	2	6988	2	6988	2	5670	1		
Exp. Mean	3778.7		2442.18		3778.7			5670.51		4544.67		5019.94		4994.86		4994.86		4937.83			
CD	584.87		515.96		584.87			1665.3		1172.45		1351.65		1351.06		1351.06		742.6			
CV%	10.42		14.22		10.42			19.77		17.12		18.12		18.21		18.21		10.12			
D/S	21-05-2019		22-06-2019					30-04-2019		11-05-2019		07-05-2019									
D/P	26-06-2019		23-07-2019					30-05-2019		12-06-2019		07-06-2019									
Local Check Name	VLD 85		HPR 1068					Shalimar Rice 4		Shalimar Rice 4		Shalimar Rice 4									

Table 6.3: Days to 50% flowering of entries in AVT-2-E(H) Kharif 2019

IET No	Low Northern				Low Southern(1)	Medium Northern			High					Overall(7) Mean
	HP		HP(2)	Low Northern (2)	SH(1)	UT(1)	HP	Medium Northern (1)	JK			JK(3)	High (3)	
	DLK	MLN	Mean	Mean	PNP(1)	ALM	PLM@	Mean	KHD	PMB	WDR	Mean	Mean	
26565	98	100	99	99	103	107	96	107	113	117	111	114	114	107
Vivekdhani 86 (NC)	94	87	90	90	94	96	85	96	120	127	120	122	122	105
25819 (R)	101	94	97	97	94	103	101	103	106	114	106	109	109	103
26576	93	82	88	88	90	95	85	95	99	105	103	102	102	95
Shalimar Rice3 (ZC)	91	82	86	86	90	86	85	86	97	107	99	101	101	93
25826 (R)	108	113	110	110	106	114		114	124		122	123	123	114
Local Check(LC)	96	88	92	92	100	94	100	94	101	108	103	104	104	98
Exp. Mean	97	92	95	95	97	99	92	99	109	113	109	111	111	102

Table 6.4: Plant height (cm) of entries in AVT-2-E(H) Kharif 2019

IET No	Low Northern				Low Southern(1)	Medium Northern			High					Overall(7) Mean
	HP		HP(2)	Low Northern (2)	SH(1)	UT(1)	HP	Medium Northern (1)	JK			JK(3)	High (3)	
	DLK	MLN	Mean	Mean	PNP(1)	ALM	PLM@	Mean	KHD	PMB	WDR	Mean	Mean	
26565	120.00	104.80	112.40	112.40	82.42	110.50	88.20	110.50	94.80	86.50	98.30	93.20	93.20	99.62
Vivekdhani 86 (NC)	125.00	115.70	120.35	120.35	102.58	126.50	109.60	126.50	123.85	111.70	118.60	118.05	118.05	117.70
25819 (R)	127.00	122.80	124.90	124.90	101.75	126.25	97.30	126.25	120.85	109.20	122.50	117.52	117.52	118.62
26576	105.00	112.60	108.80	108.80	97.83	124.00	103.00	124.00	125.50	112.60	120.70	119.60	119.60	114.03
Shalimar Rice3 (ZC)	104.00	109.70	106.85	106.85	102.33	110.25	104.80	110.25	127.40	110.80	123.60	120.60	120.60	112.58
25826 (R)	116.00	95.60	105.80	105.80	79.92	112.25	99.50	112.25	85.05		91.20	88.13	88.13	96.67
Local Check(LC)	126.00	90.90	108.45	108.45	68.75	123.75	78.60	123.75	124.10	113.20	119.70	119.00	119.00	109.49
Exp. Mean	117.57	107.44	112.51	112.51	90.80	119.07	97.29	119.07	114.51	107.33	113.51	110.87	110.87	109.82

Table 6.5: No. of Panicles/m² of entries in AVT-2-E(H) Kharif 2019

IET No	Low Northern				Low Southern(1)	Medium Northern			High					Overall(7) Mean
	HP		HP(2)	Low Northern (2)	SH(1)	UT(1)	HP	Medium Northern (1)	JK			JK(3)	High (3)	
	DLK	MLN	Mean	Mean	PNP(1)	ALM	PLM@	Mean	KHD	PMB	WDR	Mean	Mean	
26565	436	365	400	400	363	227	235	227	359	306	324	329	329	340
Vivekdhani 86 (NC)	295	248	271	271	249	232	193	232	345	266	333	315	315	281
25819 (R)	256	255	255	255	326	251	191	251	302	265	313	294	294	281
26576	309	238	273	273	312	229	207	229	420	311	410	380	380	318
Shalimar Rice3 (ZC)	177	264	221	221	330	208	170	208	322	277	302	300	300	269
25826 (R)	344	210	277	277	389	228		228	256		253	254	254	280
Local Check(LC)	439	328	383	383	414	242	217	242	391	334	413	379	379	366
Exp. Mean	322	272	297	297	340	231	202	231	342	293	335	322	322	305

Table 6.6: Grain quality characteristics of entries in AVT 2-E (H), Kharif 2019

ENTRY NO.	IET NO.	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
2101	26565	76.3	68.9	41	7.27	2.14	3.39	LS	VOC	4	26.07	22
2102	Vivekdhan-86	78.6	69.3	50.5	5.62	2.55	2.2	SB	VOC	4	24.64	22
2103	25819	76.1	69.9	61.2	6.31	2.12	2.97	LB	A	4	24.2	24
2104	26576	78.1	69.4	66.6	5.69	2.48	2.29	SB	OC	4	26.92	45
2105	Shalimar Rice-3	77.8	70.1	68.1	5.6	2.42	2.31	SB	VOC	4	25.54	22
2106	25826	76.3	66.8	51.9	6.33	1.93	3.27	LS	VOC	4	26.22	49

HULL: Hulling (%); MILL: Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB::Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

Table 6.7: Composition of entries in Advanced Variety Trial 1- Early Hills, AVT 1-E (H), Kharif 2019

Entry No.	IET No.	Designation	Cross Combination	Grain Type
2nd Year of testing				
2201	27464	SKUA 521-1 (K 11-15-1-9)	Jhelum / Shalimar Rice 1 // Jhelum	SB
2202	27462	HPR 2913	HPR 2143 / Balwan	LS
2203	27466	TRC KS-20-114-B-B-37	Kataktara / Swarna	LS
2204	27463	VL 32303	VL Dhan 86 / VL Dhan 221	SB
2205	Vivekdhan 86 (NC)			
2206	27472	HPR 2865	PLP Purple / Kasturi	LB
2207	27474	VL 32308	VL Dhan 86 / VL Dhan 221	SB
2208	27468	TRC BN -83-372-B-B-18	Bhalum 3 / Naveen	LS
2209	Shalimar Rice 3 (ZC)			
2210	27465	HPR 2864	Hasan Serai / T 23 // IR 67011	LS
2211	27461	TRC BN-102-142-B-B-1	Bhalum 3 / Naveen	LS
2212	27476	HPR 2912	HPR 2143 / Balwan	LS
2213	27471	VL 32292	VL Dhan 85 / RIL 29	SB
2214	27467	VL 32300	VL Dhan 86 / VL Dhan 221	SB
2215	Local Check			

Table 6.8: Grain yield (Kg/ha) of entries in AVT-1-E (H) Kharif 2019

Table 6.8 contd: Grain yield (Kg/ha) of entries in AVT-1-E (H) Kharif 2019

IET No	Medium Northern					
	UT(1)		HP(1)		Medium Northern (2)	
	ALM		PLM		Mean	
27464	873		997		935	
27462	2817		3609	4	3213	10
27466	5524	2	119		2821	
27463	4756	5	3680	3	4218	3
Vivekdhan 86 (NC)	4413	7	3846	1	4129	4
27472	5056	4	2303		3679	5
27474	5532	1	3846	1	4689	1* 13.55%
27468	4741	6	1187		2964	
Shalimar Rice3 (ZC)	2929		3134	9	3031	
27465	4063	9	2540	10	3302	9
27461	3190		142		1666	
27476	3341		3561	5	3451	8
27471	5095	3	3443	6	4269	2
27467	4127	8	3229	8	3678	6
Local Check (LC)	3849	10	3253	7	3551	7
Exp. Mean	4020		2593		3307	
CD	468.88		451		326.07	
CV%	6.97		8.76		5.86	
D/S	20-05-2019		22-06-2019			
D/P	26-06-2019		21-07-2019			
Local Check Name	VLD 85		HPR 1068			

Table 6.8 contd: Grain yield (Kg/ha) of entries in AVT-1-E (H) Kharif 2019

IET No	High										High (3) Mean		Overall (8) Mean	
	JK						JK(3) Mean		ME					
	KHD		PMB		WDR				USG@					
27464	8626	1	6297	1	8418	1	7780	1			7780	1	3797	
27462	6974	9	4950	8	6117	10	6014	10	1800	3	6014	10	4475	9
27466	3146				4006		3576				3576		3213	
27463	7367	5	4788	9	6679	8	6278	8	1000	9	6278	8	4755	6
Vivekdhan 86 (NC)	7333	6	4753	10	6768	6	6285	7	1600	5	6285	7	4951	4
27472	7791	3	5770	5	7191	5	6917	4			6917	4	5085	1
27474	6989	8	5823	4	6243	9	6352	6	1020	8	6352	6	5072	2
27468	3814				4219	13	4017				4017		3690	
Shalimar Rice3 (ZC)	8578	2	6144	2	7880	2	7534	2	1633	4	7534	2	4589	8
27465	5425		4493		5890		5269				5269		4023	
27461	3083				3655		3369				3369		2408	
27476	6896	10	5103	7	6703	7	6234	9	1993	2	6234	9	4726	7
27471	7253	7	5272	6	7462	3	6662	5	1200	6	6662	5	5065	3
27467	5041				4238		4639		1180	7	4639		4106	10
Local Check (LC)	7698	4	5860	3	7361	4	6973	3	2547	1	6973	3	4777	5
Exp. Mean	6401		5387		6189		5860		1553		5860		4316	
CD	937.94		730.71		463.36		422.06		269.3		453.01		243.09	
CV%	8.76		7.96		4.47		4.77		265		4.6		3.31	
D/S	30-04-2019		11-05-2019		07-05-2019				30-04-2019					
D/P	30-05-2019		12-06-2019		07-06-2019				14-06-2019					
Local Check Name	Shalimar Rice 4		Shalimar Rice 4		Shalimar Rice 4				Meg-1					

Table 6.9: Days to 50% flowering of entries in AVT-1-E(H) Kharif 2019

IET No	Low Northern				Low Southern(1)	Medium Northern		
	HP		HP(2) Mean	Low Northern (2)	SH(1)	UT(1)	HP(1)	Medium Northern (2)
	DLK	MLN		Mean	PNP	ALM	PLM	Mean
27464	90	78	84	84	78	83	77	80
27462	96	96	96	96	97	95	90	93
27466	94	119	107	107	116	118		118
27463	91	87	89	89	94	91	85	88
Vivekdhan 86 (NC)	94	90	92	92	94	98	85	91
27472	101	99	100	100	105	107	102	104
27474	90	90	90	90	95	96	88	92
27468	107	106	106	106	105	110		110
Shalimar Rice3 (ZC)	90	79	84	84	98	90	85	88
27465	98	98	98	98	106	107	101	104
27461	110	123	116	116	113	118		118
27476	95	91	93	93	91	97	90	93
27471	91	87	89	89	94	95	85	90
27467	98	88	93	93	94	95	88	92
Local Check (LC)	95	95	95	95	96	90	91	90
Exp. Mean	96	95	96	96	98	99	89	97

Table 6.9 contd.: Days to 50% flowering of entries in AVT-1-E(H) Kharif 2019

IET No	High					High (3) Mean	Overall(8) Mean
	JK			JK(3) Mean	ME		
	KHD	PMB	WDR		USG@		
27464	93	98	96	96	63	96	87
27462	107	115	105	109	79	109	100
27466	125		122	124		124	116
27463	110	117	112	113	80	113	98
Vivekdhan 86 (NC)	121	127	122	123	78	123	104
27472	112	119	111	114		114	107
27474	113	120	116	116	81	116	101
27468	119		116	117		117	110
Shalimar Rice3 (ZC)	101	112	100	104	80	104	94
27465	107	115	110	111	82	111	105
27461	124		122	123		123	118
27476	105	113	106	108	81	108	98
27471	102	112	102	105	81	105	96
27467	124		122	123	83	123	101
Local Check (LC)	102	109	100	104	68	104	97
Exp. Mean	111	114	111	113	78	113	102

Table 6.10: Plant height (cm) of entries in AVT-1-E(H) Kharif 2019

IET No	Low Northern				Low Southern(1)	Medium Northern		
	HP		HP(2)	Low Northern (2)	SH(1)	UT(1)	HP(1)	Medium Northern (2)
	DLK	MLN	Mean	Mean	PNP	ALM	PLM	Mean
27464	101.00	92.60	96.80	96.80	84.88	87.67	93.50	90.58
27462	108.00	100.60	104.30	104.30	91.38	107.00	90.20	98.60
27466	115.00	87.00	101.00	101.00	78.88	89.00		89.00
27463	114.00	118.60	116.30	116.30	122.00	123.00	108.50	115.75
Vivekdhan 86 (NC)	120.00	114.60	117.30	117.30	113.75	126.00	106.10	116.05
27472	129.00	104.40	116.70	116.70	113.75	121.67	95.50	108.58
27474	125.00	111.00	118.00	118.00	115.63	132.00	112.30	122.15
27468	121.00	86.60	103.80	103.80	77.25	98.33	80.20	89.27
Shalimar Rice3 (ZC)	107.00	102.00	104.50	104.50	114.63	112.33	109.50	110.92
27465	122.00	115.20	118.60	118.60	114.75	122.33	109.90	116.12
27461	107.00	86.60	96.80	96.80	74.13	89.33		89.33
27476	119.00	105.60	112.30	112.30	91.75	106.00	94.00	100.00
27471	102.00	104.40	103.20	103.20	110.50	117.67	106.50	112.08
27467	126.00	103.40	114.70	114.70	113.25	126.00	110.90	118.45
Local Check (LC)	121.00	91.80	106.40	106.40	74.13	117.67	81.10	99.38
Exp. Mean	115.80	101.63	108.71	108.71	99.38	111.73	99.86	105.08

Table 6.10 contd.: Plant height (cm) of entries in AVT-1-E(H) Kharif 2019

IET No	High					Overall(8) Mean
	JK			JK(3)	High (3)	
	KHD	PMB	WDR	Mean	Mean	
27464	109.60	100.40	112.50	107.50	107.50	97.77
27462	101.10	92.80	104.60	99.50	99.50	99.46
27466	74.80		82.70	78.75	78.75	87.90
27463	122.50	105.60	115.60	114.57	114.57	116.23
Vivekdhan 86 (NC)	122.40	102.80	112.70	112.63	112.63	114.79
27472	105.10	97.60	107.30	103.33	103.33	109.29
27474	122.00	108.70	115.00	115.23	115.23	117.70
27468	76.00		79.30	77.65	77.65	88.38
Shalimar Rice3 (ZC)	123.40	111.80	119.00	118.07	118.07	112.46
27465	75.10	71.60	72.80	73.17	73.17	100.46
27461	75.00		70.60	72.80	72.80	83.78
27476	97.10	90.80	102.30	96.73	96.73	100.82
27471	107.10	98.40	110.70	105.40	105.40	107.16
27467	119.80		114.80	117.30	117.30	116.31
Local Check (LC)	124.20	111.50	120.60	118.77	118.77	105.25
Exp. Mean	103.68	99.27	102.70	100.76	100.76	103.85

Table 6.11: No. of Panicles/m2 of entries in AVT-1-E(H) Kharif 2019

IET No	Low Northern				Low Southern(1)	Medium Northern		
	HP		HP(2)	Low Northern (	SH(1)	UT(1)	HP(1)	Medium Northern (2)
	DLK	MLN	Mean	Mean	PNP(1)	ALM	PLM	Mean
27464	385	251	318	318	446	120	257	188
27462	275	175	225	225	402	213	212	213
27466	278	258	268	268	352	259		259
27463	340	218	279	279	402	211	215	213
Vivekdhan 86 (NC)	356	257	307	307	429	272	198	235
27472	282	394	338	338	292	238	173	206
27474	216	267	241	241	380	242	217	230
27468	395	177	286	286	468	301	161	231
Shalimar Rice3 (ZC)	255	242	249	249	385	163	222	192
27465	432	163	298	298	336	228	247	238
27461	353	297	325	325	391	190		190
27476	272	205	238	238	385	209	212	211
27471	295	215	255	255	385	287	226	257
27467	263	286	274	274	435	239	240	240
Local Check (LC)	322	273	298	298	495	240	282	261
Exp. Mean	315	245	280	280	399	227	220	224

Table 6.11 contd.: No. of Panicles/m2 of entries in AVT-1-E(H) Kharif 2019

IET No	High					High (3) Mean	Overall(8) Mean
	JK			JK(3)	ME		
	KHD	PMB	WDR	Mean	USG@		
27464	344	267	350	320		320	302
27462	386	304	403	364	261	364	296
27466	284		289	287		287	287
27463	418	295	415	376	186	376	314
Vivekdhan 86 (NC)	380	280	404	355	208	355	322
27472	390	324	384	366		366	310
27474	361	331	409	367	208	367	303
27468	326		311	318		318	305
Shalimar Rice3 (ZC)	414	338	415	389	268	389	304
27465	367	223	337	309		309	292
27461	280		269	275		275	296
27476	420	315	386	374	262	374	301
27471	432	297	414	381	181	381	319
27467	327		354	341	189	341	306
Local Check (LC)	389	336	410	378	231	378	343
Exp. Mean	368	301	370	347	222	347	307

Table 6.12: Grain quality characteristics of entries in AVT 1-E (H), Kharif 2019

ENTRY NO.	IET NO.	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
2201	27464	76.6	69.1	66.0	5.82	2.53	2.30	SB	VOC	4.0	23.29	22
2202	27462	81.0	71.7	58.4	7.03	2.15	3.26	LS	VOC	4.0	23.96	59
2203	27466	77.8	70.3	63.4	6.91	2.12	3.25	LS	VOC	5.0	20.62	24
2204	27463	78.2	72.6	54.5	5.78	2.57	2.24	SB	VOC	4.0	24.99	37
2205	Vivekdhan-86	77.4	69.8	53.1	5.11	2.60	1.96	SB	VOC	4.0	24.49	24
2206	27472	75.0	66.4	54.4	6.08	2.54	2.39	LB	OC	4.0	23.78	22
2207	27474	77.4	67.7	35.0	5.65	2.56	2.20	SB	VOC	4.0	26.07	38
2208	27468	75.7	66.9	55.5	6.92	2.08	3.32	LS	VOC	5.0	27.28	47
2209	Shalimar Rice-3	77.2	70.7	68.1	5.76	2.43	2.37	SB	OC	4.0	25.66	22
2210	27465	80.0	70.4	55.7	6.95	1.89	3.67	LS	VOC	5.0	23.70	24
2211	27461	76.8	69.7	58.5	6.54	2.14	3.05	LS	A	7.0	24.37	44
2212	27476	81.0	73.0	58.8	6.90	2.11	3.27	LS	VOC	4.0	22.32	60
2213	27471	78.7	71.4	64.4	5.81	2.43	2.39	SB	OC	4.0	24.78	22
2214	27467	78.6	71.1	61.2	5.58	2.53	2.20	SB	VOC	5.0	26.81	25

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB:Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

Table 6.13: Composition of entries in Initial Variety Trial - Early Hills, IVT -E (H), Kharif 2019

Entry No.	IET No.	Designation	Cross Combination	Grain Type
1st Year of testing				
2301	28188	VL 32434	VL31339 / VSR 8	LS
2302	28189	SKUA 539	Jhelum / Pusa Sughand-3	SB
2303	28190	HPR 3101	HPR 2001/ Bhalvan 1 // HPR 2143	LS
2304	28191	TRC FS -1505-B-B-47-1-1	Fulbadam / Swarna	LS
2305	28192	SKUA 537	Jhelum / IR 24	SB
2306	28193	VL 32465	WAB-450-25 / Anjali	MS
2307	Vivekdhan 86 (NC)			
2308	28194	HPR 3105	HPR 2336 / AC 19146 // HPR 2143	MS
2309	28195	SKUA 536-1	China 1039 / IR 24	MS
2310	28196	TRC KS -1512-B-B-1-12-1	Kataktara / Swarna	MB
2311	28197	VL 32463	WAB-450-25 / Anjali	LB
2312	28198	HPR 3103	HPR2512 / AC 19146 // HPR 2143	LS
2313	28199	SKUA 485	Mushk budji / DH Mas	SB
2314	Shalimar Rice 3 (ZC)			
2315	28200	TRC BN -1311-B-B-43-11-1	Bhalum3 / Naveen	LS
2316	28201	SKUA 538	SKUA-389 / Dular / K-332	SB
2317	28202	VL 32462	VL 31630 / BL 122	LS
2318	28203	HPR 3102	HPR 2001 / Bhalvan 1 // HPR 2143	MS
2319	28204	SKUA 540	China 1007 / SKUA-389	MS
2320	28205	SKUA 536-2	China 1039 / IR 24	MS
2321	28206	HPR 3106	HPR 2336 / AC 19146 // HPR 2143	LS
2322	28207	SKUA 533-1	Jhelum / Shalimar Rice-1 // Jhelum	MS
2323	Local Check			

Table 6.14: Grain yield (Kg/ha) of entries in IVT-E(H) Kharif 2019

IET No	Low Northern								Low Southern(1)	
	HP				HP(2) Mean		Low Northern (2) Mean		SH	
	DLK		MLN						PNP@	
28188	3986	6	5.51%	2414		3200		3200	3033	8
28189	3750			3343		3546	7	3546	1239	
28190	3806	8		3457	7	3631	5	3631	4596	1
28191	3764	10		2514		3139		3139	2300	
28192	2639			2879		2759		2759	417	
28193	3111			2821		2966		2966	2944	
Vivekdhan 86 (NC)	2889			4836	1	3862	3	3862	4147	2
28194	4056	5	7.35%	3350	9	3703	4	3703	3117	7
28195	3556			2350		2953		2953	484	
28196	5000	1*	32.35%	3450	8	4225	2	4225	2602	
28197	2778			3236		3007		3007	2966	9
28198	3889	7		1636		2762		2762	2624	
28199	2806			1271		2038		2038	204	
Shalimar Rice 3 (ZC)	3778	9		2371		3075		3075	2185	
28200	4778	2*	26.47%	3914	4	4346	1	4346	2567	
28201	2639			3643	6	3141		3141	790	
28202	2917			3707	5	3312		3312	3841	6
28203	2972			3921	3	3447	8	3447	3877	5
28204	3167			3293		3230		3230	1625	
28205	4250	3	12.50%	2386		3318	10	3318	67	
28206	4111	4	8.82%	3064		3588	6	3588	4099	3
28207	2917			2064		2490		2490	102	
Local Check (LC)	2639			4021	2	3330	9	3330	3996	4
Exp. Mean	3487			3041		3264		3264	2340	
CD	866.88			938.74		505.01		505.01	1077.39	
CV%	10.92			12.71		5.74		5.74	14.12	
D/S	06-06-2019			01-06-2019					14-07-2019	
D/P	07-07-2019			16-07-2019					21-08-2019	
Local Check Name	HPR 1156			HPR-1068					IR-64	

Table 6.14 contd.: Grain yield (Kg/ha) of entries in IVT-E(H) Kharif 2019

IET No	Medium Northern										Medium Northern (3) Mean	
	UT(1)		HP(1)		JK(1)							
	ALM		PLM		RJR							
28188	4929	1*	10.40%	2116		2850	10	3298				
28189	4643	8		3571	4	2100		3438	9			
28190	4893	3*	9.60%	3704	2	2400		3666	4			
28191	4619	10		2778		2050		3149				
28192	667			1534		4250	1* 41.67%	2150				
28193	4660	7		2513		3400	2 13.13%	3524	6			
Vivekdhan 86 (NC)												
	3833			4630	1	2200		3554	5			
28194	4643	8		3399	7	2500		3514	7			
28195	3405			3175	9	2100		2893				
28196	4452			2579		2900	9	3311				
28197	4321			3175	9	2550		3349	10			
28198	2107			2646		2850	10	2534				
28199	1730			992		2550		1757				
Shalimar Rice 3 (ZC)												
	1907			3571	4	3000	7	2826				
28200	4881	4*	9.33%	1918		1650		2816				
28201	3643			3175	9	1800		2872				
28202	4920	2*	10.21%	3638	3	3150	4 5%	3903	1* 9.80%			
28203	4798	6*	7.47%	3241	8	3050	6	3696	3			
28204	3119			2447		1800		2455				
28205	3512			2315		3100	5	2976				
28206	4821	5 *	8%	3439	6	3200	3 6.67%	3820	2 7.48%			
28207	1524			1124		2350		1666				
Local Check (LC)												
	4464			3042		2950	8	3486	8			
Exp. Mean	3760			2814		2641		3072				
CD	263.08			914.41		911.66		435.3				
CV%	12.9			13.14		12.19		5.59				
D/S	20-05-2019			22-06-2019		02-06-2019						
D/P	26-06-2019			21-07-2019		26-06-2019						
Local Check Name	VID 85			HPR 1068		K39						

Table 6.14 contd.: Grain yield (Kg/ha) of entries in IVT-E(H) Kharif 2019

IET No	High												Overall(8) Mean	
	JK					JK(3)		ME		High (3) Mean				
	KHD		PMB		WDR		Mean	USG@						
28188	3750		2885		4338		3658				3658		3408	
28189	8400	5	6595	2 6.63%	7916	4	7637	4		4	7637	4	5040	2
28190	8200	6	5493	9	6585	10	6759	8	1050	8	6759	8	4817	5
28191	4120		3085		3756		3654				3654		3336	
28192	8973	3 10.77%	6273	5	8023	3	7756	3 5.69%	910	3 5.69%	7756	3	4405	10
28193	9000	2 11.11%	6745	1 9.05%	8193	1 5.98%	7979	1* 8.73%		1* 8.73%	7979	1	5055	1 3.34%
Vivekdhan 86 (NC)	5600				5561		5580		975		5580		4221	
28194	5500		3395		4613		4503		950		4503		3932	
28195	9018	1 11.33%	6360	4	7488	6	7622	5	1250	5	7622	5	4681	7
28196	4650		4045		5978		4891		850		4891		4132	
28197	6233		4410		5743		5462				5462		4056	
28198	3100				3575		3338				3338		2829	
28199	4223		3428		4310		3987				3987		2664	
Shalimar Rice 3 (ZC)	5600		4578		4540		4906		1050		4906		3668	
28200	4242				5280		4761				4761		3809	
28201	7925	8	5358	10	7420	7	6901	7	1050	7	6901	7	4450	9
28202	7063	10	5504	8	6338		6301				6301		4654	8
28203	7440	9	6009	7	6643	9	6697	9	800	9	6697	9	4759	6
28204	6353		4113		6365		5610		940		5610		3832	
28205	8750	4 8.02%	6553	3 5.94%	8169	2 5.67%	7824	2* 6.61%	945	2* 6.61%	7824	2	4879	4
28206	4825		3051		5338		4405				4405		3981	
28207	7023		5310		7113	8	6482	10	915	10	6482	10	3678	
Local Check (LC)	8100	7	6185	6	7730	5	7338	6	2330	6	7338	6	4891	3
Exp. Mean	6439		4969		6131		5828		1078		5828		4138	
CD	1016.46		961.89		860.73		435.3		239.6		435.3		580.99	
CV%	13.06		9.18		6.73		5.59		10.08		5.59		6.5	
D/S	30-04-2019		11-05-2019		07-05-2019				30-04-2019					
D/P	30-05-2019		12-06-2019		07-06-2019				21-06-2019					
Local Check Name	Shalimar Rice 4		Shalimar Rice 4		Shalimar Rice 4				Meg-3					

Table 6.15: Days to 50% flowering of entries in IVT-E(H) Kharif 2019

IET No	Low Northern				Low Southern(1)	Medium Northern			
	HP		HP(2)	Low Northern (2)	SH	UT(1)	HP(1)	JK(1)	Medium Northern (3) Mean
	DLK	MLN	Mean	Mean	PNP@	ALM	PLM	RJR	
28188	96	99	97	97	100	108	102	88	99
28189	93	85	89	89	85	90	85	85	87
28190	96	97	96	96	98	98	96	88	94
28191	96	89	92	92	99	108	92	84	95
28192	92	84	88	88	82	87	85	85	86
28193	92	86	89	89	99	95	93	78	88
Vivekdhan 86 (NC)	94	91	93	93	92	95	88	88	90
28194	96	93	94	94	104	107	96	94	99
28195	91	88	89	89	90	95	88	88	90
28196	101	99	100	100	98	102	100	87	96
28197	92	95	93	93	102	93	90	76	86
28198	98	100	99	99	102	108	102	76	95
28199	92	86	89	89	89	92	85	89	88
Shalimar Rice 3 (ZC)	91	81	86	86	98	90	85	77	84
28200	103	107	105	105	104	108		91	99
28201	93	81	87	87	88	91	85	77	84
28202	95	91	93	93	96	96	90	90	92
28203	96	98	97	97	95	104	95	77	92
28204	91	78	84	84	94	90	85	74	83
28205	92	80	86	86	85	92	85	79	85
28206	94	91	93	93	99	107	96	97	100
28207	93	75	84	84	77	85	75	74	78
Local Check (LC)	95	91	93	93	102	90	97	84	90
Exp. Mean	94	90	92	92	95	97	91	83	90

Table 6.15 contd.: Days to 50% flowering of entries in IVT-E(H) Kharif 2019

IET No	High					High (3) Mean	Overall(8) Mean
	JK			JK(3)	ME		
	KHD	PMB	WDR	Mean	USG@		
28188	112	121	115	116	95	116	105
28189	102	108	99	103	76	103	93
28190	106	112	105	107	76	107	99
28191	113	120	110	114	91	114	101
28192	98	106	100	101	76	101	92
28193	103	114	103	107		107	95
Vivekdhan 86 (NC)	125		122	123	75	123	100
28194	112	117	109	113	85	113	103
28195	99	107	101	102	75	102	94
28196	110	120	111	114	84	114	104
28197	108	118	105	110	90	110	97
28198	117		115	116		116	102
28199	98	107	99	101		101	93
Shalimar Rice 3 (ZC)	102	111	105	106	75	106	93
28200	120		123	122		122	109
28201	102	109	103	105	74	105	92
28202	110	118	108	112	86	112	100
28203	108	114	106	109	82	109	100
28204	100	108	97	101	76	101	90
28205	97	105	100	100	76	100	91
28206	113	120	110	114		114	103
28207	95	104	98	99	77	99	87
Local Check (LC)	104	109	105	106	60	106	97
Exp. Mean	106	112	106	109	79	109	97

Table 6.16: Plant height (cm)of entries in IVT-E(H) Kharif 2019

IET No	Low Northern				Low Southern(1)	Medium Northern			
	HP		HP(2) Mean	Low Northern (2) Mean	SH	UT(1)	HP(1)	JK(1)	Medium Northern (3) Mean
	DLK	MLN			PNP@	ALM	PLM	RJR	
28188	108.00	114.20	111.10	111.10	95.00	113.50	91.80	109.00	104.77
28189	125.00	116.20	120.60	120.60	112.25	121.50	114.00	103.60	113.03
28190	118.00	105.80	111.90	111.90	93.38	107.50	99.40	83.60	96.83
28191	101.00	88.60	94.80	94.80	77.88	95.00	84.20	102.00	93.73
28192	102.00	101.60	101.80	101.80	91.50	101.50	100.40	95.80	99.23
28193	112.00	125.20	118.60	118.60	115.38	119.00	103.30	109.40	110.57
Vivekdhan 86 (NC)	118.00	114.80	116.40	116.40	105.00	114.00	103.40	117.60	111.67
28194	98.00	96.00	97.00	97.00	84.75	117.50	88.00	79.20	94.90
28195	107.00	111.00	109.00	109.00	101.88	111.50	104.00	112.00	109.17
28196	125.00	117.80	121.40	121.40	105.00	116.50	100.20	106.80	107.83
28197	120.00	126.60	123.30	123.30	121.00	120.00	108.70	101.80	110.17
28198	117.00	107.40	112.20	112.20	91.25	97.50	88.10	106.60	97.40
28199	108.00	120.70	114.35	114.35	96.50	119.00	113.20	92.40	108.20
Shalimar Rice 3 (ZC)	99.00	111.20	105.10	105.10	116.13	125.00	111.80	103.80	113.53
28200	130.00	104.00	117.00	117.00	100.88	124.50	87.00	96.60	102.70
28201	110.00	118.80	114.40	114.40	113.50	119.50	112.80	136.80	123.03
28202	91.00	86.40	88.70	88.70	81.88	93.00	75.70	84.20	84.30
28203	105.00	107.60	106.30	106.30	93.25	101.50	87.20	90.20	92.97
28204	98.00	106.80	102.40	102.40	119.00	116.00	101.30	97.40	104.90
28205	91.00	106.80	98.90	98.90	88.88	106.00	98.20	101.80	102.00
28206	104.00	101.60	102.80	102.80	85.00	110.00	85.80	98.80	98.20
28207	82.00	97.00	89.50	89.50	87.75	105.00	86.70	78.20	89.97
Local Check (LC)	120.00	90.60	105.30	105.30	69.63	118.50	81.80	108.40	102.90
Exp. Mean	108.22	107.68	107.95	107.95	97.68	111.87	96.83	100.70	103.13

Table 6.16 contd.: Plant height (cm) of entries in IVT-E(H) Kharif 2019

IET No	High					High (3) Mean	Overall(8) Mean
	JK			JK(3)	ME		
	KHD	PMB	WDR	Mean	USG@		
28188	98.10	82.40	94.70	91.73		91.73	101.46
28189	126.70	106.70	120.10	117.83		117.83	116.73
28190	99.70	90.50	102.20	97.47		97.47	100.84
28191	89.60	83.60	92.50	88.57		88.57	92.06
28192	109.30	98.80	111.70	106.60		106.60	102.64
28193	112.10	102.20	108.60	107.63		107.63	111.48
Vivekdhan 86 (NC)	115.60		113.80	114.70		114.70	113.89
28194	93.40	85.20	90.20	89.60		89.60	93.44
28195	119.50	107.80	122.60	116.63		116.63	111.93
28196	105.90	93.60	103.70	101.07		101.07	108.69
28197	108.90	95.90	110.60	105.13		105.13	111.56
28198	92.80		89.20	91.00		91.00	99.80
28199	126.80	112.50	123.10	120.80		120.80	114.46
Shalimar Rice 3 (ZC)	115.40	102.30	112.70	110.13		110.13	110.15
28200	100.40		98.10	99.25		99.25	105.80
28201	125.80	103.10	121.60	116.83		116.83	118.55
28202	85.40	81.70	89.20	85.43		85.43	85.83
28203	95.20	86.20	92.60	91.33		91.33	95.69
28204	117.80	107.60	120.30	115.23		115.23	108.15
28205	111.70	97.00	107.70	105.47		105.47	102.53
28206	94.10	86.50	94.60	91.73		91.73	96.93
28207	112.90	100.20	110.00	107.70		107.70	96.50
Local Check (LC)	118.00	105.10	121.40	114.83		114.83	107.98
Exp. Mean	107.61	96.45	106.57	103.77		103.77	104.65

Table 6.17: No. of Panicles/m² of entries in IVT-E(H) Kharif 2019

IET No	Low Northern				Low Southern(1)	Medium Northern			
	HP		HP(2) Mean	Low Northern (2) Mean	SH	UT(1)	HP(1)	JK(1)	Medium Northern (3) Mean
	DLK	MLN			PNP@	ALM	PLM	RJR	
28188	189	243	216	216	297	246	207	245	233
28189	343	200	272	272	347	260	249	260	256
28190	326	180	253	253	435	240	224	265	243
28191	283	190	236	236	396	203	242	270	238
28192	275	188	231	231	446	113	186	215	171
28193	233	183	208	208	374	184	140	248	190
Vivekdhan 86 (NC)	297	230	263	263	297	254	217	280	250
28194	212	255	233	233	512	211	326	251	263
28195	213	265	239	239	385	258	249	235	247
28196	274	155	214	214	407	264	193	310	255
28197	243	155	199	199	314	235	147	179	187
28198	153	158	155	155	292	194	184	235	204
28199	168	343	255	255	429	217	280	325	274
Shalimar Rice 3 (ZC)	212	188	200	200	336	208	238	175	207
28200	393	150	272	272	336	288	172	295	251
28201	273	255	264	264	336	226	196	225	216
28202	237	288	262	262	451	281	273	315	290
28203	356	250	303	303	336	200	277	355	277
28204	212	238	225	225	363	207	186	285	226
28205	237	335	286	286	429	229	256	250	245
28206	396	205	300	300	523	252	256	290	266
28207	206	265	235	235	473	165	210	275	217
Local Check (LC)	338	278	308	308	424	296	273	295	288
Exp. Mean	264	226	245	245	388	227	225	264	239

Table 6.17 contd.: No. of Panicles/m² of entries in IVT-E(H) Kharif 2019

IET No	High					High (3) Mean	Overall(8) Mean
	JK			JK(3)	ME		
	KHD	PMB	WDR	Mean	USG@		
28188	263	228	219	237		237	230
28189	354	277	354	328		328	287
28190	363	252	353	323	124	323	275
28191	299	203	258	253		253	243
28192	356	260	378	331	116	331	246
28193	386	281	352	340		340	251
Vivekdhan 86 (NC)	306		228	267	124	267	259
28194	309	225	289	274	120	274	260
28195	361	215	332	302	131	302	266
28196	276	268	236	260	119	260	247
28197	266	202	299	256		256	216
28198	274		222	248		248	203
28199	335	174	243	250		250	260
Shalimar Rice 3 (ZC)	325	208	237	256	133	256	224
28200	297		269	283		283	266
28201	355	233	319	302	128	302	260
28202	362	233	337	310		310	291
28203	341	295	331	322	116	322	300
28204	318	274	280	291	126	291	250
28205	378	266	372	338	136	338	290
28206	296	188	234	239		239	264
28207	378	223	328	309	127	309	256
Local Check (LC)	371	298	353	341	251	341	313
Exp. Mean	329	240	296	290	135	290	259

ADVANCE VARIETY TRIAL 2 – MEDIUM (HILLS) AVT 2-M (H)**Locations: 08****Test Entries: 7****Checks: Vivekdhan 62 (NC), VL Dhan 65 (ZC for North & South), RC Maniphou 11 (ZC for North East) and Local Check****Table: 6.18**

AVT 2 – M (H) trial was constituted with 10 entries including seven test entries in third year of testing and three checks – Vivekdhan 62 (NC), ZC: VL Dhan 65 (North and South) and RC Maniphou 11 (North East) and a Local Check. The trial was sent to 16 different locations and data was received from 14 locations. The data from CAU-Imphal, ICAR-Barapani and Bandipore (Khudwani) was not received. Data from six locations namely Lamphelpat (High CV 26.92), Wangbal (2160 kg/ha), CAU-Barapani (2362 kg/ha), Sirsi (626 Kg/ha), Upper Shillong (1904 kg/ha), ICAR-Barapani (767 kg/ha) were found not suitable for analysis due to High CV (>25) and low experimental mean yield (<2500kg/ha). Data from remaining eight locations were considered for analysis. The data pertaining to yield, flowering, plant height, panicles/m² and quality are presented in tables 6.19, 6.20, 6.21, 6.23 and 6.24.

Low Altitude Northern Hills

Data from two locations namely Dhaulakuan and Malan was considered for analysis in low altitude northern hills. The mean yield of the entries ranged from 2304 kg/ha (IET 26580) to 4266 kg/ha (IET 26594), days to 50% flowering from 90 (IET 26591) to 131 days (IET 26580), plant height ranged from 80.80 (IET 26580) to 129.70cm (IET 26588) and panicles/m² ranged from 349 (IET 26597) to 469 (IET 26591).

Performance of superior test entries at Low Altitude Northern Hills in AVT 2-M(H) during Kharif 2019

S. No	IET No. / Designation/ Cross Combination	Grain Yield (Kg/ha) Days to 50% Flowering Grain Type	% Yield superiority over NC, ZC, LC	Quality data HRR (%)/AC (%)/ GC (mm)/ASV
1	IET 26594 HPR 2929 Kalizini/HPR2143//HPR2143	4266 105 LS	26.6 20 33	52.3 24.08 22 7.0
2	IET 26597 UPR 3991-32-2-1-1 Pant Dhan 19/UPRI 2008-16	3800 115 LB	12.7 7.1 18.7	46.3 21.32 95 4.0
	Vivekdhan 62 (NC)	3371 106		
	Zonal Check (ZC)	3547 107		
	Local Check (LC)	3201 105		

Best check & over the best check; NC- National Check; ZC- Zonal Check; LC- Local Check; GY- Grain yield; DFF- Days to 50% flowering; GT- Grain type; HRR- Head Rice Recovery (%); AC- Amylose content(%); GC- Gel consistency(mm); ASV- Alkali Spreading Value; LB-Long Bold; SB-Short Bold; MS-Medium Slender; LS-Long Slender,

Among the checks, Zonal Check recorded highest grain yield of 3547 kg/ha, while **among the test entries, IET 26594 (20%) and 26597 (7%) recorded more than 5% yield advantage over the best check in low altitude northern hills.** The performance of the entries is discussed below.

IET 26594 (HPR 2929) derived from Kalizini/HPR2143//HPR2143 has recorded 4266 kg/ha with 105 days to 50% flowering duration at Northern low elevated hill region. The test entry surpasses the best check with 20% yield advantage. The entry possesses long slender grain type. The entry recorded 52.3% HRR, 7.0 ASV, 24.08% intermediate AC and 22 mm GC.

IET 26597 (UPR 3991-32-2-1-1) derived from Pant Dhan 19/UPRI 2008-16 has recorded 3800 kg/ha with 115 days to 50% flowering duration at Northern low elevated hill region. The test entry surpasses the best check with 7% yield advantage. The entry possesses long bold grain type. The entry recorded low HRR (46.3%), 4.0 ASV, 21.32% intermediate AC and 95 mm GC. **The test entry IET 26597 (UPR 3991-32-2-1-1) is discontinued due to low HRR of 46.3%.**

Medium Altitude Northern Hills

Data from three locations namely Gangtok (Sikkim), Almora (HP) and Rajouri (J&K) was considered for analysis in Medium Altitude Northern Hills. The mean yield of the entries ranged from 2416 kg/ha (IET 26580) to 3800 kg/ha (IET 26594), days to 50% flowering from 81 (IET 26591) to 106 days (IET 26597 and 26588), plant height ranged from 74.49 (IET

26579) to 121.31cm (Local check) and panicles/m² ranged from 220 (IET 26591) to 282 (IET 26579).

Performance of superior test entries at Medium Altitude Northern Hills in AVT 2-M (H) during Kharif 2019

S. No.	IET No. / Designation/ Cross Combination	Grain Yield (Kg/ha) Days to 50% Flowering Grain Type	%Yield superiority over NC, ZC, LC	Quality data HRR (%)/AC (%) / GC (mm)/ASV
1	IET 26594 HPR 2929 Kalizini/HPR2143// HPR2143	3800 93 LS	34 18.6 33.3	52.3 24.08 22 7.0
2	IET 26596 VL 32130 VL 10689/UPRI 205-15	3587 100 SB	26.5 12 25.85	48.6 26.84 23 5.0
3	IET 26579 HPR 2922 HPU 741/HPR 1149	3389 97 LS	19.54 5.7 18.9	69.6 26.37 24 5.0
	Vivekdhan 62 (NC)	2835 101		
	Zonal Check	3204 97		
	Local Check	2850 99		

Among the checks, Zonal Check recorded highest grain yield of 3204 kg/ha, while *among the test entries, IET 26594 (18.6%), 26596 (12%) and 26579 (5.7%) recorded more than 5% yield advantage over the best check in Medium Altitude Northern Hills.* The performance of the entries is discussed below.

IET 26594 (HPR 2929) derived from Kalizini/HPR2143//HPR2143 has recorded 3800 kg/ha with 93 days to 50% flowering duration at Medium Altitude Northern Hills. The test entry surpasses the best check with 18.6% yield advantage. The entry possesses long slender grain type. The entry recorded 52.3% HRR, 7.0 ASV, 24.08% intermediate AC and 22 mm GC.

IET 26596 (VL 32130) derived from VL 10689/UPRI 205-15 has recorded 3587 kg/ha with 100 days to 50% flowering duration at Medium Altitude Northern Hills. The test entry surpasses the best check with 12% yield advantage. The entry possesses short bold grain type.

The entry recorded low HRR (48.6%), 5.0 ASV, 26.84% high AC and 23 mm low GC. **The test entry IET 26596 (VL 32130) is discontinued due to low HRR (48.6%), high AC (26.84%) and low GC (23 mm).**

IET 26579 (HPR 2922) derived from HPU 741/HPR 1149 has recorded 3389 kg/ha with 97 days to 50% flowering duration at Medium Altitude Northern Hills. The test entry surpasses the best check with 5.7% yield advantage. The entry possesses long slender type. The entry recorded good HRR (69.6%), 5.0 ASV, 26.37% AC and 24 mm GC.

High Altitude Hills

Data from three locations namely Khudwani, Pombay and Wadura was considered for analysis in High Altitude Hills. The mean yield of the entries ranged from 7998 kg/ha (Zonal

check) to 2954 kg/ha (IET 26588), days to 50% flowering from 104 days (Local check) to 124 days (Vivekdhan 62 and 26596). Among the checks, zonal check recorded highest grain yield (7998 kg/ha) while none of the test entries surpassed the best check.

Three year performance of test entries in Medium Hills trials

A total of seven test entries have completed three year of testing in medium hill regions. The performance of these test entries is provided in table and discussed below.

IET 26580 (VL 32131) showed yield superiority over best check during first (2017) and second year (2018) of testing in medium northern hills for state of Uttarakhand, but failed to show yield superiority in the third year of testing. Hence, the test entry IET 26580 (VL 32131) is discontinued due to inconsistency.

IET 26594 (HPR 2929) showed yield superiority over best check during first and third year of testing in low northern hills, further in second and third year of testing in medium northern hills. However, the test entry could not show yield consistency in states in low elevated hills of northern zone, it out yielded the best check in Meghalaya in the 1st year and in Himachal Pradesh during 3rd year. Hence due to inconsistent performance across states, it is discontinued.

IET 26597 (UPR 3991-32-2-1-1) showed yield superiority over best check during first and third year of testing in low northern hills. It recorded yield improvement over the best check in Meghalaya during 2017 and in Himachal Pradesh during 2019. Thus, this entry failed to show yield consistency in states. IET 26597 (UPR 3991-32-2-1-1) is discontinued due to inconsistent performance in the states as well as low HRR (46.3%).

Three year performance of seven test entries in Medium Hills trials

IET No.	Year	Yield Advantage % over Best Check								Remarks
		Elevation								
		Low				Medium		High		
		Southern	Northern	Northern						
IET 26580	2017	-	-	-	-	38	UT-38	-	-	Discontinued due to inconsistency
	2018	-	-	-	-	28	SK-48 UT-14	-	-	
	2019	-	-	-	-	-	-	-	-	
IET 26594	2017	-	-	14	ME-17	-	-	-	-	Discontinued due to yield inconsistency
	2018	-	-	-	-	18	SK-28 UT-10	-	-	
	2019	-	-	20	HP-20	18	JK-28	-	-	
IET 26597	2017	-	-	6	ME-13	-	-	-	-	Discontinued due to yield inconsistency and low HRR (46.3%)
	2018	-	-	-	-	41	SK-85	-	-	
	2019	-	-	7	HP-7	-	-	-	-	
IET 26591	2017	-	-	-	-	-	-	7	JK-7	Discontinued due to inconsistency.
	2018	-	-	-	-	-	-	6	JK-6	
	2019	-	-	-	-	-	-	-	-	
IET 26588	2017	-	-	-	-	19	UT-19	-	-	Discontinued due to inconsistency
	2018	-	-	-	-	28	SK-62	-	-	
	2019	-	-	-	-	-	-	-	-	
IET 26579	2017	-	-	5	-	-	-	-	-	Discontinued due to poor quality (GC 24mm and AC 26.3%)
	2018	-	-	7	ME-33	22	SK-50	-	-	
	2019	-	-	-	-	5	SK-54	-	-	
IET 26596	2017	-	-	20	HP-12	31	UT-31	-	-	Discontinued due to low HRR (48.6%)
	2018	-	-	-	-	18	SK-86	-	-	
	2019	-	-	-	-	11	SK-40	-	-	

IET 26591 (SKAU 502 (K 08-24-11)) showed yield superiority over best check during first (2017) and second year (2018) of testing in high hills region of Jammu and Kashmir, but failed to show yield superiority in the third year of testing. Further, the test entry recorded low HRR (46.2). **IET 26591 (SKAU 502 (K 08-24-11))** is discontinued due to inconsistent yield.

IET 26588 (VL 40387) showed yield superiority over best check during first (2017) and second year (2018) of testing in medium northern hills, but failed to show yield superiority in the third year of testing. Hence, the test entry IET 26588 (VL 40387) is discontinued due to inconsistency.

IET 26579 (HPR 2922) showed yield superiority over best check during second and third year of testing in medium northern hills for the state of Sikkim. However, the entry recorded 26.37 % AC and 24 mm GC. It is discontinued due to poor quality (GC 24 mm & AC 26.3%).

IET 26596 (VL 32130) showed consistent yield superiority over best check during first, second and third year of testing in medium northern hills for the state of Sikkim. However, it is recorded low HRR (48.6%), AC (26.84%) and low GC (23 mm), hence, it is discontinued.

ADVANCE VARIETY TRIAL 1 – MEDIUM (HILLS) AVT 1-M (H)

Locations: 13

Test Entries: 11

Checks: Vivekdhan 62 (NC), VL Dhan 65 (ZC for North & South), RC Maniphou 11 (ZC for North East) and Local Check

Table: 6.24

AVT 1 – M (H) trial was constituted with 11 entries including 8 test entries and 3 checks – Vivekdhan 62 (NC), ZC: VL Dhan 65 (North/South) and RC Maniphou 11 (North East) and a LC. The trial was sent to 16 different locations and data was received from only 13 locations. The data from CAU-Imphal, (Northern Low); Rajouri and Bandipore (High) was not received. The data pertaining to yield, flowering, plant height, panicles/m² and quality are presented in tables 6.25, 6.26, 6.27, 6.28 and 6.29.

Low Altitude Northern Hills

AVT 1 – M (H) at low altitude trial data was received from 5 centres namely Lamphelpat, Wangbhal, CAU-Barapani, Dhaulakuan and Malan. The mean yield of the test entries ranged from 3290 kg/ha (IET 27494) to 4059 kg/ha (IET 27483) compared to National Check (3933 kg/ha), Zonal check (4548 kg/ha) and LC (3826 kg/ha). Days to 50% flowering

ranged from 88 days (Zonal check) to 103 days (IET 27488) compared to National Check (92), Zonal check (88) and LC (97). Similarly, plant height also exhibited a range from 94 cm (IET 27488) to 124 cm (IET 27491). The panicles/m² ranged from 226 (IET 27486) to 310 (IET 27494). Among the test entries Zonal check ranked 1st (4548 kg/ha). **Hence none of the test entries found superior to best check with respect to grain yield.**

Low Altitude Southern Hills

AVT 1 – M (H) at low altitude Southern hills was sent to Sirsi and data was received from Sirsi. Since experimental yield was found to be low (<2500 kg/ha), the data is not considered for analysis.

Medium Altitude Northern Hills

AVT 1 – M (H) data received from two locations – Almora (UT), and Gangtok. The mean grain yield of the test entries in the medium hills was 2987 kg/ha (IET 27494) to 4934 kg/ha (IET 27483) compared to National Check (4044 kg/ha), Zonal check (4735 kg/ha) and LC (3959 kg/ha). The days to 50% flowering ranged from 94 (IET 27491 and Zonal check) to 105 days (IET 27483 and IET 27496). The plant height showed a range from 80 cm (IET 27488) to 121 cm (Local check). Among the test entries panicles/m² ranged from 185 (IET 27486) to 284 (IET 27488). **Though the entries IET 27483 (4934 kg/ha) and IET 27488 (4928 kg/ha) recorded high grain yields compared to best check ZC (4735 kg/ha) the yield improvement is 4.07 and 4.20 percent only. Hence none of the entries are found eligible for promotion to AVT2 M (H) under Medium Altitude Northern Hills.**

High Altitude Hills

The trial was evaluated at five high altitude locations (Khudwani, Wadura, Upper Shillong, Barapani and Pombay). As the experimental yield was reported to be <2500 kg/ha the data received from Upper Shillong and Barapani was not included in analysis. The mean grain yield of the entries ranged from 2248 kg/ha (IET 27496) to 7332 kg/ha (Local check) compared to National Check (4359 kg/ha), Zonal check (2934 kg/ha) and LC (7332 kg/ha). Days to 50% flowering ranged from 113 days (IET 27491) to 128 days (IET 27483). Similarly, plant height also exhibited a range from 78 cm (IET 27488) to 128 cm (Vivekdhan 62). The panicles/m² ranged from 243 (IET 27486) to 328 (IET 27479). Local check is the top yielder (7332 kg/ha). **Hence none of the entries performed superior to best check LC.**

Performance of entries across the HILL Zone:

Considering all the 10 locations data the performance of test entries is as follows. The mean grain yield of the entries ranged from 3626 kg/ha (IET 27496) to 4401 kg/ha (IET 27479) compared to National Check (4052 kg/ha), Zonal check (4393 kg/ha) and LC (4905 kg/ha). Days to 50% flowering ranged from 99 days (IET 27494) to 109 days (IET 27496). Similarly, plant height also exhibited a range from 87 cm (IET 27488) to 118 cm (IET 27491). The panicles/m² ranged from 248 (IET 27496) to 290 (IET 27494). **None of the entries performed superior to best check LC.**

INITIAL VARIETY TRIAL - MEDIUM (HILLS) IVT – M (H)**Locations: 16****Test Entries: 20****Checks: Vivekdhan 62 (NC), VL Dhan 65 (ZC for North & South), RC Maniphou 11 (ZC for North East) and Local Check****Table: 6.30**

The Initial Variety Trial – Medium (Hills) comprised of 20 test entries and three checks viz., National check (Vivekdhan 62), Zonal Check (VL Dhan 65 for North & South; RC Maniphou 11 Zonal Check for North East) and Local check. The trial was sent to 16 locations of various altitudes. The data was not received from two locations viz., Imphal (CAU) and Bandipore (Khudwani). Among the 14 locations, data from three locations namely Sirsi, Upper Shillong and Barapani (ICAR) was not considered for analysis due to low experimental mean yield.

Overall mean yield ranged from 3390 kg/ha (IET 28218) to 4719 kg/ha (IET 28220); days to 50% flowering ranged from 88 days (IET 28209) to 105 days (IET 28216); plant height varied from 84.70 cm (IET 28226) to 131.36 cm (IET 28208) and number of panicles/m² ranged from 232 (IET 28215) to 333 (IET 28211). The data pertaining to yield, flowering, plant height and panicles/m² were presented in tables 6.31, 6.32, 6.33 and 6.34. Performance of the test entries at different elevations was discussed below.

Low altitude Northern (≤ 950 MSL)

IVT-M (H) was conducted at 5 locations (ICAR-Lamphelpat, Wangbal, CAU-Umiam, Dhaulakuan and Malan). The mean grain yield of the entries ranged from 2887 kg/ha (IET 28217) to 4599 kg/ha (IET 28222); days to 50% flowering varied from 83 days (IET 28224, IET 28227) to 106 days (IET 28220). Among the checks, zonal check recorded highest grain yield of 4255 kg/ha with 99 days to 50% flowering. Among the test entries, two entries i.e., IET 28222 & 28210 showed > 5% superior yield performance over the best check (LC) and hence promoted to 2nd year of testing in northern low altitude locations.

Performance of promising entries at Northern Low elevated Hills in Initial variety Trial - Medium Hills IVT- M (H), Kharif 2019.

Rank	IET No/Designation/ Cross combination	Grain Yield (Kg/ha)/ Days to 50% flowering/ Grain type	% yield superiority over NC, ZC, LC
1	IET 28222 TRC BN-1818-B-B-23-7-1 Bhalum3 / Naveen	4599 97 LS	13 8 14
2	IET 28210 CAUS 107 (ULRC-5-2-1-2-2) Shahsarang / CAU R1	4470 103 SS	10 5 10
	Vivekdhan 62 (NC)	4072 94	
	Zonal Check (ZC)	4255 99	
	Local Check (LC)	4046 95	

Bold Italics- Best check & over the best check; NC- National Check; ZC- Zonal Check; LC- Local Check; LB-Long Bold; SB-Short Bold; MS-Medium Slender, LS-Long Slender,

Low altitude Southern (≤ 950 MSL)

The data from Sirsi location under this altitude was not considered for analysis due to low experimental mean yield.

Medium altitude hills (951-1500 SL)

IVT-M (H) was evaluated at three locations i.e., Gangtok, Almora and Rajouri. The mean grain yield at medium altitude ranged from 2119 kg/ha (IET 28209) to 4883 kg/ha (IET 28212); days to 50% flowering varied between 80 days (IET 28209) and 119 days (IET 28215). Among the checks, Zonal check recorded highest yield of 3938 kg/ha with 101 days to 50% flowering. Five test entries exhibited significant yield superiority over the best check.

On the basis of yield improvement over the best check (ZC), five entries IETs 28212, 28222, 28210, 28220 and 28216 recorded the required yield gain of more than 5% and therefore are promoted to 2nd year of testing in northern medium altitude hills.

Performance of promising entries at Northern Medium elevated Hills in Initial variety Trial - Medium Hills IVT- M (H), Kharif 2019.

Rank	IET No /Designation/ Cross combination	Grain Yield (Kg/ha) Days to 50% flowering/ Grain type	% yield superiority over (NC, ZC, LC)
1	IET 28212 TRC PSM 161-B-B-13-6-1 Pyzum / BPT 5204	4883 102 LS	109 23 59
2	IET 28222 TRC BN-1818-B-B-23-7-1 Bhalum3 / Naveen	4498 100 LS	92 13 46
3	IET 28210 CAUS 107 (ULRC-5-2-1-2-2) Shahsarang / CAU R1	4409 100 SS	89 11 44
4	IET 28220 VL 40530 VL 30929 / Pusa Basmati-1	4409 99 LS	89 11 44
	Vivekdhan 62 (NC)	2337 107	
	Zonal Check (ZC)	3983 101	
	Local Check (LC)	3072 99	

Performance of promising entries at High elevated Hills in Initial variety Trial - Medium Hills IVT- M (H), Kharif 2019.

Rank	IET No/ Designation/ Cross combination	Grain Yield (Kg/ha)/ Days to 50% flowering/ Grain type	% yield superiority over (NC, ZC, LC)
1	IET 28217 SKUA 533-2 Jhelum / Shalimar Rice-1 // Jhelum	8283 105 SB	51 203 13
2	IET 28224 SKUA 535 Vivekdhan 82 / Shalimar Rice-3	8139 104 SB	48 197 11
3	IET 28227 SKUA 534 Shalimar Rice-1 / China 1039	7939 108 SB	44 190 8
	Vivekdhan 62 (NC)	5503 124	
	Zonal Check (ZC)	2738 124	
	Local Check (LC)	7356 104	

High altitude (≥ 1501 MSL)

The trial was conducted at five locations and the data from three locations Khudwani, Pombay and Wadura were considered for analysis. The mean grain yield of the entries ranged from 2738 kg/ha (Zonal check) to 8283 kg/ha (IET 28217) and days to 50% flowering varied between 104 days (IET 28224 and local check) and 129 days (IET 28226). Among the checks, local check recorded highest grain yield (7356 kg/ha) with 104 days to 50% flowering. Among the test entries, three entries viz., IET 28217, IET 28224 and IET 28227 showed significant yield superiority over the best check.

Three entries IETs 28217, 28224 and 28227 out yielded the best check (LC) with more than 5% and hence they are promoted to 2nd year of testing in hill altitude hills.

On the basis of 5% and above yield superiority over the best check, the following entries were promoted to AVT-1 M (H) under different elevations.

List of the entries promoted in IVT-M (H)

Elevation	Test Entries
Low Altitude Northern (≤ 950 MSL)	IETs 28210 & 28222
Medium altitude hills (951-1500 MSL)	IETs 28210, 28212, 28220 & 28222
High altitude (≥ 1501 MSL)	IETs 28217, 28224 & 28227

Table 6.18: Composition of entries in Advance Variety Trial 2- Medium Hills, AVT 2-M (H), Kharif 2019

Entry No.	IET No.	Designation	Cross Combination	Grain Type
3rd year of testing:				
2401	26580	VL 32131	VL 10689 / UPRI 2005-15	LS
2402	26594	HPR 2929	Kalizini / HPR 2143 // HPR 2143	LS
2403	26597	UPR 3991-32-2-1-1	Pant Dhan 19 / UPRI 2008-16	LB
2404	Vivekdhan 62 (NC)			
2405	26591	SKAU 502 (K 08-24-11)	SR-1 / VL Dhan 209	SB
2406	26588	VL 40387	VL 31634 / Pusa Basmati 1	LS
2407	VL Dhan 65 (ZC for North & South), RC Maniphou 11 (ZC for North East)			
2408	26579	HPR 2922	HPU 741 / HPR 1149	LS
2409	26596	VL 32130	VL 10689 / UPRI 2005-15	SB
2410	Local Check			

Table 6.19: Grain yield (Kg/ha) of entries in AVT-2-M(H) Kharif 2019

IET No	Low Northern														Low Southern(1)	
	MN				MEG		HP				HP (2) Mean		Low Northern (2)Mean		SH(1)	
	LLP@	WBL@	CAU-BRP@		DK		MN			SRS@						
26580	4750	6	1867	5	2257	8	4375	4* 11%	233	10	2304	10	2304	10	1181	1
26594	4750	6	1867	5	2580	5	5278	2 * 34%	3254	3	4266	1* 20%	4266	1* 20%	766	4
26597	4583	8	2000	4	2686	3	4653	3* 18%	2947	6	3800	2 7.12%	3800	2 7.12%	576	6
Vivekdhan 62 (NC)	5583	1	2333	3	1890	9	3097	9	3646	1	3371	7	3371	7	862	3
26591	2667	10	1867	5	1095	10	2806	10	2074	8	2440	9	2440	9	149	10
26588	4583	8	1333	10	2263	7	5417	1* 38%	1579	9	3498	5	3498	5	310	8
Zonal Check (ZC)	5000	5	1867	5	2693	2	3931	5	3164	5	3547	3	3547	3	457	7
26579	5083	4	1667	9	2575	6	3750	6	3333	2	3542	4	3542	4	641	5
26596	5350	2	3400	1	2934	1	3681	7	3217	4	3449	6	3449	6	1093	2
Local Check (LC)	5167	3	3400	1	2650	4	3514	8	2889	7	3201	8	3201	8	220	9
Exp. Mean	4752				2362		4050		2634		3342		3342		626	
CD	1501.56		727.18		590.31		372.11		914.66		522.3		522.3		197.23	
CV%	26.92		11.41		14.45		5.31		20.09		9.04		9.04		18.23	
D/S	05-07-2019		18-07-2019		20-06-2019		06-06-2019		01-06-2019						31-05-2019	
D/P	02-08-2019		12-08-2019		20-07-2019		08-07-2019		23-07-2019							
Local Check Name	RCM 30		Sana		Shahsarang		HPR 2143		HPR-2143						Prasanna	

Table 6.19 contd.: Grain yield (Kg/ha) of entries in AVT-2-M(H) Kharif 2019

IET No	Medium Northern								Medium Northern (3) Mean	
	SK(1)		UT(1)		JK(1)					
	GTK		ALM		RJR					
26580	2216	8	1934	10	3100	4		2417	10	
26594	2872	4	4495	3	4033	1 *	28.7	3800	1 18.60%	
26597	3111	3 9%	3968	6	2700	6		3260	4	
Vivekdhan 62 (NC)										
	2853	5	4019	5	1633	8		2835	9	
26591	2537	7	2359	9	4000	2*	27	2966	7	
26588	2577	6	5051	2 * 16%	1467	10		3031	6	
Zonal Check (ZC)										
	2128	9	4351	4	3133	3		3204	5	
26579	4417	1* 54.85%	3182	8	2567	7		3389	3 5.76%	
26596	4008	2* 40.51%	5188	1 * 19.23%	1567	9		3587	2 11.96%	
Local Check (LC)										
	1940	10	3709	7	2900	5		2850	8	
Exp. Mean	2866		3825		2710			3134		
CD	360.85		333.15		519.74			250.9		
CV%	6.67		6.4		9.22			4.63		
D/S	22-06-2019		25-05-2019		02-06-2019					
D/P	20-07-2019		02-07-2019		27-06-2019					
Local Check Name	Attey (landrace)		VLD 61		K 39					

Table 6.19 contd: Grain yield (Kg/ha) of entries in AVT-2-M(H) Kharif 2019

IET No	High														Overall(8) Mean	
	JK						JK(3) Mean		MEG				High(3) Mean			
	KHD		PMB		WDR				USG@		ICAR-BRP@					
26580	4781	5			3507	6	4144	9			566	8	4144	9	2878	10
26594	5957	4	4184	3	5120	4	5087	5	2220	2	868	4	5087	5	4399	1* 6.67%
26597	3821	7	4121	4	4979	5	4307	8			989	2	4307	8	3788	7
Vivekdhan 62 (NC)	8560	1			3493	7	6027	3			512	9	6027	3	3900	5
26591	3659	8	6460	1 6.54%	7964	1 5.83%	6028	2	1527	5	357	10	6028	2	3982	4
26588	2695	10	3012	5	3154	8	2954	10			669	7	2954	10	3119	9
Zonal Check (ZC)	7998	2					7998	1			948	3	7998	1	4117	3
26579	3395	9			6090	3	4743	6	1587	3	737	6	4743	6	3819	6
26596	6031	3			2746	9	4388	7	1567	4	1255	1	4388	7	3777	8
Local Check (LC)	4449	6	6063	2	7526	2	6013	4	2620	1	772	5	6013	4	4124	2
Exp. Mean	5135		4768		4953		5169		1904		767		5169		3790	
CD	644.1		635.63		698.44		385.77						385.77		257.09	
CV%	7.25		6.33		8.07		4.31						4.31		3.92	
D/S	30-04-2019		12-05-2019		09-05-2019				30-04-2019		17-05-2019					
D/P	31-05-2019		14-06-2019		10-06-2019				22-06-2019		17-06-2019					
Local Check Name	Shalimar Rice 4		Shalimar Rice 4		Shalimar Rice 4				Meg -1		NEH Megha Rice 2					

Table 6.20: Days to 50% flowering of entries in AVT-2-M(H) Kharif 2019

IET No	Low Northern							Low Southern(1)	Medium Northern			
	MN		MEG	HP		HP (2)	Low Northern (2)	SH(1)	SK(1)	UT(1)	JK(1)	Medium Northern (3)
	LLP@	WBL@	CAU-BRP@	DLK	MN	Mean	Mean	SRS@	GTK	ALM	RJR	Mean
26580	97	95	97	131	132	131	131		100	128	87	105
26594	85	95	92	101	110	105	105		90	102	88	93
26597	89	88	100	109	121	115	115		95	108	114	106
Vivekdhan 62 (NC)	85	93	94	104	108	106	106		97	104	103	101
26591	67	102	80	92	88	90	90		69	84	89	81
26588	89	104	101	112	122	117	117		98	104	115	106
Zonal Check (ZC)	89	75	96	104	110	107	107		98	104	90	97
26579	89	97	94	101	111	106	106		93	106	92	97
26596	85	103	97	107	106	107	107		91	105	106	100
Local Check (LC)	92	88	99	104	105	105	105		103	104	90	99
Exp. Mean	86	94	95	106	111	109	109		93	105	97	99

Table 6.20 contd.: Days to 50% flowering of entries in AVT-2-M(H) Kharif 2019

IET No	High							Overall(8) Mean
	JK			JK(3)	MEG		High(3) Mean	
	KHD	PMB	WDR	Mean	USG@	ICAR-BRP@		
26580	123		121	122		136	122	117
26594	107	113	106	109	80	136	109	102
26597	115	119	117	117	94	142	117	112
Vivekdhan 62 (NC)	124		124	124	95	146	124	109
26591	98	105	99	101	75	140	101	91
26588	119	124	117	120		141	120	114
Zonal Check (ZC)	123			123		143	123	105
26579	120		120	120	86	143	120	106
26596	124		123	124	78	144	124	109
Local Check (LC)	101	109	101	104	68	135	104	102
Exp. Mean	115	114	114	116	82	141	116	107

Table 6.21: Plant height (cm) of entries in AVT-2-M(H) Kharif 2019

IET No	Low Northern							Low Southern(1)	Medium Northern			
	MN		MEG	HP		HP (2)	Low Northern	SH(1)	SK(1)	UT(1)	JK(1)	Medium Northern (3)
	LLP@	WBL@	CAU-BRP@	DLK	MLN	Mean	Mean	SRS@	GTK	ALM	RJR	Mean
26580	95.50	78.00	74.66	99.00	62.60	80.80	80.80	93.00	65.00	111.33	85.80	87.38
26594	115.75	87.00	88.03	119.00	101.40	110.20	110.20	109.80	87.20	107.33	92.00	95.51
26597	116.30	90.00	86.02	122.00	89.20	105.60	105.60	109.40	82.80	118.33	95.20	98.78
Vivekdhan 62 (NC)	145.20	103.00	108.16	135.00	121.40	128.20	128.20	139.50	121.00	133.00	89.60	114.53
26591	106.40	83.00	85.68	96.00	91.40	93.70	93.70	92.60	89.00	114.67	92.00	98.56
26588	138.90	99.00	101.16	148.00	111.40	129.70	129.70	129.60	100.00	134.33	82.40	105.58
Zonal Check (ZC)	96.75	94.00	74.51	135.00	115.80	125.40	125.40	124.20	51.00	131.00	100.20	94.07
26579	116.16	86.00	89.43	106.00	93.20	99.60	99.60	101.10	65.00	104.67	65.80	78.49
26596	116.41	76.00	96.92	126.00	104.00	115.00	115.00	117.00	109.60	114.67	69.60	97.96
Local Check (LC)	107.25	66.00	82.77	102.00	97.40	99.70	99.70	113.40	123.00	126.33	114.60	121.31
Exp. Mean	115.46	86.20	88.73	118.80	98.78	108.79	108.79	112.96	89.36	119.57	88.72	99.22

Table 6.21 contd: Plant height (cm) of entries in AVT-2-M(H) Kharif 2019

IET No	High							Overall(8)Mean
	JK			JK(3)	MEG		High(3) Mean	
	KHD	PMB	WDR	Mean	USG@	ICAR-BRP@		
26580	79.90		76.70	78.30		68.50	78.30	82.90
26594	101.90	94.50	96.80	97.73		78.20	97.73	100.02
26597	96.00	91.60	98.20	95.27		68.59	95.27	99.17
Vivekdhan 62 (NC)	126.60		121.40	124.00		90.45	124.00	121.14
26591	111.90	105.30	108.20	108.47		72.47	108.47	101.06
26588	121.30	116.70	119.40	119.13		92.56	119.13	116.69
Zonal Check (ZC)	118.20			118.20		69.52	118.20	108.53
26579	92.70		90.00	91.35		75.45	91.35	88.20
26596	97.40		101.20	99.30		94.48	99.30	103.21
Local Check (LC)	125.00	117.50	121.60	121.37		74.36	121.37	115.93
Exp. Mean	107.09	105.12	103.72	105.31		78.46	105.31	103.68

Table 6.22: No. of Panicles/m2 of entries in AVT-2-M (H) Kharif 2019

IET No	Low Northern							Low Southern(1)	Medium Northern			
	MN		MEG	HP		HP (2)	Low Northern (2)	SH(1)	SK(1)	UT(1)	JK(1)	Medium Northern (3)
	LLP@	WBL@	CAU-BRP@	DLK	MLN	Mean	Mean	SRS@	GTK	ALM	RJR	Mean
26580	199	300	251	423	492	457	457	244	309	206	267	260
26594	211	240	284	337	564	451	451	322	370	264	173	269
26597	175	152	218	322	376	349	349	258	269	211	227	235
Vivekdhan 62 (NC)	175	186	183	333	402	367	367	221	265	210	200	225
26591	192	234	185	452	486	469	469	261	237	208	215	220
26588	199	168	248	396	421	409	409	373	306	267	227	267
Zonal Check (ZC)	194	294	277	331	459	395	395	352	292	236	223	250
26579	203	300	304	342	537	439	439	271	356	269	220	282
26596	218	163	220	321	429	375	375	286	379	253	193	275
Local Check (LC)	196	252	251	431	429	430	430	303	283	211	197	230
Exp. Mean	196	229	242	369	460	414	414	289	307	234	214	251

Table 6.22 contd: No. of Panicles/m2 of entries in AVT-2-M (H) Kharif 2019

IET No	High							Overall(8) Mean
	JK			JK(3)	MEG		High(3) Mean	
	KHD	PMB	WDR	Mean	<u>USG@</u>	<u>ICAR-BRP@</u>		
26580	223		245	234		176	234	309
26594	361	307	325	331	189	154	331	338
26597	270	246	296	271		143	271	277
Vivekdhan 62 (NC)	242		250	246		154	246	272
26591	291	320	417	343	139	143	343	328
26588	245	252	287	261		220	261	300
Zonal Check (ZC)	219			219		187	219	294
26579	326		329	328	152	121	328	340
26596	242		242	242	132	187	242	294
Local Check (LC)	404	311	357	357	234	121	357	328
Exp. Mean	282	287	305	283	169	161	283	308

Table 6.23: Grain quality characteristics of entries in AVT 2-M (H), Kharif 2019

ENTRY NO.	IET NO.	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
2401	26580	78.0	67.6	61.2	6.51	2.01	3.23	LS	VOC	7.0	23.34	42
2402	26594	81.6	66.6	52.3	6.69	1.97	3.39	LS	VOC	7.0	24.08	22
2403	26597	79.7	69.2	46.3	6.32	2.50	2.52	LB	VOC	4.0	21.32	95
2404	Vivekdhan-62	79.3	70.6	56.8	5.20	2.65	1.96	SB	OC	5.0	24.46	24
2405	26591	80.5	68.8	46.2	5.57	2.47	2.27	SB	VOC	4.0	26.22	25
2406	26588	77.3	68.5	61.8	6.69	1.90	3.52	LS	VOC	4.0	22.08	25
2407	VL Dhan-65	79.5	70.2	51.6	6.20	2.21	2.80	LB	VOC	5.0	24.22	22
2408	26579	81.4	74.0	69.6	6.80	1.98	3.43	LS	VOC	5.0	26.37	24
2409	26596	80.6	69.5	48.6	5.33	2.66	2.00	SB	VOC	5.0	26.84	23
2410	VL Dhan-61 (LC)	80.1	70.7	54.3	6.32	2.58	2.44	LB	VOC	5.0	26.98	22

HULL: Hulling (%); MILL: Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB::Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

Table 6.24: Composition of entries in Advance Variety Trial 1- Medium Hills, AVT 1-M (H), Kharif 2019

Entry No.	IET No.	Designation	Cross Combination	Grain Type
2nd Year of testing				
2501	27483	CAUS 110 (ULRC 5-6-1-1-1-1)	Shasharang / CAU-R1	LB
2502	27491	VL 32329	VL 31393 / VL Dhan 65	LS
2503	27494	HPR 2693	Hasan Serai / T 23 // IR 66295-26-2	LS
2504	Vivekdhan 62 (NC)			
2505	27486	HPR 2910	HPU 741 / HPR 1149	LS
2506	27488	TRC PSM-353-170-B-B-7	Pyzum / Samba Mahsuri	LS
2507	27485	HPR 2863	PLP Purple / Kasturi	LS
2508	VL Dhan 65 (ZC for North & South), RC Maniphou 11 (ZC for North East)			
2509	27496	CAUS 105 (ULRC 4-2-2-1-1-1)	Shasharang / Priya	LB
2510	27479	HPR 2908	HPR 2352 / HPR 2143	LS
2511	Local Check			

Table 6.25: Grain yield (Kg/ha) of entries in AVT-1-M (H) Kharif 2019

IET No	Low Northern																		Low Southern(1)	
	MN				MN(2) Mean		MEG			HP				HP (2) Mean		Low Northern (5)		SH(1)		
	LLP		WBL				CAU-BRP			DK		MN								
27483	5250	7	2067	10	3658	10	5151	1*	27.13%	3514	6	4315	3	3914	5	4059	2	1960	2	
27491	5333	6	2200	8	3767	8	2728	7		3736	2	5.49%	4230	5	3983	3	3646	5	1648	3
27494	4583		3000	4	3792	7	2437	9		2792	10		3638	8	3215	9	3290		372	
Vivekdhan 62 (NC)	6333	2	3667	2	5000	2	2444	8		2722			4500	2	3611	6	3933	3	706	6
27486	5403	5	2500	7	3952	6	2339	10		3625	3		4241	4	3933	4	3622	6	646	8
27488	5000	8	3167	3	4083	4	2923	5		3056	7		3939	7	3497	8	3617	7	1367	5
27485	4750	10	2067	10	3408		2925	4		2917	8		4167	6	3542	7	3365	10	684	7
Zonal Check (ZC)	5667	4	5500	1	5583	1	2883	6		3542	5		5148	1	4345	1	4548	1	503	9
27496	5917	3	2089	9	4003	5	4147	2		3569	4		2087		2828	10	3562	9	1492	4
27479	4833	9	2667	6	3750	9	2329			4361	1*	23.14%	3630	9	3995	2	3564	8	476	10
Local Check (LC)	6500	1	3000	4	4750	3	4052	3		2847	9		2735	10	2791		3827	4	2126	1
Exp. Mean	5415		2902		4159		3124			3335			3875		3605		3730		1089	
CD	1080.40		152.85		546.63		582.41			381.1			429.79		322.29		292.37		327.03	
CV%	11.73		3.09		7.71		10.94			6.71			6.51		5.24		4.6		17.62	
D/S	05-07-2019						25-06-2019			06-06-2019			01-06-2019						03-06-2019	
D/P	01-08-2019						25-07-2019			05-07-2019			16-07-2019							
Local Check Name	RCM 30	Sana					Shahsarang			HPR 2143			HPR-2143						MGD 101	

Table 6.25 contd.: Grain yield (Kg/ha) of entries in AVT-1-M (H) Kharif 2019

IET No	Medium Northern								High			
	SK		UT		Medium Northern (2)		JK		KHD		PMB	
	GTK		ALM		Mean		Mean		Mean		Mean	
27483	5257	2	4610	4 *	13.90%	4934	1	4.20%	3911	8		
27491	3897	6	4921	2*	21.57%	4409	5		5260	5	3998	4
27494	3298	10	2677			2987			3234	9		
Vivekdhan 62 (NC)	4056	4	4032	7		4044	6		4729	6		
27486	3344	9	4322	5	6.77%	3833	8		5757	4		
27488	5100	3	4755	3*	17.47%	4928	2	4.07%	4305	7		
27485	3554	8	2835	10		3195	10		5937	3	4097	3
Zonal Check (ZC)	5466	1	4004	8		4735	3		2934	10		
27496	3925	5	5029	1 *	24.24%	4477	4		2248			
27479	3114		3701	9		3408	9		7273	2	5273	2
Local Check (LC)	3870	7	4048	6		3959	7		8323	1	5856	1
Exp. Mean	4080		4085			4083			4901		4806	
CD	618.05		460.67			411.36			1009.2		693.35	
CV%	8.89		6.62			5.91			12.08		7.22	
D/S	22-06-2019		25-05-2019						30-04-2019		12-05-2019	
D/P	20-07-2019		02-07-2019						31-05-2019		14-06-2019	
Local Check Name	Attey (Landrace)		VLD 61						Shalimar Rice 4		Shalimar Rice 4	

Table 6.25 contd.: Grain yield (Kg/ha) of entries in AVT-1-M (H) Kharif 2019

IET No	High										Overall(10) Me	
	WDR	JK(3) Mean	MEG		ICAR-BRP@		High Mean					
			USG@									
27483		3911	8			1785	1	3911	8	4259	4	
27491	4126	6	4461	5	1527	6	808	5	4461	5	4043	8
27494			3234	9			758	6	3234	9	3207	
Vivekdhan 62 (NC)	3989	7	4359	6	1900	4	719	7	4359	6	4052	7
27486	5328	3	5543	3	1947	3	591	9	5543	3	4096	5
27488	4251	5	4278	7			1000	4	4278	7	4055	6
27485	5284	4	5106	4			1075	3	5106	4	3853	9
Zonal Check (ZC)			2934	10	1653	5	684	8	2934	10	4393	3
27496			2248				361		2248		3626	10
27479	6828	2	6458	2	2113	2	576	10	6458	2	4401	2
Local Check (LC)	7818	1	7332	1	2487	1	1319	2	7332	1	4905	1
Exp. Mean	5375		4533		1938		880		4533		4081	
CD	629.75		705.64		728.64		265.3		705.64		218.4	
CV%	6.58		9.14		8.6		17.7		9.14		3.14	
D/S	09-05-2019				30-04-2019		17-05-2019					
D/P	08-06-2019				22-06-2019		17-06-2019					
Local Check Name	Shalimar Rice 4				Meg -2		NEH Megha Rice 2					

Table 6.26: Days to 50% flowering of entries in AVT-1-M (H) Kharif 2019

IET No	Low Northern							Low Southern(1)	Medium Northern			
	MN		MN(2)	MEG	HP		HP (2)	Low Northern (5)	SH(1)	SK	UT	Medium Northern (2)
	LLP	WBL	Mean	CAU-BRP	DLK	MLN	Mean	Mean	SRS@	GTK	ALM	Mean
27483	86	78	82	100	119	120	113	100		97	112	105
27491	89	96	92	85	107	106	99	97		87	101	94
27494	89	102	96	81	101	107	96	96		89	103	96
Vivekdhan 62 (NC)	87	97	92	80	100	96	92	92		90	101	96
27486	89	93	91	81	98	109	96	94		90	101	96
27488	93	102	98	97	110	115	107	103		97	104	101
27485	86	97	92	87	98	97	94	93		95	102	99
Zonal Check (ZC)	85	85	85	81	97	93	90	88		84	103	94
27496	99	106	103	100	113	115	110	107		95	114	105
27479	87	98	93	86	101	110	99	96		95	103	99
Local Check (LC)	98	87	92	98	110	91	99	97		92	104	98
Exp. Mean	90	95	92	89	105	105	100	97		92	104	98

Table 6.26 contd.: Days to 50% flowering of entries in AVT-1-M (H) Kharif 2019

IET No	High							Overall(10) Mean
	JK			JK(3)	MEG	High Mean		
	KHD	PMB	WDR	Mean	USG@		ICAR-BRP@	
27483	128			128		129	128	105
27491	109	118	113	113	86	133	113	101
27494	121			121		128	121	99
Vivekdhan 62 (NC)	122		120	121	83	107	121	99
27486	117		119	118	83	109	118	100
27488	123		119	121		110	121	107
27485	112	121	111	115		130	115	101
Zonal Check (ZC)	124			124	80	126	124	94
27496	127			127		127	127	109
27479	117	126	119	121	85	127	121	104
Local Check (LC)	102	111	101	105	68	131	105	99
Exp. Mean	118	119	114	119	81	123	119	102

Table 6.27: Plant height (cm) of entries in AVT-1-M (H) Kharif 2019

IET No	Low Northern								Low Southern(1)
	MN		MN(2)	MEG	HP		HP (2)	Low Northern (5)	SH(1)
	LLP	WBL	Mean	CAU-BRP	DLK	MLN	Mean	Mean	SRS@
27483	109.00	76.00	92.50	127.77	101.00	93.60	97.30	101.47	100.30
27491	139.00	103.00	121.00	125.57	125.00	127.40	126.20	123.99	122.00
27494	112.00	94.00	103.00	91.80	109.00	112.40	110.70	103.84	98.20
Vivekdhan 62 (NC)	146.00	104.00	125.00	127.57	147.00	132.00	139.50	131.31	128.60
27486	104.00	82.00	93.00	89.70	104.00	98.80	101.40	95.70	90.80
27488	93.00	76.00	84.50	105.63	103.00	91.60	97.30	93.85	85.50
27485	129.00	102.00	115.50	113.53	129.00	120.40	124.70	118.79	120.00
Zonal Check (ZC)	125.00	107.00	116.00	153.50	117.00	123.60	120.30	125.22	119.90
27496	111.00	86.00	98.50	101.03	116.00	99.80	107.90	102.77	103.80
27479	112.00	96.00	104.00	94.20	110.00	105.40	107.70	103.52	101.30
Local Check (LC)	101.00	73.00	87.00	104.90	116.00	105.00	110.50	99.98	112.80
Exp. Mean	116.45	90.82	103.64	112.29	116.09	110.00	113.05	109.13	107.56

Table 6.27 contd.: Plant height (cm) of entries in AVT-1-M (H) Kharif 2019

IET No	Medium Northern			High							Overall(10) Mean
	SK	UT	Medium Northern (2)	JK			JK(3)	MEG	High Mean		
	GTK	ALM	Mean	KHD	PMB	WDR	Mean	USG@		ICAR-BRP@	
27483	69.80	108.00	88.90	81.70			81.70		52.00	81.70	95.86
27491	93.40	129.00	111.20	119.30	104.80	115.80	113.30		68.40	113.30	118.23
27494	63.80	99.67	81.73	82.90			82.90		54.20	82.90	95.70
Vivekdhan 62 (NC)	103.40	133.67	118.53	130.80		124.80	127.80		53.20	127.80	127.69
27486	68.40	102.67	85.53	91.90		89.50	90.70		66.80	90.70	92.33
27488	64.60	94.67	79.63	75.40		81.00	78.20		74.80	78.20	87.21
27485	84.40	106.33	95.37	112.00	100.50	110.10	107.53		62.80	107.53	110.73
Zonal Check (ZC)	97.40	125.67	111.53	117.40			117.40		76.60	117.40	120.82
27496	69.60	107.33	88.47	82.20			82.20		57.60	82.20	96.62
27479	71.60	106.33	88.97	93.70	82.70	95.40	90.60		58.00	90.60	96.73
Local Check (LC)	120.80	123.00	121.90	117.00	107.70	121.10	115.27		76.60	115.27	108.95
Exp. Mean	82.47	112.39	97.43	100.39	98.93	105.39	98.87		63.73	98.87	104.62

Table 6.28: No. of Panicles/m2 of entries in AVT-1-M(H) Kharif 2019

IET No	Low Northern								Low Southern(1)	
	MN		MN(2)	MEG	HP		HP (2) Mean	Low Northern (5) Mean	SH(1)	
	LLP	WBL	Mean	CAU-BRP	DLK	MN			SRS@	
27483	207	183	195	254	253	375	314	254	199	
27491	212	259	236	258	276	381	329	277	222	
27494	216	336	276	243	307	447	377	310	236	
Vivekdhan 62 (NC)	187	228	207	224	273	303	288	243	177	
27486	186	149	167	242	202	354	278	226	196	
27488	217	183	200	233	311	474	393	284	277	
27485	210	252	231	215	239	486	363	281	197	
Zonal Check (ZC)	235	348	292	274	317	408	362	316	265	
27496	196	233	215	225	221	279	250	231	182	
27479	200	315	258	241	273	402	338	286	165	
Local Check (LC)	200	262	231	241	244	471	358	284	166	
Exp. Mean	206	250	228	241	265	398	332	272	207	

Table 6.28 contd.: No. of Panicles/m2 of entries in AVT-1-M (H) Kharif 2019

IET No	Medium Northern			High						Overall(10) Mean	
	SK	UT	Medium Northern (2)	JK			JK(3)	MEG	High Mean		
	GTK	ALM	Mean	KHD	PMB	WDR	Mean	USG@			ICAR-BRP@
27483	299	237	268	270			270		154	270	260
27491	297	245	271	312	276	271	286	157	154	286	279
27494	306	167	236	300			300		143	300	290
Vivekdhan 62 (NC)	309	227	268	289		255	272	142	187	272	255
27486	183	187	185	238		247	243	136	143	243	221
27488	312	256	284	279		297	288		143	288	285
27485	348	206	277	302	228	323	284		176	284	281
Zonal Check (ZC)	330	275	303	305			305	130	187	305	312
27496	267	256	262	303			303		143	303	248
27479	257	216	236	326	269	390	328	184	143	328	289
Local Check (LC)	306	229	268	410	328	397	379	231	132	379	309
Exp. Mean	292	227	260	303	275	312	296	163	155	296	275

Table 6.29: Grain quality characteristics of entries in AVT 1-M (H), Kharif 2019

ENTRY NO.	IET NO.	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
2501	27483	77.7	68.0	61.7	6.05	2.27	2.66	LB	VOC	5.0	27.36	38
2502	27491	77.4	70.0	61.8	6.92	1.94	3.56	LS	A	4.0	27.66	25
2503	27494	82.4	72.9	53.2	7.30	2.08	3.50	LS	VOC	4.0	22.44	63
2504	Vivekdhan-62	79.7	71.7	65.1	5.27	2.58	2.04	SB	OC	4.0	24.05	22
2505	27486	79.6	72.3	60.5	6.83	2.15	3.17	LS	VOC	4.0	20.29	24
2506	27488	78.9	70.3	65.0	6.74	2.12	3.17	LS	VOC	5.0	23.78	22
2507	27485	77.6	69.8	56.0	7.05	1.93	3.65	LS	A	5.0	23.76	24
2508	VL Dhan-65	78.1	71.3	68.1	6.48	2.21	2.93	LB	A	4.0	24.58	25
2509	27496	77.7	67.2	60.4	6.07	2.28	2.66	LB	OC	4.0	18.50	73
2510	27479	80.6	72.5	61.6	7.30	1.92	3.80	LS	A	4.0	25.43	24

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB::Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

Table 6.30: Composition of entries in Initial Variety Trial - Medium Hills, IVT-M (H), Kharif 2019

Entry No.	IET No.	Designation	Cross Combination	Grain Type
1st Year of testing				
2601	28208	VL 32454	VL 31452 / Heera	LS
2602	28209	SKUA 532	SKUA 292 / Shalimar Rice-2	MS
2603	28210	CAUS 107 (ULRC 5-2-1-2-2)	Shahsarang / CAU R1	SS
2604	28211	HPR 3111	HPR 2143*3 / DHMAS 64 // HPR 2143*3 / Pusa 1637 /// HPR 2143*4 / IRBB 54 // HPR 2143*3 / PR 114	LS
2605	28212	TRC PSM 164-B-B-13-6-1	Pyzum / BPT 5204	LS
2606	Vivekdhan 62 (NC)			
2607	28213	VL 32471	Khajia Dhan / VL 30424	LS
2608	28214	HPR 3109	HPR 2512 / AC 19229 // HPR 2143	LS
2609	28215	RCM 39 (MC 49-4-4-1)	RCM 23 / RCM 9	MS
2610	28216	CAUS 103 (ULRC 3-4-1-1)	Shahsarang / Mynrii	SS
2611	28217	SKUA 533-2	Jhelum / Shalimar Rice-1 // Jhelum	SB
2612	28218	HPR 3108	Achoo / HPR 2512 // HPR 2143	LS
2613	28219	TRC KS -162-B-B-15-10-1	Kataktara / Swarna	LS
2614	VL Dhan 65 (ZC for North & South) RC Maniphou 11 (ZC for North East)			
2615	28220	VL 40530	VL 30929 / Pusa Basmati-1	LS
2616	28221	HPR 3110	HPRB 2512 / AC 19146 // HPR 2143	LS
2617	28222	TRC BN -1818-B-B-23-7-1	Bhalum 3 / Naveen	LS
2618	28223	VL 32470	Khajia Dhan / VL 30424	LS
2619	28224	SKUA 535	Vivekdhan 82 / Shalimar Rice-3	SB
2620	28225	HPR 3107	Achoo / HPR 2512 // HPR 2143	LS
2621	28226	RCM 38 (MC 41-34-4-7)	KD 2-6-3 / Phougak	SB
2622	28227	SKUA 534	Shalimar Rice-1 / China 1039	SB
2623	Local Check			

Table 6.31: Grain yield (Kg/ha) of entries in IVT-M(H) Kharif 2019

IET No	Low Northern											
	MN				MN(2) Mean		MEG (1)		HP			
	LLP			WBL			CAU-BRP		DLK		MLN	
28208	4500			4500	8	4500		1815	10		3373	
28209	2500			4500	8	3500		2505	7		3770	
28210	6500	2	21.50%	4250		5375	4	4741	1*	18%	4595	7
28211	4900			3500		4200		1750			3635	
28212	6500	2	21.50%	3500		5000	8	3286	3		5135	4 11.55%
Vivekdhan 62 (NC)	3900			6500	2	5200	6	2408	9		4024	
28213	5400	8		4500	8	4950	10	1427			4892	5 6.27%
28214	3500			3500		3500		1379			3706	
28215	5650	5	5.61%	6750	1	6200	1	2397	10		3603	
28216	4900			4000		4450		2798	4		5587	1* 21.39%
28217	2500			3500		3000		1020			4583	8
28218	5000			2900		3950		1826			3562	
28219	5150			4100		4625		1809			4008	
Zonal Check (ZC)	5350	9		4700	7	5025	7	2623	5		4603	6
28220	5000			4000		4500		2232			4056	10
28221	5250	10		4500	8	4875		1731			4317	9
28222	6750	1	26.17%	5000	3	5875	2	2474	8		5298	3 15.10%
28223	6000	4	12.15%	5000	3	5500	3	2313			3992	
28224	2750			4200		3475		1886			5373	2 16.72%
28225	5600	6	4.67%	5000	3	5300	5	2577	6		3794	
28226	5450	7		4500	8	4975	9	2344			3512	
28227	2750			3000		2875		1728			3905	
Local Check (LC)	4500			5000	3	4750		4018	2		3794	
Exp. Mean	4796			4387		4591		2308			4222	
CD	2273.50			677.05		1143.01		708.03			910.44	
CV%	22.85			7.44		12.01		14.79			10.39	
D/S	05-07-2019			18-07-2019				25-06-2019			04-06-2019	
D/P	29-07-2019			12-08-2019				25-07-2019			11-07-2019	
Local Check Name	RC Mani 13			Sana				Shahsarang			HPR-2143	

Table 6.31 contd.: Grain yield (Kg/ha) of entries in IVT-M(H) Kharif 2019

IET No	Low Southern(1)				Medium Northern			
	HP (2) Mean		Low Northern (5) Mean		SH(1)	SK		UT
					SRS@	GTK		ALM
28208	3423		3532		325	1508		4638 9
28209	2843		3038		367	1558		2348
28210	3430		4470	2 5.05%	672	4172	7* 17.58%	5705 2 * 16.39%
28211	3137		3285		487	1843		4554
28212	3956	7	4240	4	1836	2	1* 56.58%	5543 5 * 13.08%
Vivekdhan 62 (NC)	3776	10	4072	8	762	8		4150
28213	4265	4	3971		1099	5		4786 8
28214	3798	9	3195		575	1879		3661
28215	3121		4208	5	1239	4	3* 51.53%	4339
28216	4530	1 5.30%	4152	6	1098	6	2* 53.10%	5571 4 * 13.66%
28217	3708		2887		139	1694		4634 10
28218	3628		3397		705	2687		4286
28219	3893	8	3769		1488	3		4147
Zonal Check (ZC)	4302	3	4255	3	247	3548	9	4902 7
28220	4042	5	3863		468	5283	4* 48.90%	5393 6 10.02%
28221	3617		3743		357	2356		4179
28222	4385	2	4599	1 8.08%	2229	1	6* 18.72%	6232 1* 27.14%
28223	3343		4000	10	423	2874		4571
28224	3450		3147		162	1871		2366
28225	3758		4138	7	865	7	5* 25.91%	3830
28226	3492		3856		762	8	8 6.19%	5625 3* 14.75%
28227	3966	6	3082		180	1609		3571
Local Check (LC)	3355		4046	9	729	10		4205
Exp. Mean	3705		3780		749	3004		4489
CD	551.39		562.3		177.01	439.61		518.68
CV%	7.13		7.17		11.40	7.05		5.57
D/S					04-06-2019	22-06-2019		21-05-2019
D/P						22-07-2019		28-06-2019
Local Check Name					MGD 101	Attey (landrace)		VLD 61

Table 6.31 contd.: Grain yield (Kg/ha) of entries in IVT-M(H) Kharif 2019

IET No	Medium Northern				High					
	JK		Medium Northern (3)		JK		JK			
	RJR		Mean		KHD		PMB		WDR	
28208	2400		2849		4570				4070	
28209	2450		2119		7810	5	5980	5	6420	9
28210	3350	10	4409	3* 10.69%	5575					
28211	3650	4 4.29%	3349		7588	7	5505	6	7240	4
28212	3550	6	4883	1* 22.58%	3275				4390	
Vivekdhan 62 (NC)	1450		2337		5503					
28213	2450		3205		6575	9	5238	8	6075	
28214	4100	3* 17.14%	3213		6535	10	4115		6226	10
28215	1450		3722	10						
28216	1500		4168	5 4.63%						
28217	4750	1* 35.71%	3693		9450	1 11.44%	6838	2 7.72%	8563	1* 18.27%
28218	2650		3208		4263		2775		3645	
28219	3450	9	3080		4075		2628		3413	
Zonal Check (ZC)	3500	8	3983	6	2747				2730	
28220	2550		4409	4 * 10.68%	7700	6	5025	9	6647	7
28221	4750	1* 35.71%	3762	9	6143		4775	10	6475	8
28222	3050		4498	2* 12.92%	3663				3853	
28223	2550		3332		6850	8	5265	7	7190	6
28224	3300		2512		9383	2 10.64%	7120	1 12.17%	7915	3 9.32%
28225	3550	6	3949	7	5350				4265	
28226	2450		3948	8	2989					
28227	3575	5	2918		8993	3 6.04%	6765	3 6.58%	8059	2 * 11.31%
Local Check (LC)	3050		3072		8480	4	6348	4	7240	4
Exp. Mean	3023		3505		6072		5260		5801	
CD	198		236.85		1569.8		1357.8		697.94	
CV%	3.15		3.25		12.39		11.84		5.70	
D/S	02-06-2019				30-04-2019		12-05-2019		09-05-2019	
D/P	27-06-2019				03-06-2019		14-06-2019		08-06-2019	
Local Check Name	K 39				Shalimar Rice 4		Shalimar Rice 4		Shalimar Rice 4	

Table 6.31 contd.: Grain yield (Kg/ha) of entries in IVT-M(H) Kharif 2019

IET No	JK(3)				MEG				High (3) Mean				Overall(11) Mean	
	Mean		Mean		USG@		ICAR-BRP@		Mean		Mean		Mean	
	Mean		Mean		Mean		Mean		Mean		Mean		Mean	
28208	4320						1200	2	4320				3485	
28209	6737	6		1490	3	803		6737	6				3796	
28210	5575					1076	7	5575					4572	4
28211	6778	5		1220	5	907		6778	5				4255	
28212	3832					1094	6	3832					4351	8
Vivekdhan 62 (NC)	5503					761		5503					3653	
28213	5963	9		975	9	548		5963	9				4305	
28214	5625	11				1250	1	5625	11				3863	
28215						693							4026	
28216						654							4158	
28217	8283	1 12.61%	990	8	982		8283	1 12.61%	4579	3				
28218	3561					735		3561					3390	
28219	3372					1120	4	3372					3473	
Zonal Check (ZC)	2738					940		2738					3870	
28220	6457	7				782		6457	7				4719	1
28221	5798	10		1050	7	1064		5798	10				4308	10
28222	3758					1197	3	3758					4400	6
28223	6435	8		1800	2	1066	8	6435	8				4482	5
28224	8139	2 10.65%	1490	3	718		8139	2 10.65%	4336	9				
28225	4807			945	10	1065	9	4807					4215	
28226	2989					603		2989					3790	
28227	7939	3 7.93%	1115	6	456		7939	3 7.93%	4362	7				
Local Check (LC)	7356	4		2570	1	1119	5	7356	4				4683	2
Exp. Mean	5522			1365		906		5522					4133	
CD	948.9			213.95		353.89		948.9					313.19	
CV%	8.23			6.93		18.72		8.23					3.63	
D/S				30-04-2019		17-05-2019								
D/P				24-06-2019		17-06-2019								
Local Check Name				Meg- 2		NEH Megha Rice 2								

Table 6.32: Days to 50% flowering of entries in IVT-M(H) Kharif 2019

IET No	Low Northern								Low Southern(1)
	MN		MN(2)	MEG (1)	HP		HP (2) Mean	Low Northern (5)Mean	SH(1)
	LLP	WBL	Mean	CAU-BRP	DLK	MN			SRS@
28208	81	91	86	95	101	89	95	95	
28209	79	78	79	82	96	79	87	85	
28210	97	102	100	104	108	97	102	103	
28211	85	99	92	83	96	88	92	89	
28212	87	100	94	98	105	101	103	101	
Vivekdhan 62 (NC)	87	88	87	86	98	97	98	94	
28213	81	88	84	94	95	90	92	93	
28214	79	93	86	83	98	90	94	90	
28215	89	93	91	77	98	117	107	97	
28216	98	103	100	73	114	107	111	98	
28217	81	78	79	80	94	82	88	85	
28218	86	96	91	96	101	94	97	97	
28219	87	88	87	95	105	92	98	97	
Zonal Check (ZC)	97	94	96	104	99	96	97	99	
28220	87	94	90	106	112	99	106	106	
28221	76	85	81	78	98	94	96	90	
28222	97	96	96	83	105	103	104	97	
28223	80	85	83	85	95	90	92	90	
28224	80	98	89	76	95	79	87	83	
28225	86	85	85	103	98	89	93	96	
28226	86	91	88	87	108	104	106	99	
28227	81	76	78	74	95	81	88	83	
Local Check (LC)	96	85	91	99	98	89	93	95	
Exp. Mean	86	91	88	89	100	93	97	94	

Table 6.32 contd.: Days to 50% flowering of entries in IVT-M(H) Kharif 2019

IET No	Medium Northern				High							Overall(11) Mean
	SK	UT	JK	Medium Northern (3) Mean	JK			JK(3)	MEG		High (3)Mean	
	GTK	ALM	RJR		KHD	PMB	WDR	Mean	USG@	ICAR-BRP@		
28208	96	107	85	96	116		114	115		120	115	97
28209	77	86	78	80	102	113	103	106	76	133	106	88
28210	95	109	96	100	124			124		135	124	104
28211	86	100	88	91	107	114	108	110	80	135	110	96
28212	98	111	97	102	122		120	121		120	121	104
Vivekdhan 62 (NC)	87	108	126	107	124			124		120	124	100
28213	90	101	83	91	115	121	118	118	79	119	118	98
28214	94	107	95	98	107	111	107	108		118	108	97
28215	100	127	132	119						119		104
28216	92	117	135	114						120		105
28217	77	93	84	85	103	113	101	105	80	130	105	89
28218	86	109	96	97	118	122	117	119		131	119	102
28219	87	109	97	98	114	120	112	115	93	135	115	100
Zonal Check (ZC)	101	107	96	101	125		122	124		132	124	104
28220	91	108	98	99	111	117	108	112		117	112	103
28221	79	94	88	87	105	110	102	105	80	116	105	92
28222	90	109	101	100	124		123	124	86	130	124	103
28223	87	96	96	93	117	127	114	119	76	131	119	97
28224	81	86	94	87	103	110	101	104	76	122	104	91
28225	95	108	90	98	121		124	122	76	116	122	100
28226	92	117	99	103	129			129		116	129	101
28227	77	94	81	84	105	113	106	108	77	131	108	89
Local Check (LC)	102	109	85		102	108	101	104	68	134	104	98
Exp. Mean	89	105	96	97	114	115	111	115	79	125	115	98

Table 6.33: Plant height (cm) of entries in IVT-M(H) Kharif 2019

IET No	Low Northern								Low Southern(1)
	MN		MN(2)	MEG (1)	HP		HP (2)Mean	Low Northern (5)Mean	SH(1)
	LLP	WBL	Mean	CAU-BRP	DLK	MN			SRS@
28208	153.00	124.00	138.50	135.88	148.00	138.20	143.10	140.69	133.10
28209	134.00	140.00	137.00	109.45	108.00	120.90	114.45	112.78	118.00
28210	111.00	100.00	105.50	87.46	109.00	104.80	106.90	100.42	109.10
28211	105.00	81.00	93.00	72.42	104.00	97.80	100.90	91.41	92.30
28212	111.00	99.00	105.00	88.59	118.00	105.40	111.70	104.00	107.30
Vivekdhan 62 (NC)	145.00	127.00	136.00	106.53	145.00	139.80	142.40	130.44	124.20
28213	101.00	87.00	94.00	82.83	99.00	101.60	100.30	94.48	99.80
28214	100.00	72.00	86.00	82.60	101.00	108.80	104.90	97.47	100.60
28215	106.00	94.00	100.00	81.45	98.00	102.40	100.20	93.95	97.90
28216	114.00	90.00	102.00	108.20	128.00	111.00	119.50	115.73	107.60
28217	117.00	88.00	102.50	90.60	127.00	118.70	122.85	112.10	103.60
28218	116.00	94.00	105.00	87.56	118.00	117.60	117.80	107.72	101.90
28219	98.00	79.00	88.50	85.28	112.00	95.80	103.90	97.69	90.90
Zonal Check (ZC)	98.00	76.00	87.00	72.59	127.00	125.40	126.20	108.33	115.80
28220	108.00	93.00	100.50	84.29	112.00	111.00	111.50	102.43	92.90
28221	113.00	86.00	99.50	89.56	107.00	110.60	108.80	102.39	101.70
28222	105.00	92.00	98.50	73.53	112.00	108.00	110.00	97.84	97.60
28223	115.00	105.00	110.00	97.38	99.00	105.60	102.30	100.66	97.40
28224	115.00	103.00	109.00	110.41	104.00	121.60	112.80	112.00	107.20
28225	112.00	86.00	99.00	89.55	107.00	104.00	105.50	100.18	100.80
28226	94.00	67.00	80.50	76.87	101.00	87.20	94.10	88.36	87.40
28227	115.00	102.00	108.50	93.39	115.00	112.30	113.65	106.90	97.80
Local Check (LC)	102.00	85.00	93.50	90.16	116.00	106.20	111.10	104.12	109.60
Exp. Mean	112.52	94.35	103.43	91.15	113.70	111.07	112.38	105.31	104.11

Table 6.33 contd.: Plant height (cm) of entries in IVT-M(H) Kharif 2019

IET No	Medium Northern				High							Overall(11) Mean
	SK	UT	JK	Medium Northern (3) Mean	JK			JK(3)	MEG		High (3) Mean	
	GTK	ALM	RJR		KHD	PMB	WDR	Mean	USG@	ICAR-BRP@		
28208	113.00	133.50	122.00	122.83	125.60		120.40	123.00		73.80	123.00	131.36
28209	81.80	111.50	131.60	108.30	126.30	108.60	122.00	118.97		80.60	118.97	117.65
28210	73.00	112.50	121.00	102.17	92.80			92.80		57.80	92.80	101.28
28211	71.00	102.00	100.60	91.20	93.00	84.50	96.90	91.47		54.20	91.47	91.66
28212	86.80	119.50	98.40	101.57	91.20		98.20	94.70		65.80	94.70	101.61
Vivekdhan 62 (NC)												
	103.60	129.00	130.40	121.00	132.50			132.50		63.00	132.50	128.76
28213	65.80	102.00	112.80	93.53	90.40	83.70	86.50	86.87		56.00	86.87	92.06
28214	85.20	115.50	101.40	100.70	102.70	95.00	100.80	99.50		58.80	99.50	96.82
28215	53.40	103.00	91.60	82.67						64.60		91.23
28216	85.00	124.00	84.00	97.67						72.20		105.52
28217	68.42	116.50	122.80	102.57	124.90	105.60	119.80	116.77		74.20	116.77	109.03
28218	73.40	110.50	105.60	96.50	115.40	104.70	117.60	112.57		60.80	112.57	105.49
28219	75.40	109.00	96.60	93.67	78.90	74.50	82.40	78.60		59.20	78.60	89.72
Zonal Check (ZC)	55.00	127.00	110.40	97.47	126.10		121.30	123.70		51.75	123.70	103.88
28220	78.60	108.00	104.20	96.93	98.10	92.40	103.10	97.87		62.00	97.87	99.34
28221	78.54	109.00	101.80	96.45	109.50	103.50	106.70	106.57		80.20	106.57	101.38
28222	80.60	110.50	115.60	102.23	94.50		92.60	93.55		73.80	93.55	98.43
28223	82.21	111.00	95.80	96.34	116.60	105.00	118.20	113.27		75.40	113.27	104.62
28224	68.80	122.00	109.60	100.13	126.00	112.60	121.00	119.87		92.20	119.87	110.36
28225	65.80	110.00	108.00	94.60	99.10		102.20	100.65		52.60	100.65	98.36
28226	63.80	97.00	83.60	81.47	91.80			91.80		72.80	91.80	84.70
28227	50.12	115.00	114.00	93.04	117.20	107.30	113.60	112.70		65.20	112.70	104.99
Local Check (LC)	108.21	119.50	97.00	108.24	120.30	108.80	117.70	115.60		80.20	115.60	106.44
Exp. Mean	76.85	113.80	106.90	99.19	108.23	98.94	107.83	105.87		67.27	105.87	103.25

Table 6.34: No. of Panicles/m2 of entries in IVT-M(H) Kharif 2019

IET No	Low Northern								Low Southern(1)
	MN		MN(2)	MEG (1)	HP		HP (2) Mean	Low Northern (5) Mean	SH(1)
	LLP	WBL	Mean	CAU-BRP	DLK	MLN			SRS@
28208	212	430	321	209	261	324	292	287	216
28209	197	420	309	321	192	306	249	287	197
28210	234	324	279	252	213	329	271	270	246
28211	260	336	298	278	185	554	369	322	264
28212	172	414	293	180	196	324	260	257	219
Vivekdhan 62 (NC)	198	318	258	278	268	261	264	264	188
28213	229	342	286	207	263	554	408	319	203
28214	199	410	304	209	222	383	302	284	180
28215	184	252	218	191	246	225	235	219	246
28216	201	330	266	207	332	423	378	299	191
28217	205	408	307	195	241	446	343	299	296
28218	294	199	247	171	296	370	333	266	233
28219	202	362	282	287	260	374	317	297	239
Zonal Check (ZC)	228	533	381	206	431	410	420	361	305
28220	187	270	229	215	259	356	307	257	254
28221	243	309	276	221	233	315	274	264	245
28222	182	187	184	176	243	351	297	228	164
28223	266	312	289	281	327	495	411	336	207
28224	196	348	272	201	233	302	267	256	161
28225	223	309	266	189	316	450	383	297	164
28226	157	347	252	262	293	410	351	294	167
28227	214	400	307	323	314	392	353	328	186
Local Check (LC)	188	309	249	296	377	459	418	326	158
Exp. Mean	212	342	277	233	269	383	326	288	214

Table 6.34 contd.: No. of Panicles/m2 of entries in IVT- M(H) Kharif 2019

IET No	Medium Northern				High							Overall(11) Mean
	SK	UT	JK	Medium Northern (3) Mean	JK			JK(3)	MEG	High (3) Mean		
	GTK	ALM	RJR		KHD	PMB	WDR	Mean	USG@		ICAR-BRP@	
28208	112	269	295	225	297		276	286		149	286	268
28209	264	201	333	266	362	286	318	322	155	116	322	291
28210	243	266	270	260	377			377		116	377	279
28211	304	243	355	301	447	331	374	384	131	132	384	333
28212	331	233	250	271	330		277	303		149	303	271
Vivekdhan 62 (NC)												
	227	216	235	226	302			302		116	302	256
28213	295	257	325	292	338	274	354	322	124	165	322	312
28214	297	240	293	276	349	240	340	309		116	309	289
28215	279	206	275	253						149		232
28216	393	313	300	335						149		312
28217	270	215	320	268	450	344	415	403	118	132	403	319
28218	221	225	270	239	336	292	346	325		116	325	274
28219	257	233	303	264	326	295	301	307		165	307	291
Zonal Check (ZC)	285	281	325	297	300		247	273		149	273	324
28220	364	256	270	297	379	320	386	361		149	361	296
28221	211	221	280	237	319	283	342	314	128	116	314	270
28222	301	259	275	278	305		286	295		182	295	256
28223	340	267	290	299	364	298	309	323	160	132	323	322
28224	263	230	255	249	377	307	411	365	126	116	365	284
28225	298	235	295	276	377		350	363	136	165	363	304
28226	241	206	200	215	263			263		167	263	264
28227	284	215	290	263	396	309	392	365	132	149	365	321
Local Check (LC)	336	258	295	296	400	322	410	377	235	116	377	332
Exp. Mean	279	241	287	269	352	300	340	330	145	139	330	291

ADVANCE VARIETY TRIAL 1-UPLAND (HILLS) - AVT 1-U-H**Locations: 6****Test Entries: 10****Checks: Sukaradhan 1 (NC), Vivekdhan 154 (ZC for North and South), Bhalum1 (ZC for North east) and Local check** **Table: 6.35**

The Advance Variety Trial - Upland (Hills) comprised of seven test entries (6 entries viz., IET 27503, 27504, 27506, 26605, 27501, 27505, 27498 in 2nd year of testing and one entry, IET 26605 in 3rd year of testing) and three checks viz., Sukaradhan-1 (National), Vivekdhan 154 (Zonal check for North and South), Bhalum 1 (Zonal check for North east) and local check.

The trial was sent to 10 locations: 5 low elevated locations (< 950 msl) namely Lamphelpat, CAU-Imphal and Wangbal in Manipur; CAU Barapani (Meghalaya) and Malan (Himachal Pradesh) while three medium elevated locations (951-1500 msl) namely Almora and Bageshwar in Uttarakhand and Kalimpong in West Bengal, two high elevated locations (>1500 msl) namely Upper Shillong and ICAR-Barapani (Meghalaya). The data was received from 6 locations except CAU- Imphal, ICAR-Barapani, CAU-Barapani and Kalimpong. At Upper Shillong poor germination and stunted crop growth was reported. The entries did not flower except local check at Upper Shillong.

Mean yield of test entries across the locations ranged from 1282 kg/ha (Zonal check) to 2519 kg/ha (IET 27498) (Table 6.36). Days to 50% flowering duration ranged from 88 days (27504) to 98 days (IET 27503 and 27498) (Table 6.37), panicles/m² ranged from 173 (IET 27505) to 247 (IET 27506) (Table 6.39). Local check is high yielder among the checks (1954 kg/ha) followed by Sukaradhan 1 (1637 kg/ha) and Zonal check (1282 kg/ha). The experimental mean yield ranged from 1069 kg/ha (Bageshwar) to 2265 kg/ha (Wangbal), while the CV varied from 11.7 % (Wangbal) to 25.7 % (Bageshwar). Performance of entries under different elevations is discussed below.

Northern Low Elevated Hills (< 950 msl):

AVT 1-U-hills trials under low elevated hills were conducted at 3 locations: Lamphelpat and Wangbal (Manipur) and Malan (Himachal Pradesh). The mean grain yield ranged from 1378 kg/ha (Zonal check) to 3108 kg/ha (IET 27948); days to 50% flowering from 87 days (27504) to 97 days (IET No. 27503 and 27506); panicles/m² from 183 (IET 27505) to 274 (IET 27506) and plant height from 73 cm (27504) to 136 cm (IET 26605) (Table 6.38). Among checks, local check registered highest grain yield (2298 kg/ha) followed by Sukaradhan 1 (1764 kg/ha) and zonal check (1378 kg/ha).

The two entries namely IET 27498 and IET 27504 recorded yield superiority of 35.2% and 16.89% over the best check (Local) and therefore promoted to 3rd year of testing under northern low elevated hills of AVT-2U-H.

Performance of promising entries in Low elevated hills in Advance Variety Trial 1-Upland (Hills), AVT 1-U (H), Kharif 2019

Rank	IET No. / Designation / Cross combination	Grain yield (Kg/ha)/ Days to 50% flowering / Grain type	Yield advantage over NC/ZC/LC	Quality data HRR (%)/ AC (%)/ GC (mm)/ASV
1	IET 27498 (TRC SMCT-23-202- B-29) Samba Mahsuri / CT	3108 95 LB	76.2 125.5 35.2	68.9 23.43 22 7
2	IET 27504 (VL 20254) Vivekdhan 154 / VL 31072	2686 87 SB	52.2 94.9 16.8	56.4 19.27 24 4.0
	Sukaradhan-1 (NC)	1764 93		
	Zonal Check (ZC)	1378 95		
	Local Check (LC)	2298 89		

Italic Bold: Best check & over the best check; NC- National Check; ZC- Zonal Check; LC- Local Check;; HRR- Head Rice Recovery (%); AC- Amylose content(%); GC- Gel consistency(mm); ASV- Alkali Spreading Value; LB-Long Bold; SB-Short Bold; MS-Medium Slender, LS-Long Slender,

Northern Medium elevated hills (> 951- 1000 msl)

The trial was conducted at ICAR-Almora and Bageshwar in Uttarakhand and Kalimpong in West Bengal under medium elevated hill region. Data was not received from Kalimpong. The data from ICAR-Almora was excluded from analysis due to low mean yield (207 Kg/ha). The mean grain yield of entries ranged from 444 kg/ha (IET 27506) to 1953 kg/ha (IET 26605); days to 50% flowering from 88 days (IET 26605) to 105 days (IET 27498); panicles/m² from 133 (Zonal check) to 201 (IET 26605) whereas plant height from 74 cm (IET 27498 and IET 27501) to 108 cm (IET 26605). Among checks, national check registered highest grain yield (1253 kg/ha) followed by Zonal check (994 kg/ha) and local check (920 kg/ha). Two entries namely IET 26605 and IET 27504 were found promising and registered the required yield advantage of > 15% over the best check (Local).

IET 26605 (VL 20073), a derivative from the cross VL 6394 / VL 122 with short bold grains and 88 flowering duration stood 1st (1953 kg/ha). It recorded 55.9% yield advantage over the best check (Sukaradhan 1), 96.4% over Zonal check and 112.5 % over local check. It ranked 1st at Bageshwar (1953 Kg/ha). It possessed high HRR (54.8%), AC (26.5%), GC (43 mm) and ASV 5.0 (Table 6.40).

One entry IET 27504 (VL 20254) was promoted to 3rd year of testing in AVT-2-UH under medium elevation as it registered more than 30% yield gain over the best check (Local check).

Performance of promising entries in Medium elevated hills in Advance Variety Trial 1-Upland (Hills), AVT 1-U (H), Kharif 2019

Rank	IET No. / Designation / Cross combination	Grain Yield (kg/ha)/ days to 50% flowering/ grain type	% yield superiority over NC/ZC/LC	Quality data HRR (%)/ AC (%)/ GC (mm)/ASV
1	IET 26605 (VL20073) VL 6394 / VL 122	1953 88 SB	55.9 96.4 112.5	54.8 26.51 43 5.0
2	IET 27504 (VL 20254) Vivekdhan 154 / VL 31072	1629 89 SB	30.0 63.8 77.3	56.4 19.27 24 4.0
	Sukaradhan-1 (NC)	1253 89		
	ZONAL Check (ZC)	994 101		
	Local Check (LC)	919 88		

Three years performance of IET 26605 (VL 20073) during 2008-2010 (overall mean basis) in Upland Hills

IET No. / Designation / Cross combination	Year	Yield advantage % over the best check	
		Low elevated	Medium elevated
IET 26605 ((VL 20073)	2017	--	44.8 (ZC)
	2018	--	7.7 (LC)
	2019	-	55 (NC)

IET 26605 completed 3 years of testing in upland hills. On overall mean basis it could not record yield superiority over the best check in 3 consecutive years under low elevated hills. However, in medium elevated upland hills, it exhibited yield improvement in all three years over the best check: 44.8 % over zonal check, 7.7 % over local check and 55.8 % over Sukaradhan 1 during 2017, 2018 and 2019 respectively.

State wise performance of IET 26605 during 2017-2019 in upland hills

IET No / Designation	Year	Yield Advantage % over the best Check					
		Low Elevation			Medium Elevation		
		MN	HP	ME	HP	UT	WB
IET 26605 (VL 20073)	2017	-	-	-	-	44.8 (ZC)	-
	2018	-	-	-	-	17.0 (NC)	-
	2019	-	4.7 (NC)	-	-	55.8 (NC)	-

State wise performance revealed that IET 26605 recorded significant yield improvement over the best check in three consecutive years (2017: 44.8 %; 2018: 17.0% and 2019: 55.8%) in Uttarakhand under medium elevated hills. It possessed high HRR (54.8%), AC (26.51%), GC: 43 mm and ASV 5.0. ***Based on yield consistency and desirable grain quality traits, IET 26605 ((VL 20073) is found promising in medium elevated hills of Uttarakhand.***

INITIAL VARIETY TRIAL-UPLAND (HILLS) IVT-U(H)

Locations: 10

Test Entries: 12

Checks: Sukaradhan 1 (NC), Vivekdhan 154 (ZC for North and South), Bhalum1 (ZC for North east) and Local check **Table: 6.41**

The Initial Variety Trial-Upland (Hills) comprised 12 entries in the first year of testing and a national check (Sukaradhan-1), zonal check (Vivekdhan 154 for north and south zones; Bhalum-1 for North East) and a local check. The trial was sent to 10 locations however only 6 locations viz., ICAR-Lamphelpat, Wangbal, Upper Shillong, ICAR-Almora, Bageshwar (Almora) and Malan sent data while data was not received from 4 other locations such as CAU-Imphal, ICAR-Barapani, CAU-Barapani and Kalimpong. Data from Almora and Bageshwar that represent medium northern elevation is not included in the analysis due to low experimental mean yield of <1000 kg/ha. At Upper Shillong, poor germination and stunted growth (plant height is about 50 cm only) with no flowering was observed in the entries except local check and hence yield data from this location is not available. Thus, data from three locations (Lamphelpat and Wangbal of Manipur and Malan of Himachal Pradesh) under low elevation was included in analysis.

Lower Northern Elevation Hills

In lower northern elevation hills, overall yield varied from 1786 kg/ha (ZC) to 2917 kg/ha (IET 28230), days to 50% flowering from 76 days (IET 28228) to 95 days (IET 28236), plant height from 81 cm (IET 28233) to 118 cm (IET 28232) and panicles/m² from 200 (IET 28228) to 293 (IET 28239). Experimental mean ranged from 1268 kg/ha at Lamphelpat to 3771 kg/ha at Wangbal and CV% from 9.75% at Bageshwar to 20.22% at Wangbal. The data pertaining to yield, flowering, plant height and panicles/m² are presented in tables 6.42, 6.43, 6.44 and 6.45. Of the 12 entries under testing, 6 entries outperformed the best check (local check) as detailed in the table.

Performance of the entries in IVT-U (H)-(Lower Northern) during Kharif 2019

Rank	IETNo/Designation/Cross Combination	Grain yield/ Days to 50% flowering/ grain type	% yield superiority over NC/ZC/LC
1	IET 28230 (TRC PSM-1720-B-B-5-1) Pyzum/BPT 5204	2917 91 LS	40.15 63.28 22.68
2	IET 28233 (TRC KS-179-B-B-12-1-1) Kataktara/Swarna	2783 88 MB	33.72 55.80 17.06
3	IET 28229 (HPR 2657) TS29/Ch988	2773 94 MS	33.23 55.21 16.62
4	IET 28235 (HPR 2653) VL 221/HPR2216 //HPR1149	2757 91 MB	32.46 54.32 15.95
5	IET 28231 (HPR2868) HPR2143/AC19146 //VL 30424	2632 89 MB	26.46 47.34 10.70
6	IET 28236 (TRC BN-1816-B-B-14-4-1) Bhalum 3/Naveen	2582 95 LS	24.06 44.54 8.60
	Sukaradhan -1 (NC)	2081	
	Zonal Check (ZC)	1786	
	Local Check (LC)	2377	

Bold Italics: Best check & over the best check; NC- National Check; ZC- Zonal Check; LC- Local Check; LB-Long Bold; SB-Short Bold; MS-Medium Slender, LS-Long Slender,

On the basis of yield superiority over the best check, six entries IET 28230, IET 28233, IET 28229, IET 28235, IET 28231 and IET 28236 are promoted to the second year of testing in hills of lower northern elevation.

Table 6.35: Composition of entries in Advance Variety Trial 1-Upland (Hills) AVT 1-U (H), Kharif 2019

Entry No.	IET No.	Designation	Cross Combination	Grain Type
2 nd year of testing				
2701	27503	HPR 2876	HPR 2143 / AC 19180 // VL 30424	LS
2702	27504	VL 20254	Vivek Dhan 154 / VL 31072	SB
2703	27506	TRC BN-188-145-B-B-18	Bhalum 3 / Naveen	LS
2704	Sukaradhan 1 (NC)			
3 rd year of testing				
2705	26605	VL 20073	VL 6394 / VL 122	LB
2 nd year of testing				
2706	27501	HPR 2867	HPR 2143 / AC 19146 // VL 30424	LS
2707	Vivek Dhan 154 (ZC for North & South), Bhalum-1 (ZC for North East)			
2708	27498	TRC SMCT-23-202-B-29	Samba Mahsuri / CT	LB
2709	27505	HPR 2881	HPR 2143 / AC 19180 // VL 30424	LS
2710	Local Check			

Table 6.36: Grain yield (Kg/ha) of entries in AVT-1-U(H) Kharif 2019

IET No	Low Northern										
	MN					MN(2) Mean		HP(1) Mean		Low Northern (3) Mean	
	LPP		WBL								
27503	1983	4	14.86%	2000	7	1992	5	2287	7	2090	6
27504	2003	3	16.02%	2733	3	2368	3	3323	2* 28.48%	2687	2* 16.89%
27506	2010	2	16.41%	1733	9	1872	6	1755	10	1833	8
Sukaradhan 1 (NC)	707	10		2000	7	1353	9	2587	6	1764	9
26605	1373	8		2756	2	2064	4	2709	4 4.72%	2279	5
27501	860	9		2467	5	1663	8	2652	5	1993	7
Zonal Check (ZC)	1490	7		800	10	1145	10	1844	8	1378	10
27498	2847	1* 64.86%		2667	4	2757	1 8.96%	3811	1* 47.32%	3108	1* 35.22%
27505	1570	6		2167	6	1868	7	3313	3* 28.07%	2350	3
Local Check (LC)	1727	5		3333	1	2530	2	1835	9	2298	4
Exp. Mean	1657			2266		1961		2611		2178	
CD	629.37			258.62		359.21		335.95		340.28	
CV%	21.68			11.71		10.54		11.96		11.13	
D/S	13-06-2019			18-07-2019				14-06-2019			
D/P				25-08-2019							
Local Check Name	RCM 5			Sana				HPR 2656			

Table 6.36 contd: Grain yield (Kg/ha) of entries in AVT-1-U(H) Kharif 2019

IET No	Medium Northern									Overall(4) Mean				
	UT				UT(1) Mean		Medium Northern (1)							
	ALM@	BGS					Mean							
27503	58	9	512	9		512.35	9		512	9		1696	7	
27504	262	3	1630	2	30.05%	1629.63	2	30.05%	1630	2	30.05%	2422	2	24%
27506	44	10	444	10		444.44	10		444	10		1486	9	
Sukaradhan 1 (NC)	242	5	1253	3		1253.09	3		1253	3		1637	8	
26605	286	2	1953	1	55.86%	1953.09	1	55.86%	1953	1	55.86%	2198	3	12.48%
27501	174	8	1173	4		1172.84	4		1173	4		1788	6	
Zonal Check (ZC)	233	6	994	6		993.83	6		994	6		1282	10	
27498	242	4	753	8		753.09	8		753	8		2519	1	29%
27505	179	7	1061	5		1061.11	5		1061	5		2028	4	
Local Check (LC)	354	1	920	7		919.75	7		920	7		1954	5	
Exp. Mean	207		1069			1069.32			1069			1901		
CD	684.24		733.64			733.64			733.64			651.58		
CV%	25.24		25.78			25.78			25.78			16.7		
D/S	04-06-2019		13-06-2019											
D/P														
Local Check Name	VLD 221		VLD 221											

Table 6.37: Days to 50% flowering of entries in AVT-1-U(H) Kharif 2019

IET No	Medium Northern				Overall(4) Mean
	UT		UT(1)	Medium Northern (1) Mean	
	ALM@	BGS	Mean		
27503	112	100	100	100	98
27504	103	89	89	89	88
27506	114	104	104	104	99
Sukaradhan 1 (NC)	108	89	89	89	92
26605	92	88	88	88	90
27501	115	90	90	90	90
Zonal Check (ZC)	87	101	101	101	97
27498	114	105	105	105	98
27505	113	90	90	90	91
Local Check (LC)	92	88	88	88	89
Exp. Mean	105	94	94	94	93

Table 6.38: Plant height (cm) of entries in AVT-1-U(H) Kharif 2019

IET No	Low Northern					Medium Northern				Overall(4) Mean
	MN		MN(2)	HP(1)	Low Northern (3)	UT		UT(1)	Medium Northern (1) Mean	
	LPP	WBL	Mean	MLN	Mean	ALM@	BGS	Mean		
27503	116	105	111	103	108	69	77	77	77	100
27504	118	89	103	11	73	66	87	87	87	76
27506	88	72	80	74	78	65	64	64	64	75
Sukaradhan 1 (NC)	131	92	111	99	107	78	78	78	78	100
26605	180	109	145	118	136	83	108	108	108	129
27501	92	76	84	86	85	68	74	74	74	82
Zonal Check (ZC)	124	96	110	94	105	78	78	78	78	98
27498	119	83	101	95	99	61	74	74	74	93
27505	100	86	93	92	93	75	79	79	79	89
Local Check (LC)	129	73	101	108	103	67	95	95	95	101
Exp. Mean	120	88	104	88	99	71	81	81	81	94

Table 6.39: No. of Panicles /m2 of entries in AVT-1-U(H) Kharif 2019

IET No	Low Northern					Medium Northern				Overall(4) Mean
	MN		MN(2)	HP(1)	Low Northern (3)	UT		UT(1)	Medium Northern (1)	
	LPP	WBL	Mean	MLN	Mean	ALM@	BGS	Mean	Mean	
27503	177	252	215	257	229	77	124	124	124	202
27504	160	215	187	300	225	85	177	177	177	213
27506	196	256	226	370	274	74	167	167	167	247
Sukaradhan 1 (NC)	156	246	201	387	263	103	185	185	185	243
26605	122	246	184	293	220	100	201	201	201	216
27501	86	205	145	270	187	93	172	172	172	183
Zonal Check (ZC)	125	147	136	408	227	81	133	133	133	203
27498	164	200	182	393	252	78	164	164	164	230
27505	143	216	180	190	183	74	141	141	141	173
Local Check (LC)	153	283	218	325	254	68	166	166	166	232
Exp. Mean	148	227	187	319	231	83	163	163	163	214

Table 6.40: Grain quality characteristics of entries in AVT 1-U (H), Kharif 2019

ENTRY NO.	IET NO.	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
2701	27503	77.6	68.4	58.8	6.98	2.06	3.38	LS	VOC	4.0	21.85	22
2702	27504	72.8	68.8	56.4	5.50	2.36	2.33	SB	VOC	4.0	19.27	24
2703	27506	78.0	70.2	61.7	7.10	2.12	3.34	LS	VOC	5.0	24.64	22
2704	Sukardhan-1	76.8	69.4	64.6	6.72	2.00	3.36	LS	VOC	4.0	23.99	25
2705	26605	77.8	66.1	54.8	6.08	2.70	2.25	LB	VOC	5.0	26.51	43
2706	27501	77.5	70.0	60.3	6.89	2.11	3.26	LS	VOC	4.0	23.55	23
2707	Vivekdhan-154	79.0	69.6	60.8	6.64	2.39	2.77	LB	VOC	4.0	25.37	43
2708	27498	77.5	70.8	68.9	6.10	2.48	2.45	LB	VOC	7.0	23.43	22
2709	27505	78.8	72.0	66.2	7.18	2.12	3.38	LS	A	5.0	24.96	22

HULL: Hulling (%); Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB::Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

Table 6.41: Composition of entries in Initial Variety Trial -Upland (Hills) IVT-U (H), Kharif 2019

Entry No.	IET No.	Designation	Cross Combination	Grain Type
1st year of testing				
2801	28228	VL 20541	VL Dhan 221 / UPRI-2008-62	LB
2802	28229	HPR 2657	TS 29 / Ch 988	MS
2803	28230	TRC PSM-1720-B-B-5-1	Pyzum / BPT 5204	LS
2804	Sukaradhan -1 (NC)			
2805	28231	HPR 2868	HPR 2143 / AC 19146 // VL 30424	MB
2806	28232	VL 20432	VL 8158 / VL Dhan 85	LB
2807	28233	TRC KS - 179-B-B-12-1-1	Kataktara / Swarna	MB
2808	28234	VL 20561	VL 7620 / VL 30569	LB
2809	28235	HPR 2653	VL 221 / HPR 2216 // HPR 1149	MB
2810	28236	TRC BN -1816-B-B-14-4-1	Bhalum 3 / Naveen	LS
2811	Vivekdhan 154 (ZC for North & South), Bhalum – 1 (ZC for North East)			
2812	28237	HPR 2846	Kalizini / HPR 2143 // HPR 2143	MS
2813	28238	VL 20559	VL Dhan 221 / VL 7820	LB
2814	28239	HPR 2878	HPR 2143 / AC 19180 // VL 30424	MB
2815	Local Check			

Table 6.42: Grain yield (Kg/ha) of entries in IVT-U(H) Kharif 2019

IET No	Low Northern									
	MN				MN(2) Mean		HP(1)		Low Northern (3) Mean	
	LPP		WBL				MLN			
28228	720		4700	1	2710	6	1478		2299	9
28229	1403	6* 58.86%	3200		2302		3714	1* 120%	2773	3* 17%
28230	2553	1* 189%	3200		2877	4 5.70%	2997	2* 77%	2917	1* 23%
Sukaradhan -1 (NC)	660		4100	6	2380		1483		2081	
28231	2313	2* 162%	3500	9	2907	3 6.80%	2082	8 23%	2632	5 11%
28232	1100	7 25%	2500		1800		2211	5* 31%	1937	
28233	1980	4* 124%	4200	5	3090	1 13.53%	2169	7* 28.42%	2783	2* 17%
28234	590		4500	3	2545	9	1738	9	2276	10
28235	1527	5* 72%	4500	3	3013	2 10.72%	2243	4* 33%	2757	4* 16%
28236	2130	3* 141%	3100		2615	7	2516	3* 49%	2582	6 8.60%
Zonal Check (ZC)	883	9	2900		1892		1576		1786	
28237	697		4100	6	2398	10	2170	6* 28.50%	2322	8
28238	523		3370	10	1947		1662		1852	
28239	1100	7 25%	4100	6	2600	8	1453		2218	
Local Check (LC)	843	10	4600	2	2722	5	1689	10	2377	7
Exp. Mean	1268		3771		2520		2079		2373	
CD	450.39		519.09		409.07		479.32		289.43	
CV%	15.41		20.22		9.6		15.91		7.3	
D/S	12-06-2019		18-07-2019				14-06-2019			
D/P			25-08-2019							
Local Check Name	RCM 5		Sana				HPR 2656			

Table 6.42 contd.: Grain yield (Kg/ha) of entries in IVT-U(H) Kharif 2019

IET No	Medium Northern				Overall(3) Mean	
	UT					
	ALM@		BGS@			
28228	223	4	469		2299	9
28229	87		475		2773	3* 17%
28230	228	3	623	9	2917	1* 23%
Sukaradhan -1 (NC)	174	6	1012	4	2081	
28231	107		457		2632	5 11%
28232	157	9	1049	2	1937	
28233	296	1	907	5	2783	2* 17%
28234	257	2	1259	1	2276	10
28235	63		648	8	2757	4* 16%
28236	160	8	481		2582	6 8.60%
Zonal Check (ZC)	150	10	883	6	1786	
28237	107		451		2322	8
28238	223	4	1031	3	1852	
28239	121		667	7	2218	
Local Check (LC)	165	7	549	10	2377	7
Exp. Mean	168		731		2373	
CD	160.76		241.48		289.43	
CV%	18.73		9.75		7.3	
D/S	04-06-2019		13-06-2019			
D/P						
Local Check Name	VLD 221		VLD 221			

Table 6.43: Days to 50% flowering of entries in IVT-U(H) Kharif 2019

IET No	Low Northern					Medium Northern		Overall(3) Mean
	MN		MN(2)	HP(1)	Low Northern (3) Mean	UT		
	LPP	WBL	Mean	MLN		ALM@	BGS@	
28228	68	78	73	81	76	91	87	76
28229	104	87	95	90	94	113	96	94
28230	91	91	91	92	91	112	102	91
Sukaradhan -1 (NC)	91	85	88	83	87	104	100	87
28231	94	85	89	89	89	93	89	89
28232	93	89	91	90	91	100	99	91
28233	97	74	86	93	88	112	106	88
28234	91	87	89	84	87	104	89	87
28235	94	88	91	91	91	113	105	91
28236	104	91	97	92	95	110	106	95
Zonal Check (ZC)	91	93	92	80	88	96	88	88
28237	92	87	89	88	89	103	105	89
28238	62	87	74	82	77	87	88	77
28239	93	85	89	88	89	93	87	89
Local Check (LC)	101	87	94	82	90	88	87	90
Exp. Mean	91	86	89	87	88	101	96	88

Table 6.44: Plant height (cm) of entries in IVT-U(H) Kharif 2019

IET No	Low Northern					Medium Northern		Overall(3) Mean
	MN		MN(2)	HP(1)	Low Northern (3)	UT		
	LPP	WBL	Mean	MLN	Mean	ALM@	BGS@	
28228	113.00	104.00	108.50	114.60	110.53	67.00	88.00	110.53
28229	113.25	73.00	93.13	108.00	98.08	71.00	60.67	98.08
28230	107.25	85.00	96.13	90.80	94.35	82.00	62.00	94.35
Sukaradhan -1 (NC)	124.80	105.00	114.90	88.40	106.07	76.33	79.33	106.07
28231	92.25	76.00	84.13	90.60	86.28	79.00	76.00	86.28
28232	121.87	115.00	118.44	116.20	117.69	81.00	98.00	117.69
28233	86.75	76.00	81.38	80.20	80.98	77.00	64.00	80.98
28234	107.37	73.00	90.19	133.20	104.52	94.00	89.67	104.52
28235	108.87	112.00	110.44	102.90	107.92	72.67	77.67	107.92
28236	94.25	79.00	86.63	84.00	85.75	85.67	68.33	85.75
Zonal Check (ZC)	119.87	123.00	121.44	105.60	116.16	71.33	85.33	116.16
28237	89.12	74.00	81.56	87.20	83.44	80.67	67.33	83.44
28238	109.50	75.00	92.25	108.60	97.70	81.00	87.00	97.70
28239	108.50	98.00	103.25	94.20	100.23	72.00	77.00	100.23
Local Check (LC)	112.87	73.00	92.94	100.20	95.36	78.33	70.67	95.36
Exp. Mean	107.30	89.40	98.35	100.31	99.00	77.93	76.73	99.00

Table 6.45: No. of Panicles/m² of entries in IVT-U(H) Kharif 2019

IET No	Low Northern					Medium Northern		Overall(3) Mean
	MN		MN(2)	HP(1)	Low Northern (3)	UT		
	LPP	WBL	Mean	MLN	Mean	ALM@	BGS@	
28228	96	186	141	317	200	82	131	200
28229	127	215	171	267	203	70	91	203
28230	185	210	198	383	260	87	144	260
Sukaradhan -1 (NC)	184	246	215	265	232	104	155	232
28231	150	324	237	215	230	87	114	230
28232	86	214	150	350	217	89	162	217
28233	205	241	223	345	264	63	117	264
28234	132	210	171	337	226	80	142	226
28235	158	300	229	357	272	62	116	272
28236	204	186	195	285	225	95	202	225
Zonal Check (ZC)	87	172	130	353	204	75	157	204
28237	169	212	190	302	227	73	100	227
28238	86	210	148	358	218	89	135	218
28239	153	425	289	302	293	91	139	293
Local Check (LC)	52	210	131	360	207	73	114	207
Exp. Mean	138	237	188	320	232	81	135	232

INITIAL VARIETAL TRIAL - LANDRACES (HILLS) IVT-LR (H)

Locations: 5

Test Entries: 13

Checks (4): Thangjing, Him-HPR 2720, Him-HPR 2795 and Local check

Table: 6.46

Landraces are important sources of tolerance to biotic and abiotic stresses in addition to their high nutritional value. To congregate and make use of the rice landraces available with different breeders working on Hill rice, a separate trial called Initial Varietal Trial - landraces (Hills) IVT- LR (H) was constituted. The main objective of this trial is to pool the rice land races in one place and made available to all rice breeders working for Hill ecology. IVT- LR (H) comprised of 13 test entries and four checks viz., Thangjing, Him-HPR 2720, Him-2795 and Local check was conducted at 5 locations spanning across the 5 hill states comprising Himachal Pradesh, Manipur, Meghalaya, Uttarakhand, and Jammu and Kashmir. All 13 test entries were in first year of testing. The trial was conducted at low elevated Hills (<950 MSL) locations viz., CAU-Imphal, Malan and CAU-Barapani; Medium elevated (951-1500 MSL) location viz., Almora-ICAR; and High elevated (>1500 MSL) location viz., Khudwani. The data was received from all the five centers and was used for analysis. In this trial, promising land races for different locations/elevations will be identified. The data pertaining to yield, flowering, plant height, panicles/m² and quality are presented in tables 6.47, 6.48, 6.49, 6.50 and 6.51. Performance of entries under overall and different elevations is discussed below.

Overall performance of entries under different elevations:

The trial was conducted at five locations viz., CAU-Imphal, Malan and CAU-Barapani (Northern Low Elevation hills); Almora-ICAR (Northern Medium Elevation Hills) and Khudwani (Northern High Elevation Hills). Over all mean grain yield of the entries ranged from 1743 kg/ha (IET 28056) to 4213 kg/ha (IET 28043); the experimental mean yield of locations ranged from 1297 (Almora-ICAR) to 4443 kg/ha (CAU-Imphal); while CV ranged from 9.49% (Khudwani) to 26.28% (Almora-ICAR). Among checks, Him-HPR 2795 registered highest grain yield (3078 kg/ha) followed by Local check (2969 kg/ha), Thangjing (2684 kg/ha) and Him-HPR 2720 (1879 kg/ha). **Based on 5% yield superiority over best check, two entries viz., IET 28043 and 28042 found to be superior across northern low, medium and high elevation hills.**

Overall performance of promising entries at Northern Elevation Hills in Initial Variety Trial – Landraces IVT-LR (H), Kharif 2019

Rank	IET No/Designation/ Cross combination	Grain Yield (kg/ha)/ Days to 50% flowering/ Grain type	% Yield Superiority over checks 1,2,3 (BC),4
1	28043 Red Rice (Zag)	4213 97 LB	56.96 124.2 36.87 41.89
2	28042 Tolen	3547 103 MS	32.15 88.77 15.23 19.46
Check 1	Thangjing	2684 109 LB	
Check 2	Him-HPR 2720	1879 107 MS	
Check 3	Him-HPR 2795 (Best check)	3078 104 LS	
Check 4	Local Check	2969 98	

Bold Italics: Best check & over the best check; LB-Long Bold; SB-Short Bold; MS-Medium Slender, LS-Long Slender.

- The trial will be repeated as such for one more year

Northern Low Elevation Hills:

The trial was conducted at three locations of low northern elevation hills viz., CAU-Imphal, Malan and CAU-Barapani. The grain yield ranged from 646 kg/ha (IET 28050) to 4134 kg/ha (IET 28042); days to 50% flowering varied from 83 days (IET 28047) to 107 days (IET 28057); Plant height ranged from 77.14 cm (IET 28042) to 143.13 cm (IET 28046); number of panicles/m² ranged between 131 (IET 28048) and 261 (IET 28056). Among checks, Thangjing registered highest grain yield (2990 kg/ha) followed by Local check (2920 kg/ha), Him-HPR 2795 (2863 kg/ha) and Him-HPR 2720 (1696 kg/ha). **Based on 5% yield advantage over best check, three entries namely IET's 28042, 28043 and 28041 found to be superior in northern low elevation hills.**

Performance of promising entries at Northern Low Elevation Hills in Initial Variety Trial – Landraces IVT-LR (H), Kharif 2019

Rank	IET No/Designation/ Cross combination	Grain Yield (kg/ha)/ Days to 50% flowering/ Grain type	% Yield Superiority over Checks 1 (BC),2,3,4
1	28042 Tolen	4134 104 MS	38.26 143.7 44.39 41.57
2	28043 Red Rice (Zag)	3963 92 LB	32.51 133.6 38.42 35.71
3	28041 Him-Begmi	3750 98 MS	25.42 121.10 30.98 28.42
Check 1	Thangjing (Best check)	2990 104 LB	
Check 2	Him-HPR 2720	1696 104 MS	
Check 3	Him-HPR 2795	2863 100 LS	
Check 4	Local Check	2920 97	

Northern Medium Elevation Hills:

The trial was conducted at only one location i.e. Almora-ICAR. The grain yield ranged from 286 kg/ha (IET 28047) to 3393 kg/ha (IET 28043); Days to 50% flowering varied from 82 days (IET 28047) to 127 days (Thangjing-Check); Plant height ranged from 96 cm (IET 28052) to 134.50 cm (IET 28057); Number of panicles/m² ranged between 136 (IET 28048) and 288 (IET 28042). Among checks, Him-HPR 2795 registered highest grain yield (3155 kg/ha) followed by Him-HPR 2720 (1738 kg/ha), Local Check (1107 kg/ha) and Thangjing (464 kg/ha). ***As single location is present in the northern medium elevated hills, the entries performance is assessed based on 10% yield advantage over best check, none of the entries found to be superior in northern medium elevation hills.***

Northern High Elevation Hills:

The trial was conducted at only one location i.e. Khudwani in Jammu and Kashmir. The grain yield ranged from 1991 kg/ha (IET 28041) to 6750 kg/ha (IET 28053); Days to 50% flowering varied from 100 days (IET 28047) to 126 days (Him-HPR 2720-Check); Plant height ranged from 84 cm (IET 28051) to 135.50 cm (IET 28053); Number of panicles/m² ranged between 222 (Thangjing-Check) and 337 (IET 28056). Among checks, local check registered highest grain yield (4979 kg/ha) followed by Thangjing (3983 kg/ha), Him-HPR 2795 (3646 kg/ha) and Him-HPR 2720 (2386 kg/ha). ***As single location is present in the northern high elevated hills, the entries performance is assessed based on 10% yield advantage over best***

check, two entries namely IET 28053 and IET 28043 found to be superior in northern high elevation hills.

Performance of promising entries at Northern High Elevation Hills in Initial Variety Trial – Landraces IVT-LR (H), Kharif 2019

Rank	IET No/Designation/ Cross combination	Grain Yield (kg/ha)/ Days to 50% flowering/ Grain type	% Yield Superiority over checks 1,2,3,4 (BC)
1	28053 Him-Totu	6750 116 LS	69.47 182.9 85.13 35.58
2	28043 Red Rice (Zag)	5786 118 LB	45.26 142.49 58.69 16.21
Check 1	Thangjing	3983 104 LB	
Check 2	Him-HPR 2720	2386 126 MS	
Check 3	Him-HPR 2795	3646 125 LS	
Check 4	Local Check (Best check)	4979 103	

Table 6.46: Composition of entries in Initial Variety Trial- Landraces (Hills) (IVT-LR (H), Kharif 2019

Entry No.	IET No.	Designation	Grain Type
1st Year of testing:			
2901	28042	Tolen	LB
2902	28046	Him-Lal Narkanda	SB
2903	28041	Him-Begmi	MS
2904	28048	Him-Chhortu	SB
2905	28049	Thangjing (Check)	SB
2906	28053	Him-Totu	MS
2907	28057	Heitupphou	LB
2908	28051	Him-Bongal Dhan	LS
2909	28044	Him-RamJuwain	MS
2910	28055	Him-HPR 2720 (Check)	MS
2911	28052	Brojen	SB
2912	28050	Kamad	SB
2913	28058	Him-HPR 2795 (Check)	SB
2914	28056	Him-Karad	SB
2915	28047	Nun-Bouel	SB
2916	28043	Red Rice (Zag)	LS
2917	Local Check		

Table 6.47: Grain yield (Kg/ha) of entries in IVT-LR (H) Kharif 2019

IET No	Low Northern										
	MN(1)			ME(1)		HP(1)			Low Northern (3) Mean		
	IMP			BRP		MLN					
28042	6490	3 *	58%	2377	4	3535	1*	28.54%	4134	1 *	38.24%
28046				957	10	2299	10		1628		
28041	6663	2 *	62%	2137	5	2451	8		3750	3 *	25.42%
28048				780		3431	2	24.75%	2105	10	
28049 Thangjing (Check)	3837	6		2773	1	2361	9		2990	4	
28053				757		2583	7		1670		
28057	4165	4		2557	3	1319			2680	7	
28051	3795	7		817		1833			2148	9	
28044	3057			390		2764	5		2070		
28055 Him-HPR 2720 (Check)				1240	9	2153			1696		
28052	3093	10		1550	8	2771	4		2471	8	
28050				667		625			646		
28058 Him-HPR 2795 (Check)	3752	8		2087	7	2750	6		2863	6	
28056				150		1396			773		
28047	3192	9		518		1188			1633		
28043	6725	1 *	63%	2093	6	3069	3	11.62%	3963	2*	32.51%
Local Check	4113	5		2697	2	1951			2920	5	
Exp. Mean	4444			1444		2263			2361		
CD	1477.11			456.93		757.83			513.18		
CV%	10.54			10.55		11.16			7.25		
D/S	24-06-2019			20-06-2019		04-06-2019					
D/P	28-07-2019			20-07-2019		12-07-2019					
Local Check Name	CAU R1			Shahsarang		HPR-2720					

Table 6.47 contd.: Grain yield (Kg/ha) of entries in IVT-LR (H) Kharif 2019

IET No	Medium Northern (1)		High (1)		Overall(5) Mean		
	UT(1)		JK (1)				
	ALM		KHD				
28042	1429	5	3906		3547	2	15.25%
28046	1012	9	3781		2012		
28041	918		1991		2832	5	
28048	643		4564	5	2354		
28049 Thangjing	464		3983		2684	8	
28053	714		6750	1* 35.58%	2701	7	
28057	929	10	4321	8	2658	9	
28051	1726	4	5346	3 7.40%	2704	6	
28044	1131	7	4164	9	2301		
28055 Him-HPR 2720 (Check)	1738	3	2386		1879		
28052	1250	6	3484		2430	10	
28050			4471	7	1921		
28058 Him-HPR 2795 (Check)	3155	2	3646		3078	3	
28056	869		4557	6	1743		
28047	286		4071	10	1851		
28043	3393	1 7.55%	5786	2 16.21%	4213	1* 36.88%	
Local Check	1107	8	4979	4	2969	4	
Exp. Mean	1298		4246		2581		
CD	1028.04		1208.66		490.36		
CV%	26.28		9.49		6.33		
D/S	07-06-2019		12-05-2019				
D/P	11-07-2019		13-06-2019				
Local Check Name	Thapachini		Mushk Budji				

Table 6.48: Days to 50% flowering of entries in IVT-LR(H) Kharif 2019

IET No	Low Northern				Medium Northern (1)	High (1)	Overall(5) Mean
	MN(1)	ME(1)	HP(1)	Low Northern (3) Mean	UT(1)	JK (1)	
	IMP	BRP	MLN		ALM	KHD	
28042	92	113	107	104	104	102	103
28046		112	99	105	96	104	103
28041	94	107	92	98	93	125	102
28048		102	95	98	100	117	103
28049 Thangjing (Check)	78	109	127	104	127	104	109
28053		108	94	101	96	116	103
28057	89	110	122	107	125	104	110
28051	92	111	95	99	92	113	100
28044	92	109	92	98	91	116	100
28055 Him-HPR 2720 (Check)		108	99	104	96	126	107
28052	90	107	113	103	125	106	108
28050		101	76	88		104	93
28058 Him-HPR 2795 (Check)	94	111	97	100	96	125	104
28056		109	92	100	85	121	101
28047	77	94	80	83	82	100	86
28043	92	91	93	92	94	118	97
Local Check	91	100	101	97	94	103	98
Exp. Mean	89	106	98	99	100	112	102

Table 6.49: Plant height (cm) of entries in IVT-LR(H) Kharif 2019

IET No	Low Northern				Medium Northern (1)	High (1)	Overall(5) Mean
	MN(1)	ME(1)	HP(1)	Low Northern (3) Mean	UT(1)	JK (1)	
	IMP	BRP	MLN		ALM	KHD	
28042	69.30	76.12	86.00	77.14	100.00	119.30	90.14
28046		128.06	158.20	143.13	134.00	127.60	136.97
28041	73.20	105.76	113.20	97.39	120.00	99.40	102.31
28048		98.36	138.80	118.58	101.00	126.30	116.12
28049 Thangjing (Check)	72.50	81.54	77.80	77.28	115.00	123.80	94.13
28053		109.26	147.40	128.33	115.50	135.10	126.82
28057	70.90	106.88	114.40	97.39	134.50	120.90	109.52
28051	73.75	75.76	94.80	81.44	86.00	84.00	82.86
28044	66.90	90.36	115.40	90.89	114.50	113.00	100.03
28055 Him-HPR 2720 (Check)		101.98	114.40	108.19	110.00	99.40	106.45
28052	72.00	77.68	84.40	78.03	96.00	120.50	90.12
28050		90.00	108.60	99.30		123.80	107.47
28058 Him-HPR 2795 (Check)	71.30	103.10	125.00	99.80	127.50	118.40	109.06
28056		96.74	90.20	93.47	109.50	104.50	100.24
28047	69.90		108.40	89.15	109.00	132.70	105.00
28043	71.60	97.96	112.00	93.85	125.00	114.50	104.21
Local Check	69.50	123.00	123.80	105.43	129.00	119.10	112.88
Exp. Mean	70.99	97.66	112.52	98.75	114.16	116.61	105.55

Table 6.50: No. of Panicles/m² of entries in IVT-LR(H) Kharif 2019

IET No	Low Northern				Medium Northern (1)	High (1)	Overall(5) Mean
	MN(1)	ME(1)	HP(1)	Low Northern (3) Mean	UT(1)	JK (1)	
	IMP	BRP	MLN		ALM	KHD	
28042	234	205	174	204	288	271	234
28046		199	168	183	225	227	205
28041	203	243	173	206	222	232	214
28048		142	120	131	136	240	159
28049 Thangjing (Check)	203	190	193	195	182	222	198
28053		196	118	157	192	292	199
28057	204	210	215	209	230	275	227
28051	206	235	253	231	227	320	248
28044	195	240	268	234	218	320	248
28055 Him-HPR 2720 (Check)		195	200	198	218	223	209
28052	207	204	198	203	232	223	213
28050		128	175	151		221	175
28058 Him-HPR 2795 (Check)	205	184	200	196	222	281	218
28056		212	310	261	169	337	257
28047	219	138	155	171	169	291	194
28043	256	233	178	222	258	316	248
Local Check	231	191	203	208	223	295	228
Exp. Mean	215	197	194	198	213	270	216

Table 6.51: Grain quality characteristics of entries in IVT-LR (H), Kharif 2019

ENTRY NO.	IET NO.	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
2901	28042	77.0	68.2	62.4	6.22	2.16	2.87	LB	VOC	7.0	21.06	44
2902	28046	80.6	67.9	39.7	5.59	2.32	2.40	SB	VOC	4.0	27.74	48
2903	28041	81.6	68.4	62.8	4.93	1.89	2.60	MS	VOC	5.0	26.86	53
2904	28048	78.4	65.7	49.1	4.94	2.35	2.10	SB	VOC	4.0	27.80	41
2905	28049	75.7	65.8	55.8	5.43	2.23	2.36	SB	VOC	7.0	17.89	25
2906	28053	80.0	65.8	42.5	5.91	2.27	2.85	MS	VOC	5.0	27.28	60
2907	28057	77.7	68.3	56.3	6.08	2.49	2.44	LB	OC	6.0	25.40	43
2908	28051	82.6	71.5	41.9	6.48	1.86	3.48	LS	VOC	4.0	28.16	25
2909	28044	79.1	68.5	53.7	5.62	2.16	2.60	MS	VOC	5.0	27.04	50
2910	28055	83.5	72.3	66.8	4.95	1.89	2.61	MS	VOC	5.0	27.89	43
2911	28052	77.3	68.9	65.1	5.31	2.26	2.34	SB	OC	7.0	18.59	47
2912	28050											
2913	28058	78.4	65.4	45.9	5.46	2.41	2.26	SB	VOC	4.0	27.54	25
2914	28056	80.8	71.2	64.1	5.12	2.47	2.07	SB	VOC	5.0	28.18	41
2915	28047	79.7	68.1	43.4	5.28	2.31	2.28	SB	VOC	5.0	26.69	24
2916	28043	78.6	70.8	60.0	6.48	2.14	3.02	LS	VOC	7.0	27.60	22
2917	Thapachini (LC)	79.7	65.5	40.7	5.31	2.45	2.16	SB	VOC	5.0	28.27	23

HULL: Hulling (%); MILL: Milling (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB: Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

SALINE ALKALINE TRIALS

Salt stress namely salinity/alkalinity/inland salinity is one of the major abiotic stresses limiting rice yield. The complex and polygenic nature of salt tolerance is impeding the development of salt tolerant varieties. The salt stress tolerant variety trials are categorized into 5 trials namely (1) Advance Variety Trial 1- Alkaline & Inland Saline Tolerant Variety Trial (AVT1-AL& ISTVT), (2) Initial Variety Trial - Alkaline & Inland Saline Tolerant Variety Trial (IVT-AL & ISTVT), (3) Advance Variety Trial 1- Coastal Saline Tolerant Variety Trial (AVT1-CSTVT), (4) Initial Variety Trial - Coastal Saline Tolerant Variety Trial (IVT-CSTVT) and (5) Advance Variety Trial 1- NIL (Coastal Salinity) with specific checks CSR 36 (Alkaline), CSR 23 (Inland saline), Bhuthnath (Coastal saline) CSR 10 (Early), Pusa 44 (Sensitive), FL 478 (Check with *Saltol*) and Local check. AVT-1-AL& ISTVT trial was conducted at 7 alkaline locations 2 inland saline locations with 5 test entries. IVT-AL & ISTVT trial was conducted at 7 alkaline locations, 2 inland saline locations with 18 test entries. AVT-1-CSTVT trial was conducted at 2 coastal saline locations with 11 test entries. IVT-CSTVT trial was conducted at 2 coastal saline locations with 22 test entries. AVT-1- NIL (CS) was conducted at 4 coastal saline locations with 18 entries.

ADVANCE VARIETY TRIAL 1 - ALKALINE AND INLAND SALINE TOLERANT VARIETY TRIAL (AVT 1 - AL & ISTVT)

Locations: 14

Test Entries: 11

Checks: CSR 36 (Alkaline), CSR 10 (Early), FL 478 (Saline Tolerant), CSR 23 (Inland Saline), Pusa 44 (Sensitive) and local check **Table:7.1**

AVT1 - AL & ISTVT was constituted with 11 entries including six checks namely CSR 36 (Alkaline check), CSR 10 (Early Saline check), FL 478 (Saline Tolerant check), CSR 23 (Inland Saline check), Pusa 44 (Sensitive check), and local check. Among the five test entries, four entries (IET Nos. 27823, 27807, 27809 and 27804) were in second year of testing and one entry (IET 27077) was in third year of testing. The trial was sent to 17 locations and data was received from 14 locations except Chinsurah, Rhotak and Vytilla. The data pertaining to yield, days to 50% flowering, plant height, panicles/m² and quality are presented in tables 7.2, 7.3, 7.4, 7.5 and 7.6 respectively. The details of EC and pH of different locations is given in the following table.

General information about soil stress parameters and yield performance of entries under alkalinity and inland salinity, Kharif, 2019

Location/State	Soil pH	Soil EC (dSm-1)	Experimental mean (kg/ha)	Grain Yield Range (kg/ha)	CV %	Remarks
Alkalinity						
Gautam Buddha Nagar (U.P.)	9.7	1.2	2718	1473-3614	14.02	Data considered for analysis
Panipat (Haryana)	8.5	8.0	2997	1428-3754	15.79	Data considered for analysis
Karnal (Haryana) (Sodic Microplots)	9.8	1.2	2862	1658-3666	12.27	Data included in analysis
Inland Saline stress						
Karnal (Haryana) (Inland Saline Microplots)	7.5	8.0	3304	1978-4291	18.84	Data included in analysis
Palwal (Haryana)	7.5	8.5	3230	1695-4135	6.32	Data included in analysis
Normal						
Trichy (Tamil Nadu)	8.67 8.71 8.68	2.2 2.0 3.1	4209	1155-6277	--	Stress not appropriate and entries recorded high yield (up to 6.2 t/ha).
Kapurthala (Punjab)	7.7	NA	3958	3035-6231	14.7	Crop didn't experience Stress. Reported yield of entries are high (up to 6.2 t/ha).
Kurukshetra (Haryana)	9.6	1.2	936	524-1231	11.57	Data not considered for analysis due to low experimental mean (<2000kg/ha)
Kanpur (Uttar Pradesh)	NA	NA	1860	831-3182	22.72	Data not considered for analysis due to low experimental mean (<2000kg/ha)
Masodha (Uttar Pradesh)	8.7	0.97	3271	2233-3917	3.13	Data not considered for analysis due to low CV (<5)
Lucknow (Uttar Pradesh)	9.5	1.1	1727	701-2598	13.06	Data not considered for analysis due to low experimental mean (<2000kg/ha)
Kampasagar (Telangana)	9.8-10.4	1.9	2125	1603-2518	--	Data not considered for analysis based on monitoring team report on the conduct of trial
Annamalainagar (Tamil Nadu)	8.7	NA	7940	6500-9400	3.24	Stress not appropriate and entries recorded high yield (up to 9.4 t/ha) and low CV (<5). extreme drought was reported and trial was direct seeded
Brahmavar (Karnataka)	5.5	NA	1538	550-2875	--	Stress not appropriate. low experimental mean (<2000kg/ha)
Gangavati (Karnataka)	8.1-8.95	5.5-7.0 2.2-3.1 4.4-7.2	6674	4200-9057	13.81	Stress not appropriate and entries recorded high yield (up to 9.0 t/ha).

ALKALINE STRESS

Overall mean performance

Under alkalinity, the trial data was received from Karnal, Panipat, Gautam Buddha Nagar, Trichy, Kapurthala, Kurukshetra, Kanpur, Masodha, Lucknow, Kampasagar and Annamalainagar. However, data from majority of locations except Karnal, Panipat, Gautam Buddha Nagar was not appropriate due low stress levels, low experimental mean and low CV. Hence the data from three locations namely, Karnal, Panipat, Gautam Buddha Nagar were only found suitable for analysis. On overall basis, the mean grain yield ranged from 1520 kg/ha (IET 27804) to 3678 kg/ha (CSR 23), days to 50% flowering varied from 81 days (CSR 36) – 108 days (IET 27077). Plant height of the entries ranged from 69.9 cm (CSR 10) to 96.6 cm (CSR 23) and the panicles/m² varied from 238 (IET 27809) to 344 (CSR 23). Among the checks, CSR 23 (3678 kg/ha) recorded highest yield followed by local check (3028 kg/ha), CSR 36 (2964 kg/ha), Pusa 44 (2881 kg/ha), CSR 10 (2807 kg/ha) and FL 478 (2518 kg/ha). **None of the test entries surpassed the yield of the best check-CSR 23 (3678 kg/ha) and hence none found suitable for promoting to next level of testing on overall basis.**

Zone II

In Zone II, the trial was conducted at Karnal, Kurukshetra, Panipat and Kanpur. The data from Kurukshetra and Kanpur were excluded from analysis due to low experimental mean. Hence the data from Karnal and Panipat were considered in the final analysis. The mean grain yield ranged from 1543 kg/ha (IET 27804) to 3710 kg/ha (CSR 23), days to 50% flowering varied from 82 days (CSR 36) – 108 days (IET 27077 & local check). Plant height of the entries ranged from 71.6 cm (CSR 10) to 96.66 cm (CSR 23) and the panicles/m² varied from 275 (IET 27809) to 409 (CSR 23). Among the checks, CSR 23 (3710 kg/ha) recorded highest yield followed by local check (3172 kg/ha), CSR 36 (3033 kg/ha), CSR 10 (2853 kg/ha), Pusa 44 (2793 kg/ha), and FL 478 (2680 kg/ha). **None of the test entries surpassed the yield of the best check-CSR 23 (3710 kg/ha) and hence none found suitable in zone II for promoting to next level of testing.**

Zone III

In Zone III, the trial was conducted at Gautam Buddha Nagar, Masodha and Lucknow. The data from Masodha and Lucknow were excluded from analysis due to low CV and low experimental mean respectively. Hence the data from Gautam Buddha Nagar was considered in the final analysis. The mean grain yield ranged from 1473 kg/ha (IET 27804) to 3614 kg/ha (CSR 23), days to 50% flowering varied from 79 days (CSR 36) -109 days (IET 27077). Plant height of the entries ranged from 66.5 cm (CSR 10) to 96.5 cm (CSR 23) and the panicles/m² varied from 132 (IET 27804) to 264 (IET 27807). Among the checks, CSR 23 (3614 kg/ha) recorded highest yield followed by Pusa 44 (3057 kg/ha), CSR 36 (2826 kg/ha), local check (2741 kg/ha), CSR 10 (2715 kg/ha), and FL 478 (2193 kg/ha). **None of the test entries surpassed the yield of the best check-CSR 23 (3614 kg/ha) and hence none found suitable in zone III for promoting to next level of testing.**

INLAND SALINE STRESS

Overall and performance in Zone II

The inland saline stress trial was conducted at Karnal, Palwal, Brahmavar and Gangavati. Low experimental mean at Brahmavar and low stress level at Gangavati was observed. The data from Karnal and Palwal were only found suitable for inclusion in the final analysis. The mean grain yield on zone II and overall basis ranged from 1837 kg/ha (IET 27804) to 4109 kg/ha (CSR 23), days to 50% flowering varied from 81 days (CSR 36) -99 days (local check). Plant height of the entries ranged from 60.38 cm (Pusa 44) to 78.0 cm (CSR 23) and the panicles/m² varied from 288 (IET 27804) to 364 (IET 27823). Among the checks, CSR 23 (4109 kg/ha) recorded highest yield followed by CSR 36 (3633 kg/ha), Pusa 44 (3323 kg/ha), local check (3255 kg/ha), CSR 10 (3023 kg/ha), and FL 478 (2554 kg/ha). **None of the test entries surpassed the yield of the best check-CSR 23 (4109 kg/ha) and hence none found suitable for promoting to next level of testing under inland saline stress conditions.**

In AVT1-AL & ISTVT, CSR 23 exhibited superior performance as compared to test entries under both alkalinity and Inland saline conditions. The AL&ISTVT trial conducted at Karnal (sodic microplot) as well, CSR 23 exhibited superior performance as compared to test entries. Considering the performance of test entries, none of the entries exhibited superior performance over the best check and hence none merit promotion.

INITIAL VARIETY TRIAL – ALKALINE AND INLAND SALINE TOLERANT VARIETY TRIAL (IVT – AL & ISTVT)

Locations: 14

Test Entries: 24

Checks: CSR 36 (Alkaline), CSR 10 (Early), FL 478 (Saline Tolerant), CSR 23 (Inland Saline), Pusa 44 (Sensitive) and local check **Table:7.7**

IVT-AL & ISTVT was constituted with 24 entries including six checks namely CSR 36 (Alkaline check), CSR 10 (Early Saline check), FL 478 (Saline Tolerant check), CSR 23 (Inland Saline check), Pusa 44 (Sensitive check), and local check. The trial was sent to 18 locations and data was received from 14 locations except Rhotak, Chinsurah, Lucknow and Vytilla. The data pertaining to yield, days to 50% flowering, plant height and panicles/m² are presented in tables in 7.8, 7.9, 7.10 and 7.11 respectively. The details of EC and pH of different locations is given in the following table.

General information about soil stress parameters and yield performance of entries IVT-AL & ISTVT, Kharif, 2019

Location/State	Soil pH	Soil EC (dSm-1)	Experi-Mental mean (kg/ha)	Grain Yield Range (Kg/ha)	CV %	Remarks
Alkalinity						
Gautam Buddha Nagar (Uttar Pradesh)	9.7	1.2	2815	1531-3596	9.42	Data considered for analysis
Panipat (Haryana)	8.5	8.0	2961	1444-4004	12.7	Data considered for analysis
Karnal (Haryana) (sodic Microplots)	9.8	1.2	2880	1533-3822	11.06	Data included in analysis
Kurukshetra (Haryana)	9.6	1.2	2996	1731-3783	8.88	Data included in analysis
Masodha (Uttar Pradesh)	8.7	0.97	2671	2000-3550	6.61	Data included in analysis
Karaikal (Puducherry)	9.61 9.45 7.68 8.62	3.20 1.56 0.74 1.88	2595	1191-4282	28.76	Data included in analysis
Inland Saline						
Karnal (Haryana) (Inland Saline Microplots)	7.5	8.0	2815	1444-3926	5.2	Data included in analysis
Palwal (Haryana)	7.5	8.5	3131	1577-4433	6.16	Data included in analysis
Normal						
Kanpur (Uttar Pradesh)	10.07	0.96	1641	574-3707	28.36	Data not considered for analysis due to low experimental mean (<2000kg/ha)
Trichy (Tamil Nadu)	NA	NA	4712	811-6399	--	Stress not appropriate and entries recorded high yield (up to 6.3 t/ha).
Kapurthala (Punjab)	7.7	NA	3316	2082-5044	15.3	Crop didn't experience Stress.
Kampasagar (Telangana)	9.8-10.4	1.9	3592	2416-5315	--	Data not considered for analysis based on monitoring team report on the conduct of trial
Annamalainagar (Tamil Nadu)	8.7	NA	9073	5725-13458	1.98	Stress not appropriate and entries recorded high yield (up to 13.4 t/ha) and low CV (<5). extreme drought was reported and trial was direct seeded
Brahmavar (Karnataka)	5.5	NA	1913	400-4500	--	Stress not appropriate. low experimental mean (<2000kg/ha)
Gangavati (Karnataka)	8.1-8.95	5.5-7.0 2.2-3.1 4.4-7.2	6307	2863-8501	15.25	Stress not appropriate and entries recorded high yield (up to 8.5 t/ha).

ALKALINE STRESS

Overall mean performance

Under alkalinity, the trial data was received from Karnal, Panipat, Gautam Buddha Nagar, Trichy, Kapurthala, Kurukshetra, Kanpur, Masodha, Kampasagar and Annamalainagar. However, data from Kapurthala, Kanpur, Trichy, Annamalainagar was not included in the analysis due to low stress levels, low experimental mean and low CV. Hence the data from locations namely, Karnal, Panipat, Kurukshetra, Gautam Buddha Nagar and Masodha were found suitable for analysis. On overall basis, the mean grain yield ranged from 1883 kg/ha (CSR 36) to 3343 kg/ha (IET 28608), days to 50% flowering varied from 85 days (IET 28593, IET 28599, CSR 10, local check) – 105 days (IET 28598). Plant height of the entries ranged from 80.87 cm (CSR 10) to 107.12 cm (IET 28604) and the panicles/m² varied from 187 (IET 28596) to 320 (IET 28598). Among the checks, CSR 10 (3147 kg/ha) recorded highest yield followed by local check (3032 kg/ha), FL 478 (2882 kg/ha), CSR 23 (2859 kg/ha), Pusa 44 (2671 kg/ha) and CSR 36 (1883 kg/ha). Among the test entries, IET 28608 (CSR 449S-13) derived from cross CSR 30/CSR 36 with grain yield of 3343 kg/ha, 87 days to 50% flowering ranked first on overall basis with 6% yield superiority over the best check. **On overall basis, IET 28608 was promoted to second year of testing under alkalinity stress condition.**

Performance in Zone II

In Zone II, the trial was conducted at Karnal, Kurukshetra, Panipat, Kapurthala and Kanpur. The data from Kapurthala and Kanpur were excluded from analysis due to stress level and low experimental mean respectively. Hence the data from Karnal, Kurukshetra and Panipat were considered in the final analysis. The mean grain yield in zone II ranged from 1584 kg/ha (CSR 36) to 3870 kg/ha (IET 28606), days to 50% flowering varied from 83 days (local check) – 106 days (IET 28597). Plant height of the entries ranged from 46.22 cm (IET 28593) to 96.58 cm (IET 28604) and the panicles/m² varied from 188 (IET 28596) to 377 (IET 28598). Among the checks, local check (3140 kg/ha) recorded highest yield followed by CSR 23 (3012 kg/ha), CSR 10 (2943 kg/ha), Pusa 44 (2868 kg/ha), FL 478 (2775 kg/ha) and CSR 36 (1584 kg/ha).

Among the test entries, IET 28606 (CSRM1-7) derived from cross IR 71730-51-2/NSIC Rc106 with 3870 kg/ha grain yield and 77 days to 50% flowering ranked first with 23% yield advantage over best check in Zone II. In addition, four cultures IET 28608 (CSR 449S-13) derived from cross CSR 30/CSR 36 with grain yield of 3744 kg/ha and 19% yield superiority over BC (best check); IET 28601 (CSR 89-IR 15) derived from KDML 105/ IR 4630-22-2-5-13/IR 20925-33-3-1-28 with 3712 kg/ha and 18% yield advantage over BC; IET 28591 (CSR-RIL-06-178) derived from cross IR 4630/CSR 11 with 3708 kg/ha grain yield and 18% yield superiority over BC; and IET 28598 (CSR M1-45) derived from BG 94-1/Pokkali with 3599 kg/ha grain yield and 15% yield advantage over BC found promising in zone II.

Five entries namely IET 28606, IET 28608, IET 28601, IET 28591 and IET 28598 recorded the required yield superiority over the best check and were promoted to second year of testing under alkalinity stress condition in zone II.

Performance of entries in IVT- AL & ISTVT during kharif 2019

IET No /Designation/ Cross combination	Overall		Alkalinity				Inland salinity	
			Zone II		Zone III		Zone II	
	Yield/ DFF	% Yield gain Over BC	Yield/ DFF	% Yield gain Over BC	Yield/ DFF	% Yield gain Over BC	Yield/ DFF	% Yield gain Over BC
IET 28608 CSR 449S-13 CSR 30/CSR 36	3343 87	6	3744 84	19			3986 84	19
IET 28606 CSRM1-7 IR 71730-51-2/NSIC Rc106			3870 77	23			4143 76	24
IET 28601 CSR 89-IR 15 KDML 105/ IR 4630-22-2- 5-13/IR20925-33-3-1-28			3712 87	18	3564 83	18	3872 86	16
IET 28591 CSR-RIL-06-178 IR 4630/CSR 11			3708 90	18			3781 89	13
IET 28598 CSR M1-45 BG 94-1/Pokkali			3599 105	15				
CSR 36 (Alkaline check)	1883 97		1584 94		1828 96		1511 94	
Pusa 44 (Sensitive check)	2671 102		2868 102		2432 102		3144 101	
CSR 23 (Inland Saline check)	2859 88		3012 86		2937 87		2924 86	
CSR 10 (Early duration saline check)	3147 85	BC	2949 89		3031 85	BC	2975 87	
FL 478 (Saline Tolerant check)	2882 91		2775 88		2833 95		2310 87	
Local check	3032 85		3140 83	BC	2968 86		3345 85	BC

Performance in Zone III

In Zone III, the trial was conducted at Gautam Buddha Nagar, Masodha and Lucknow. The data from Lucknow was not received. The data from Gautam Buddha Nagar and Masodha was included in the final analysis. The mean grain yield ranged from 1828 kg/ha (CSR 36) to 3564 kg/ha (IET 28601), days to 50% flowering varied from 77 days (IET 28606) -105 days (IET 28597). Plant height of the entries ranged from 86.5 cm (CSR 36) to 114.38 cm (IET 28603) and the panicles/m² varied from 167 (IET 28605) to 267 (IET 28601). Among the checks, CSR 10 (3031 kg/ha) recorded highest yield followed by local check (2968 kg/ha), CSR 23 (2937 kg/ha), FL 478 (2833 kg/ha), Pusa 44 (2432 kg/ha) and CSR 36 (1828 kg/ha). Among the test entries, IET 28601 (CSR 89-IR 15) derived from KDML105/IR 4630-22-2-5-13/IR 20925-33-3-1-28 with 3564 kg/ha and 83 days to 50% flowering ranked first with 18% yield advantage over best check in Zone III. **Hence, IET 28601 was promoted to second year of testing in Zone III under alkalinity stress condition.**

Performance in Zone VII

In Zone VII, the trial was conducted at Kampasagar, Trichy, Annamalainagar, Brahmavar, Gangavati and Karaikal. However, data from majority of locations except Karaikal was not appropriate due low stress levels, low experimental mean and low CV. Hence the data from Karaikal was found suitable for final analysis. The mean grain yield in zone VII ranged from 1191 kg/ha (IET 28605) to 4282 kg/ha (IET 28593), days to 50% flowering varied from 71 days (CSR 10) – 111 days (IET 28596, IET 28597; IET 28605). Plant height of the entries ranged from 90.17 cm (IET 28591) to 153.47 cm (IET 28597). Among the checks, CSR 10 (3977 kg/ha) recorded highest yield followed by FL 478 (3302 kg/ha), CSR 36 (2886 kg/ha), local check (2834 kg/ha), Pusa 44 (2560 kg/ha) and CSR 23 (2244 kg/ha). Among the test entries, IET 28593 (PAU 6369-13-2-1-1) with 4282 kg/ha grain yield exhibited 8% yield superiority over the best check. However, **none of the test entries recorded the required yield superiority of 10% over the BC based on single location data and hence none found suitable for promoting to next level of testing in Zone VII.**

INLAND SALINE STRESS

Performance in Zone II

The inland saline stress trial was conducted at Karnal, Palwal, Brahmavar and Gangavati. Low experimental mean at Brahmavar and low stress level at Gangavati was observed. The data from Karnal and Palwal were included in the final analysis. The mean grain yield on zone II ranged from 1511 kg/ha (CSR 36) to 4143 kg/ha (IET 28606), days to 50% flowering varied from 76 days (IET 28606) to 107 days (IET 28597). Plant height of the entries ranged from 45.82 cm (Pusa 44) to 106.33 cm (IET 28604) and the panicles/m² varied from 96 (IET 28596) to 314 (IET 28606). Among the checks, local check (3345 kg/ha), recorded highest yield followed by Pusa 44 (3144 kg/ha), CSR 10 (2975 kg/ha), CSR 23 (2924 kg/ha), FL 478 (2310 kg/ha) and CSR 36 (1511 kg/ha). Among the test entries, IET 28606 (CSRM1-7) derived from cross IR 71730-51-2/NSIC Rc106 with 4143 kg/ha grain yield and 76 days to 50% flowering ranked first with 24% yield advantage over best check in Zone II. In addition, three cultures IET 28608 (CSR 449S-13) derived from cross CSR 30/CSR 36 with grain yield of 3986 kg/ha and 19% yield superiority over BC (best check); IET 28601 (CSR 89-IR 15) derived from KDML 105/ IR 4630-22-2-5-13/IR 20925-33-3-1-28 with 3872 kg/ha and 16% yield advantage over BC; and IET 28591 (CSR-RIL-06-178) derived from cross IR 4630/CSR 11 with 3781 kg/ha grain yield and 13% yield superiority over BC found promising in zone II for inland saline stress situation. **Four entries namely IET 28606, IET 28608, IET 28601 and IET 28591 with required yield superiority over the best check were promoted to second year of testing under inland saline stress condition in zone II.**

The following entries were promoted to second year of testing in AL& ISTVT

On overall basis: IET 28608

Zone II under Alkalinity: IET 28606, IET 28608, IET 28601, IET 28591 and IET 28598

Zone III under Alkalinity: IET 28601

Zone II under Inland salinity: IET 28606, IET 28608, IET 28601 and IET 28591

Table 7.1: Composition of entries in Advance Variety Trial 1 – Alkaline and Inland Saline Tolerant Variety Trial (AVT 1- AL&ISTVT), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
3rd Year of testing:				
3401	27077	RNR 11718	MTU 1010 / NLR 34449	MS
2nd Year of testing:				
3402	27823	CSR MAGIC 157	Fedearroz 50 / SHZ-2 // PSBRc 82 / PSBRc 158 /// IR 77298-14-1-2-10 / IR 4630-22-2-5-1-3 // IR 45427-2B-2-2B-1-1 / Samba Mahsuri + Sub 1	SB
3403	CSR 36 (Alkaline Check)			
3404	27807	KR 15066(224-4-3-1-1)	ADT 45 / FL478	LB
3405	CSR 23 (Inland Saline Check)			
3406	27809	JGL 24423	MTU 1010 / NLR 34449 / MTU 1010	LB
3407	CSR 10 (Early duration saline check)			
3408	27804	CSR MAGIC 167	Fedearroz 50 / SHZ-2 // PSBRc 82 / PSBRc 158 /// IR 77298-14-1-2-10 / IR 4630-22-2-5-1-3 // IR 45427-2B-2-2B-1-1 / Samba Mahsuri + Sub 1	MS
3409	FL 478 (Saline tolerant check)			
3410	Local Check			
3411	Pusa 44 (Sensitive Check)			

Table 7.2: Grain Yield (kg/ha) of entries in AVT1 AL & ISTVT (Alkalinity), Kharif 2019

Entry No.	IET No.	Zone II										Zone II (2)	
		HA						HA (2)		UP1			
		KRL (Sodic)		@KUK		PPT		Mean		@KNP		Mean	
3401	27077	2497	9	817	10	3109	6	2803	8	2386	3	2803	8
3402	27823	3654	2	1194	2	3753	2	3704	2	2056	5	3704	2
3403	CSR 36 (Alkaline Check)	2931	6	1009	4	3135	5	3033	5	1723	6	3033	5
3404	27807	2914	7	908	7	3171	4	3043	4	831	10	3043	4
3405	CSR 23 (Inland Saline Check)	3666	1	1231	1	3754	1	3710	1	1456	8	3710	1
3406	27809	2934	5	969	6	2851	9	2893	6	1389	9	2893	6
3407	CSR 10 (Early duration saline check)	2963	4	976	5	2743	10	2853	7	3182	1	2853	7
3408	27804	1658		524		1428		1543		2183	4	1543	
3409	FL 478 (Saline tolerant check)	2442	10	827	8	2918	7	2680	10	3124	2	2680	10
3410	Local Check	3126	3	825	9	3217	3	3172	3	1475	7	3172	3
3411	Pusa 44 (Sensitive Check)	2697	8	1019	3	2889	8	2793	9	649		2793	9
Exp. Mean		2862		936		2997		2930		1860		2930	
CD		506.93		156.41		683.62		502.32		610.23		502.32	
CV%		12.27		11.57		15.79		11.87		22.72		11.87	
D/S		7/1/2019		7/1/2019		7/1/2019				7/1/2019			
D/P		7/27/2019		7/29/2019		7/31/2019				8/9/2019			
Local Check Name		CSR 36		CSR 36		CSR 36				Usar dhan 3			

Table 7.2 contd.: Grain Yield (kg/ha) of entries in AVT1 AL & ISTVT (Alkalinity), Kharif 2019

Entry No.	IET No.	Zone III								Zone III (1)		Overall (3)	
		UP						UP2 (1)		Mean		Mean	
		GBN		@MSD		@LCK		Mean		Mean		Mean	
3401	27077	2250	9	2233		1756	6	2250	9	2250	9	2619	9
3402	27823	3327	2	2733	10	2339	2	3327	2	3327	2	3578	2
3403	CSR 36 (Alkaline Check)	2826	6	3500	6	1564	8	2826	6	2826	6	2964	5
3404	27807	2859	4	3684	2	1461	9	2859	4	2859	4	2981	4
3405	CSR 23 (Inland Saline Check)	3614	1	3567	3	2598	1	3614	1	3614	1	3678	1
3406	27809	2840	5	3517	5	2125	4	2840	5	2840	5	2875	7
3407	CSR 10 (Early duration saline check)	2715	8	3917	1	1936	5	2715	8	2715	8	2807	8
3408	27804	1473		2967	9	701	10	1473		1473		1520	
3409	FL 478 (Saline tolerant check)	2193	10	3567	3	1611	7	2193	10	2193	10	2518	10
3410	Local Check	2741	7	3167	7	2278	3	2741	7	2741	7	3028	3
3411	Pusa 44 (Sensitive Check)	3057	3	3134	8	634		3057	3	3057	3	2881	6
Exp. Mean		2718		3271		1727		2718		2718		2859	
CD		550.16		147.85		325.75		550.16		550.16		474.92	
CV%		14.02		3.13		13.06		14.02		14.02		11.5	
D/S		7/1/2019		7/11/2019		7/9/2019							
D/P		7/31/2019		8/11/2019		8/9/2019							
Local Check Name		CSR 36		NDR 2009		CSR 36							

Table 7.2 contd.: Grain Yield (Kg/ha) of entries in AVT1 AL & ISTVT (Inland Salinity), Kharif 2019

Entry No.	IET NO.	HA				HA (2)		Zone II (2)		Overall(2)	
		KRL-Saline		PWL		Mean		Mean		Mean	
3401	27077	3689	4	3309	6	3499	5	3499	5	3499	5
3402	27823	4291	1	3886	2	4089	2	4089	2	4089	2
3403	CSR 36 (Alkaline Check)	3864	3	3402	4	3633	3	3633	3	3633	3
3404	27807	3587	5	3438	3	3513	4	3513	4	3513	4
3405	CSR 23 (Inland Saline Check)	4082	2	4135	1	4109	1	4109	1	4109	1
3406	27809	3158	8	3060	9	3109	8	3109	8	3109	8
3407	CSR 10 (Early duration saline check)	2733	9	3313	5	3023	9	3023	9	3023	9
3408	27804	1978		1695		1837		1837		1837	
3409	FL 478 (Saline tolerant check)	2190	10	2918	10	2554	10	2554	10	2554	10
3410	Local Check	3293	7	3217	7	3255	7	3255	7	3255	7
3411	Pusa 44 (Sensitive Check)	3490	6	3156	8	3323	6	3323	6	3323	6
Exp. Mean		3304.98		3230		3267.49		3267.49		3267.49	
CD		1060.26		347.43		523.75		523.75		523.75	
CV%		18.84		6.32		9.41		9.41		9.41	
D/S		7/1/2019		7/1/2019							
D/P		7/21/2019		7/31/2019							
Local Check Name		CSR 27		CSR27							

Table 7.2 contd.: Grain Yield (Kg/ha) of entries in AVT1 AL & ISTVT, Kharif 2019 (Normal)

Entry No.	IET No.	Zone II (1)		Zone VII					
		PU (1)		TE		TA			
		KPT		@KMP		@TRY		@AML	
3401	27077	3291	8	1781	10	4066	9	9400	1
3402	27823	3206	9	1603		4261	6	9050	2
3403	CSR 36 (Alkaline Check)	4877	2	2518	1	4349	5	8701	3
3404	27807	3035		2112	7	5077	2	6785	10
3405	CSR 23 (Inland Saline Check)	3782	6	2228	4	4083	8	7368	8
3406	27809	4018	4	2241	3	4661	4	7943	6
3407	CSR 10 (Early duration saline check)	3088	10	2045	9	1155		7400	7
3408	27804	3839	5	2071	8	4722	3	8223	5
3409	FL 478 (Saline tolerant check)	3677	7	2205	6	3461	10	8638	4
3410	Local Check	6231	1	2348	2	6277	1	7335	9
3411	Pusa 44 (Sensitive Check)	4493	3	2223	5	4182	7	6500	
Exp. Mean		3958		2125		4209		7940	
CD		840.23						371.85	
CV%		14.7						3.24	
D/S		7/9/2019		6/24/2019		9/17/2019		7/5/2019	
D/P		8/5/2019		7/18/2019				8/1/2019	
Local Check Name		PR 126		RNR-11718		TRY-3		Trichy-3	

Table 7.2contd.: Grain Yield (Kg/ha) of entries in AVT1 AL & ISTVT, Kharif 2019 (Normal)

Entry No.	IET No.	Zone VII						Zone VII (1)		Overall (2)	
						KA (1)					
		@BRM		GNV		Mean		Mean		Mean	
3401	27077	625	6	8866	2	8866	2	8866	2	6079	3
3402	27823			6011	8	6011	8	6011	8	4609	10
3403	CSR 36 (Alkaline Check)	2875	1	6851	4	6851	4	6851	4	5864	4
3404	27807	2250	3	6607	6	6607	6	6607	6	4821	7
3405	CSR 23 (Inland Saline Check)			9057	1	9057	1	9057	1	6420	2
3406	27809	2125	4	6742	5	6742	5	6742	5	5380	5
3407	CSR 10 (Early duration saline check)	550	8	4200		4200		4200		3644	
3408	27804			6085	7	6085	7	6085	7	4962	6
3409	FL 478 (Saline tolerant check)	2375	2	5962	9	5962	9	5962	9	4820	8
3410	Local Check	875	5	8056	3	8056	3	8056	3	7144	1
3411	Pusa 44 (Sensitive Check)	625	6	4974	10	4974	10	4974	10	4734	9
Exp. Mean		1538		6674		6674		6674		5316	
CD				1330.9		1330.9		1330.9		1072.8	
CV%				13.81		13.81		13.81		15.28	
D/S		7/25/2019		8/9/2019							
D/P		8/10/2019		9/18/2019							
Local Check Name		MO-4		CSR-22							

Table 7.3: Days to 50% flowering of entries in AVT1 AL & ISTVT (Alkalinity), Kharif 2019

Entry No	IET NO	ZONE II					Zone II (2)
		HA			HA (2)	UP1	
		KRL - Sodic	@KUK	PPT	Mean	@KNP	Mean
3401	27077	111	110	105	108	88	108
3402	27823	105	102	100	103	91	103
3403	CSR 36 (Alkaline Check)	78	81	87	82	86	82
3404	27807	89	89	91	90	83	90
3405	CSR 23 (Inland Saline Check)	92	89	94	93	88	93
3406	27809	93	87	86	89	86	89
3407	CSR 10 (Early duration saline check)	88	91	91	90	85	90
3408	27804	102	89	94	98	84	98
3409	FL 478 (Saline tolerant check)	87	88	91	89	84	89
3410	Local Check	108	92	109	108	98	108
3411	Pusa 44 (Sensitive Check)	101	105	85	93	107	93
	Exp Mean	96	93	94	95	89	95

Table 7.3 contd.: Days to 50% flowering of entries in AVT1 AL & ISTVT (Alkalinity), Kharif 2019

Entry No	IET NO	ZONE III				Zone III (1)	Overall (3)
		UP2		UP2 (1)			
		GBN	@MSD	@LCK	Mean	Mean	Mean
3401	27077	109	97	97	109	109	108
3402	27823	104	94	101	104	104	103
3403	CSR 36 (Alkaline Check)	79	83	87	79	79	81
3404	27807	88	89	91	88	88	89
3405	CSR 23 (Inland Saline Check)	89	101	90	89	89	92
3406	27809	87	96	95	87	87	89
3407	CSR 10 (Early duration saline check)	91	94	88	91	91	90
3408	27804	92	100	99	92	92	96
3409	FL 478 (Saline tolerant check)	87	92	91	87	87	88
3410	Local Check	87	92	92	87	87	101
3411	Pusa 44 (Sensitive Check)	104	99	103	104	104	97
	Exp Mean	93	94	94	93	93	94

Table 7.3 contd.: Days to 50% flowering of entries in AVT1 AL & ISTVT (Inland Salinity), Kharif 2019

Entry No.	IET NO	ZONE II		Zone II (2)	Overall (2)
		HA			
		KRL-Saline	PWL	Mean	Mean
3401	27077	94	103	98	98
3402	27823	91	101	96	96
3403	CSR 36 (Alkaline Check)	77	85	81	81
3404	27807	88	90	89	89
3405	CSR 23 (Inland Saline Check)	88	92	90	90
3406	27809	89	84	87	87
3407	CSR 10 (Early duration saline check)	87	89	88	88
3408	27804	90	91	91	91
3409	FL 478 (Saline tolerant check)	82	90	86	86
3410	Local Check	89	109	99	99
3411	Pusa 44 (Sensitive Check)	87	85	86	86
	Exp Mean	87	93	90	90

Table 7.3 contd.: Days to 50% flowering of entries in AVT1 AL & ISTVT, Kharif 2019 (Normal)

Entry No.	IET NO	ZONE II (1)	ZONE VII						Zone VII (1)	Overall (2)
		PU (1)	TE	TA		KA		KA (1)		
		KPT	@KMP	@TRY	@AML	@BRM	GNV	Mean	Mean	Mean
3401	27077	108	106	103	96	97	108	108	108	108
3402	27823	102	94	96	88	86	107	107	107	104
3403	CSR 36 (Alkaline Check)	83	93	93	96	84	99	99	99	91
3404	27807	95	91	100	92	89	105	105	105	100
3405	CSR 23 (Inland Saline Check)	87	93	101	102	88	103	103	103	95
3406	27809	88	89	93	90	85	97	97	97	92
3407	CSR 10 (Early duration saline check)	86	84	72	85	76	98	98	98	92
3408	27804	103	83	94	98	83	99	99	99	101
3409	FL 478 (Saline tolerant check)	84	82	100	90	86	98	98	98	91
3410	Local Check	84	104	105	91	98	101	101	101	92
3411	Pusa 44 (Sensitive Check)	108	101	102	125	93	106	106	106	107
	Exp Mean	93	93	96	96	88	102	102	102	98

Table 7.4: Plant Height (cm) of entries in AVT1 AL & ISTVT (Alkalinity), Kharif 2019

Entry No	IET NO	ZONE II					Zone II (2)
		HA			HA (2)	UP1	
		KRL - Sodic	@KUK	PPT	Mean	@KNP	Mean
3401	27077	70	100	83	77	83	77
3402	27823	87	86	79	83	72	83
3403	CSR 36 (Alkaline Check)	96	89	76	86	76	86
3404	27807	94	91	81	87	67	87
3405	CSR 23 (Inland Saline Check)	102	92	92	97	98	97
3406	27809	89	90	76	82	68	82
3407	CSR 10 (Early duration saline check)	76	70	68	72	73	72
3408	27804	78	82	72	75	65	75
3409	FL 478 (Saline tolerant check)	83	83	71	77	68	77
3410	Local Check	100	89	86	93	73	93
3411	Pusa 44 (Sensitive Check)	67	73	84	75	76	75
	Exp Mean	85	86	79	82	74	82

Table 7.4 contd.: Plant Height (cm) of entries in AVT1 AL & ISTVT (Alkalinity), Kharif 2019

Entry No	IET NO	ZONE III				Zone III (1)	Overall (3)
		UP2			UP2(1)		
		GBN	@MSD	@LCK	Mean	Mean	Mean
3401	27077	95	115	89	95	95	83
3402	27823	88	125	87	88	88	84
3403	CSR 36 (Alkaline Check)	89	123	80	89	89	87
3404	27807	93	127	67	93	93	89
3405	CSR 23 (Inland Saline Check)	97	129	91	97	97	97
3406	27809	93	136	68	93	93	86
3407	CSR 10 (Early duration saline check)	67	132	54	67	67	70
3408	27804	84	121	57	84	84	78
3409	FL 478 (Saline tolerant check)	82	122	70	82	82	79
3410	Local Check	88	125	87	88	88	91
3411	Pusa 44 (Sensitive Check)	72	130	51	72	72	74
	Exp Mean	86	126	73	86	86	83

Table 7.4 contd.: Plant Height (cm) of entries in AVT1 AL & ISTVT (Inland Salinity), Kharif 2019

Entry No.	IET NO	ZONE II		Zone II (2)	Overall (2)
		HA			
		KRL-Saline	PWL	Mean	Mean
3401	27077	57	82	69	69
3402	27823	67	75	71	71
3403	CSR 36 (Alkaline Check)	68	79	73	73
3404	27807	59	83	71	71
3405	CSR 23 (Inland Saline Check)	67	89	78	78
3406	27809	46	86	66	66
3407	CSR 10 (Early duration saline check)	56	70	63	63
3408	27804	62	71	66	66
3409	FL 478 (Saline tolerant check)	61	73	67	67
3410	Local Check	62	84	73	73
3411	Pusa 44 (Sensitive Check)	38	83	60	60
	Exp Mean	58	79	69	69

Table 7.4 contd.: Plant Height (cm) of entries in AVT1 AL & ISTVT, Kharif 2019 (Normal)

Entry No.	IET NO	ZONE II (1)	ZONE VII						Zone VII (1)	Overall (2)
		PU (1)	TE	TA		KA		KA (1)		
		KPT	@KMP	@TRY	@AML	@BRM	GNV	Mean	Mean	Mean
3401	27077	87	76	106	96	55	90	90	90	89
3402	27823	86	80	106	84	45	72	72	72	79
3403	CSR 36 (Alkaline Check)	96	63	96	72	58	69	69	69	82
3404	27807	88	80	110	83	59	84	84	84	86
3405	CSR 23 (Inland Saline Check)	116	99	137	99	68	120	120	120	118
3406	27809	92	73	97	88	59	73	73	73	82
3407	CSR 10 (Early duration saline check)	78	66	57	85	63	50	50	50	64
3408	27804	91	67	101	98	62	68	68	68	80
3409	FL 478 (Saline tolerant check)	87	75	106	93	58	76	76	76	82
3410	Local Check	91	52	129	98	45	108	108	108	99
3411	Pusa 44 (Sensitive Check)	86	54	93	101	39	64	64	64	75
	Exp Mean	91	71	103	90	55	79	79	79	85

Table 7.5: Panicles/m² of entries in AVT1 AL & ISTVT (Alkalinity), Kharif 2019

Entry No	IET NO	ZONE II					Zone II (2)
		HA			HA (2)	UP1	
		KRL - Sodic	@KUK	PPT	Mean	@KNP	Mean
3401	27077	178	177	470	324	240	324
3402	27823	211	170	564	388	218	388
3403	CSR 36 (Alkaline Check)	156	163	420	288	248	288
3404	27807	189	254	462	326	175	326
3405	CSR 23 (Inland Saline Check)	244	213	574	409	163	409
3406	27809	111	170	438	275	219	275
3407	CSR 10 (Early duration saline check)	222	155	547	385	328	385
3408	27804	167	142	503	335	278	335
3409	FL 478 (Saline tolerant check)	233	199	484	359	297	359
3410	Local Check	200	147	519	359	236	359
3411	Pusa 44 (Sensitive Check)	144	159	574	359	172	359
	Exp Mean	187	177	505	346	234	346

Table 7.5 contd.: Panicles/m2 of entries in AVT1 AL & ISTVT (Alkalinity), Kharif 2019

Entry No	IET NO	ZONE III				Zone III (1)	Overall (3)
		UP2			UP2 (1)		
		GBN	@MSD	@LCK	Mean	Mean	Mean
3401	27077	167	247	342	167	167	272
3402	27823	163	267	341	163	163	313
3403	CSR 36 (Alkaline Check)	166	294	278	166	166	247
3404	27807	264	314	336	264	264	305
3405	CSR 23 (Inland Saline Check)	212	289	363	212	212	344
3406	27809	164	274	349	164	164	238
3407	CSR 10 (Early duration saline check)	152	310	355	152	152	307
3408	27804	132	251	231	132	132	267
3409	FL 478 (Saline tolerant check)	198	301	315	198	198	305
3410	Local Check	163	293	338	163	163	294
3411	Pusa 44 (Sensitive Check)	153	274	243	153	153	290
	Exp Mean	176	283	317	176	176	289

Table 7.5 contd.: Panicles/m2 of entries in AVT1 AL & ISTVT (Inland Salinity), Kharif 2019

Entry No.	IET NO	ZONE II		Zone II (2)	Overall (2)
		HA			
		KRL-Saline	PWL	Mean	Mean
3401	27077	153	470	311	311
3402	27823	136	591	364	364
3403	CSR 36 (Alkaline Check)	159	480	320	320
3404	27807	149	445	297	297
3405	CSR 23 (Inland Saline Check)	195	567	381	381
3406	27809	136	472	304	304
3407	CSR 10 (Early duration saline check)	172	500	336	336
3408	27804	123	453	288	288
3409	FL 478 (Saline tolerant check)	182	461	321	321
3410	Local Check	176	475	326	326
3411	Pusa 44 (Sensitive Check)	104	574	339	339
	Exp Mean	153	499	326	326

Table 7.5 contd.: Panicles/m2 of entries in AVT1 AL & ISTVT, Kharif 2019 (Normal)

Entry No.	IET NO	ZONE II (1)	ZONE VII					Zone VII (1)	Overall (2)
		PU (1)	TE	KA			KA (1)		
		KPT	@KMP	@AML	GNV	@BRM	Mean	Mean	Mean
3401	27077	262	10.0	647	387	52	387	387	324
3402	27823	299	13.3	609	514	110	514	514	407
3403	CSR 36 (Alkaline Check)	297	11.0	614	420	165	420	420	359
3404	27807	307	11.0	449	368	199	368	368	337
3405	CSR 23 (Inland Saline Check)	273	12.0	481	540	136	540	540	406
3406	27809	297	10.3	565	376	143	376	376	336
3407	CSR 10 (Early duration saline check)	290	10.0	573	625	173	625	625	458
3408	27804	262	9.7	561	346	151	346	346	304
3409	FL 478 (Saline tolerant check)	249	10.3	594	366	171	366	366	307
3410	Local Check	286	13.3	535	363	41	363	363	325
3411	Pusa 44 (Sensitive Check)	253	13.7	417	277	61	277	277	265
	Exp Mean	280	11	549	416	127	416	416	348

Table 7.6: Grain quality characteristics of entries in AVT 1-AL & ISTVT, Kharif 2019

Entry No.	IET No.	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
3401	27077	76.7	66.2	60.9	5.77	2.24	2.57	MS	A	7.0	23.70	46
3402	27823	75.3	67.6	63.7	5.37	2.17	2.47	SB	VOC	5.0	25.43	22
3403	CSR-36	78.2	70.2	56.1	6.48	2.12	3.05	LS	VOC	4.0	25.84	45
3404	27807	76.5	66.4	54.0	6.47	2.22	2.91	LB	VOC	5.0	27.54	40
3405	CSR-23	75.3	68.2	63.4	5.43	2.22	2.44	SB	A	5.0	22.52	43
3406	27809	77.8	67.9	59.8	6.35	2.30	2.76	LB	VOC	4.0	27.77	59
3407	CSR-10	76.9	68.3	60.5	5.17	2.48	2.08	SB	VOC	5.0	23.26	41
3408	27804	77.2	69.3	63.9	5.73	2.16	2.65	MS	A	4.0	24.46	45
3409	FL-478	76.0	64.7	55.6	6.81	2.31	2.94	LB	VOC	5.0	24.66	22
3410	Local Check	76.0	67.6	61.5	6.26	2.13	2.93	LB	VOC	7.0	27.72	22
3411	Pusa-44	77.5	67.9	60.2	5.63	2.23	2.52	MS	VOC	7.0	23.70	33

HULL: Hulling (%); MILLING (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; MS: Medium Slender;

Table 7.7: Composition of entries in Initial Variety Trial – Alkaline and Inland Saline Tolerant Variety Trial (IVT - AL&ISTVT), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
1st Year of testing:				
3501	28591	CSR-RIL-06-178	IR4630 / CSR11	LB
3502	28592	RP 6328-218-B-29-1	APMSB / FL478	MS
3503	28593	PAU 6369-13-2-1-1 (RYT 3801)	PAU 3842-62-5-1 // PR 114 / CSR 23	LS
3504	28594	NVSR 6331	(CST-7-1 / IRGC 50836) / MTU1010	LB
3505	28595	RP 6335-186-4-6-1	MTU 1010 / CSR 3005-2-30-5	MS
3506	28596	CR 3993-13-12-33	CR1009 / O. brachyantha // CR1009	SB
3507	CSR 36 (Alkaline Check)			
3508	28597	RP 5977-MS-M-39-2-1-3-4-6-8	BPT 5204 Mutant	MB
3509	28598	CSRM1-45	BG94-1 / POKKALI	LS
3510	28599	NVSR 6229	NAUR-1 / IET-18710	LB
3511	28600	RP 6331-122-10-3-1	MTU 1121 / A69-1	MS
3512	Pusa 44 (Sensitive Check)			
3513	28601	CSR 89-IR 15	KDML 105 / IR 4630-22-2-5-1-3 / IR 20925-33-3-1-28	LS
3514	28602	PAU 5847-22-1-1-2-2 (RYT 3802)	PR 114 / CSR 23	LS
3515	CSR 23 (Inland Saline Check)			
3516	28603	RP 6360-RAF-5-GSR-IR1-DQ129-Y4-L1	GSR IR1-8-S6-S3-YS / GSR IR1-17-Y16-Y3-S1	LS
3517	28604	RP 6112-MS-M-46-9-1-4-2-3-8-6	BPT 5204 Mutant	SS
3518	CSR 10 (Early duration saline check)			
3519	28605	CR 3993-13-1-3	CR1009 / O. brachyantha // CR1009	SB
3520	28606	CSRM1-7	IR 71730-51-2 / NSIC RC 106	LS
3521	28607	NVSR 6300	CSR-36 / IRGC 13496) / Pusa-1609	LB
3522	FL 478 (Saline Tolerant Check)			
3523	28608	CSR 449S-13	CSR30 / CSR36	LS
3524	Local Check			

Table 7.8: Grain yield (Kg/h) of entries of IVT AL&ISTVT Alkalinity, Kharif 2019

Entry No.	IET No.	Zone II										Zone II (3)	
		HA						HA (3)			UP 1		
		CSS		KUK		PPT		Mean			@KNP	Mean	
3501	28591	3644	4 *	3622	3 *	3857	4 *	3708	4 *	18%	792	3708	4 * 18%
3503	28592	2622		2883		3433	6	2979	9		3707	2979	9
3504	28593	2748		2964		2905		2872			847	2872	
3505	28594	2578		3073	9	2860		2837			1843	2837	
3505	28595	2467		2983		2986	10	2812			1156	2812	
3506	28596	2585		2784		2880		2750			2113	2750	
3507	CSR 36 (Alkaline Check)	1578		1731		1444		1584			2052	1584	
3508	28597	2733		2921		2187		2614			1783	2614	
3509	28598	3667	2*	3442	5	3688	5	3599	5 *	15%	543	3599	5 * 15%
3510	28599	3178	6	2984		3031	9	3064	7		738	3064	7
3511	28600	2644		3141	7	2680		2822			1629	2822	
3512	Pusa 44 (Sensitive Check)	3133	7	2838		2633		2868			608	2868	
3513	28601	3607	5 *	3644	2 *	3885	3 *	3712	3 *	18%	1885	3712	3 * 18%
3514	28602	2356		2965		2966		2762			2343	2762	
3515	CSR 23 (Inland Saline Check)	3133	7	2974		2929		3012	8		1864	3012	8
3516	28603	1533		1842		1517		1631			917	1631	
3517	28604	2637		2736		3263	8	2879			3221	2879	
3518	CSR 10 (Early duration saline check)	3104	9	2987		2755		2949	10		3401	2949	10
3519	28605	2704		3168	6	2729		2867			574	2867	
3520	28606	3822	1 *	3783	1 *	4004	1 *	3870	1 *	23%	1888	3870	1 * 23%
3521	28607	3044	10	2745		2787		2859			740	2859	
3522	FL 478 (Saline Tolerant Check)	2911		3021	10	2393		2775			1906	2775	
3523	28608	3667	2 *	3587	4 *	3979	2 *	3744	2 *	19%	1098	3744	2 * 19%
3524	Local Check	3044	10	3100	8	3276	7	3140	6		1759	3140	6
Exp. Mean		2881		2997		2961		2946			1642	2946	
CD		449.59		375.48		530.41		407.88			656.76	407.88	
CV%		11.06		8.88		12.7		9.81			28.36	9.81	
D/S		7/1/2019		7/1/2019		7/1/2019				7/1/2019			
D/P		7/21/2019		7/29/2019		7/31/2019				8/9/2019			
Local Check Name		CSR 36		CSR 36		CSR 36				Usar dhan 3			

Table 7.8 contd.: Grain yield (Kg/h) of entries of IVT AL&ISTVT Alkalinity, Kharif 2019

Entry No.	IET No.	Zone III						Zone III (2)		Zone VII (1)		Overall (6)	
		UP 2			UP 2 (2)					PU (1)			
		GBN		MSD					Mean		KRK		Mean
3501	28591	3422	4 *	2200		2811		2811		1333		3013	8
3503	28592	2683		3150	5	2917	9	2917	9	2311		2847	
3504	28593	2697		2100		2399		2399		4282	1 8%	2949	9
3505	28594	2873	9	3125	6	2999	5	2999	5	1916		2738	
3505	28595	2783		2100		2442		2442		4036	2	2893	10
3506	28596	2584				2584		2584		2468		2660	
3507	CSR 36 (Alkaline Check)	1531		2125		1828		1828		2886	9	1883	
3508	28597	2855		2000		2428		2428		3221	7	2653	
3509	28598	3309	5	2150		2730		2730		3542	4	3300	2
3510	28599	2717		3550	1 *	3134	2	3134	2	2994	8	3076	6
3511	28600	3081	6	2000		2541		2541		2437		2664	
3512	Pusa 44 (Sensitive Check)	2438		2425		2432		2432		2560		2671	
3513	28601	3578	2 *	3550	1 *	3564	1 18%	3564	1 18%	1468		3289	3
3514	28602	2679		2300		2490		2490		2239		2584	
3515	CSR 23 (Inland Saline Check)	2774		3100	7	2937	8	2937	8	2244		2859	
3516	28603	1695		3425	3	2560		2560		3420	5	2239	
3517	28604	2576		2650		2613		2613		1533		2566	
3518	CSR 10 (Early duration saline check)	2861	10	3200	4	3031	4	3031	4	3977	3	3147	5
3519	28605	2835				2835	10	2835	10	1191		2525	
3520	28606	3596	1 *	2375		2986	6	2986	6	1383		3161	4
3521	28607	2665		2800	9	2733		2733		2080		2687	
3522	FL 478 (Saline Tolerant Check)	2941	8	2725		2833		2833		3302	6	2882	
3523	28608	3440	3 *	2750	10	3095	3	3095	3	2637		3343	1 6%
3524	Local Check	2960	7	2975	8	2968	7	2968	7	2834	10	3032	7
Exp. Mean		2815		2672		2730		2730		2596		2787	
CD		374.35		249.61		609.12		609.12		1052.87		658.36	
CV%		9.43		6.61		15.82		15.82		28.76		16.74	
D/S		7/1/2019		7/2/2019						7/10/2019			
D/P		7/31/2019		7/30/2019						8/9/2019			
Local Check Name		CSR 36		NDR 2009						TRY2			

Table 7.8 contd.: Grain yield (Kg/h) of entries of IVT AL&ISTVT Inland salinity, Kharif 2019

Entry No.	IET No.	Zone II						Zone II (2)	
		HA			HA (2)				
		CSS		PWL		Mean		Mean	
3501	28591	3704	4 *	3857	4	3781	4 * 13%	3781	4 * 13%
3503	28592	2296		3767	5	3032		3032	
3504	28593	2556		3239	10	2898		2898	
3505	28594	3222	7	3000		3111	10	3111	10
3505	28595	2926		3186		3056		3056	
3506	28596	2815		3080		2948		2948	
3507	CSR 36 (Alkaline Check)	1444		1577		1511		1511	
3508	28597	2096		2213		2155		2155	
3509	28598	3556	5 *	3421	8	3489	5	3489	5
3510	28599	2437		3031		2734		2734	
3511	28600	2148		3013		2581		2581	
3512	Pusa 44 (Sensitive Check)	3200	8	3087		3144	8	3144	8
3513	28601	3859	2 *	3885	3 *	3872	3 * 16%	3872	3 * 16%
3514	28602	3252	6	3233		3243	7	3243	7
3515	CSR 23 (Inland Saline Check)	2585		3263	9	2924		2924	
3516	28603	1489		1631		1560		1560	
3517	28604	2733		3512	7	3123	9	3123	9
3518	CSR 10 (Early duration saline check)	3170	9	2780		2975		2975	
3519	28605	2281		2680		2481		2481	
3520	28606	3852	3 *	4433	1 *	4143	1 * 24%	4143	1 * 24%
3521	28607	2733		3200		2967		2967	
3522	FL 478 (Saline Tolerant Check)	2148		2471		2310		2310	
3523	28608	3926	1 *	4046	2 *	3986	2 * 19%	3986	2 * 19%
3524	Local Check	3133	10	3556	6	3345	6	3345	6
Exp. Mean		2815.12		3131.67		2973.4		2973.4	
CD		240.68		317.07		209.47		209.47	
CV%		5.2		6.16		4.29		4.29	
D/S		7/1/2019		7/1/2019					
D/P		7/21/2019		7/31/2019					
Local Check Name		CSR 27		CSR 27					

Table 7.8 contd.: Grain yield (Kg/h) of entries of IVT AL&ISTVT Normal, Kharif 2019

Entry No.	IET No.	Zone II (1)		Zone VII			
		PU (1)		TE		TA	
		KPT		KMP@		@TRY	@AML
3501	28591	3380	7	3369		555	6380
3503	28592	2325		2435		3673	8523
3504	28593	2757		3024		5788	5725
3505	28594			2643		4977	8390
3505	28595	3610	6	3530	10	5139	8433
3506	28596	4191	4	5315	1	5552	10553
3507	CSR 36 (Alkaline Check)	3794	5	3512		4994	9150
3508	28597	2234		4131	8	6055	9503
3509	28598	3292		4113	9	4877	11165
3510	28599	2945		3214		6127	13458
3511	28600	3338		3214		5727	12540
3512	Pusa 44 (Sensitive Check)	4409	2	4536	3	5966	9485
3513	28601	3254		2417		6142	12588
3514	28602	3376	8	4375	4	6394	9268
3515	CSR 23 (Inland Saline Check)	3349	10	3452		1922	7765
3516	28603	3358	9	4143	7	5833	11373
3517	28604	2082		2643		2066	6705
3518	CSR 10 (Early duration saline check)	3219		2952		811	8485
3519	28605			3083		4899	8175
3520	28606	3141		5131	2	4160	8403
3521	28607	4211	3	3452		6399	7885
3522	FL 478 (Saline Tolerant Check)	2317		4304	5	4663	10128
3523	28608	3332		4292	6	4310	6328
3524	Local Check	5044	1	2946		6082	7363
Exp. Mean		3316		3593		4713	9074
CD		716.98					253.94
CV%		15.3					1.98
D/S		7/4/2019		6/24/2019		7/5/2019	
D/P		7/26/2019		7/18/2019		8/1/2019	
Local Check Name		PR 126		RNR-11718		Trichy 3	

Table 7.8 contd.: Grain yield (Kg/h) of entries of IVT AL&ISTVT Normal, Kharif 2019

Entry No.	IET No.	Zone VII						Zone VII (1)		Overall (2)	
		KA			KA (1)						
		BRM@		GNV		Mean		Mean		Mean	
3501	28591	1750	9	2863		2863		2863		3122	
3503	28592	3250	3	6517		6517		6517		4421	
3504	28593	3750	2	6574		6574		6574		4666	
3505	28594	1750	9	7840	4	7840	4	7840	4	7840	1 16%
3505	28595	4500	1	6608	10	6608	10	6608	10	5109	10
3506	28596	2750	5	8148	2	8148	2	8148	2	6170	4
3507	CSR 36 (Alkaline Check)			8028	3	8028	3	8028	3	5911	5
3508	28597	3000	4	5993		5993		5993		4114	
3509	28598	2200	7	7025	7	7025	7	7025	7	5159	8
3510	28599	1200		5394		5394		5394		4170	
3511	28600	1600		5723		5723		5723		4531	
3512	Pusa 44 (Sensitive Check)			3673		3673		3673		4041	
3513	28601	400		6263		6263		6263		4759	
3514	28602			6979	8	6979	8	6979	8	5178	7
3515	CSR 23 (Inland Saline Check)	2750	5	5246		5246		5246		4298	
3516	28603	1950	8	6905	9	6905	9	6905	9	5132	9
3517	28604	450		6460		6460		6460		4271	
3518	CSR 10 (Early duration saline check)	1250		3427		3427		3427		3323	
3519	28605			7783	5	7783	5	7783	5	7783	2 15%
3520	28606	1600		6432		6432		6432		4787	
3521	28607	550		7526	6	7526	6	7526	6	5869	6
3522	FL 478 (Saline Tolerant Check)	950		6215		6215		6215		4266	
3523	28608			5247		5247		5247		4290	
3524	Local Check	700		8501	1	8501	1	8501	1	6773	3
Exp. Mean		1913		6307		6307		6307		4187	
CD				1356.74		1356.74		1356.74		1764.44	
CV%				15.25		15.25		15.25		29.88	
D/S		7/26/2019		8/9/2019							
D/P		8/22/2019		9/17/2019							
Local Check Name		MO-4		CSR-22							

Table 7.9: Days to 50% flowering of entries of IVT AL&ISTVT, Kharif 2019 (Alkalinity)

ENTRY	IET No.	Zone II					ZONE II (3)	Zone III			Zone III (2)	Zone VII		Zone VII (1)	Overall (6)
		HA			HA (3)	UP 1		UP 2		UP 2 (2)		PU	PU (1)		
		CSS	KUK	PPT	Mean	@KNP		Mean	GBN	MSD			Mean		
3501	28591	90	88	90	90	105	90	90	86	88	88	80	80	80	87
3503	28592	85	85	88	86	97	86	84	86	85	85	88	88	88	86
3504	28593	88	59	88	79	104	79	90	99	94	94	88	88	88	85
3505	28594	87	89	86	87	87	87	88	94	91	91	83	83	83	88
3505	28595	88	90	88	89	86	89	89	104	97	97	110	110	110	95
3506	28596	88	89	86	87	78	87	90		90	90	111	111	111	93
3507	CSR 36 (Alkaline Check)	94	92	95	94	86	94	93	100	96	96	106	106	106	97
3508	28597	107	105	107	106	94	106	107	102	105	105	111	111	111	106
3509	28598	104	105	107	105	79	105	104	99	101	101	109	109	109	105
3510	28599	86	82	91	86	93	86	82	82	82	82	88	88	88	85
3511	28600	96	96	98	96	85	96	96	104	100	100	97	97	97	98
3512	Pusa 44 (Sensitive Check)	101	103	102	102	93	102	103	100	102	102	101	101	101	102
3513	28601	87	84	90	87	80	87	85	82	83	83	90	90	90	86
3514	28602	86	82	85	84	93	84	85	97	91	91	91	91	91	88
3515	CSR 23 (Inland Saline Check)	86	84	89	86	81	86	86	88	87	87	96	96	96	88
3516	28603	84	85	89	86	86	86	81	86	83	83	90	90	90	86
3517	28604	86	82	97	88	81	88	82	94	88	88	80	80	80	87
3518	CSR 10 (Early duration saline check)	88	89	89	89	86	89	88	83	85	85	71	71	71	85
3519	28605	101	95	107	101	87	101	96		96	96	111	111	111	102
3520	28606	76	78	77	77	85	77	76	78	77	77	78	78	78	77
3521	28607	88	83	85	85	80	85	86	97	91	91	87	87	87	87
3522	FL 478 (Saline Tolerant Check)	88	86	89	88	81	88	88	101	95	95	90	90	90	91
3523	28608	84	82	85	84	91	84	84	92	88	88	93	93	93	87
3524	Local Check	84	82	83	83	100	83	83	89	86	86	91	91	91	85
Exp. Mean		90	87	91	89	88	89	89	93	91	91	93	93	93	91

Table 7.9 contd.: Days to 50% Flowering of entries of IVT AL&ISTVT Inland salinity, Kharif 2019

Entry No.	IET No.	Zone II			Zone II (2) Mean
		HA		HA (2)	
		CSS	PWL	Mean	
3501	28591	88	90	89	89
3503	28592	81	88	84	84
3504	28593	89	89	89	89
3505	28594	92	85	89	89
3505	28595	87	88	88	88
3506	28596	86	87	86	86
3507	CSR 36 (Alkaline Check)	95	94	94	94
3508	28597	106	107	107	107
3509	28598	101	106	104	104
3510	28599	81	93	87	87
3511	28600	91	99	95	95
3512	Pusa 44 (Sensitive Check)	101	101	101	101
3513	28601	81	91	86	86
3514	28602	84	85	85	85
3515	CSR 23 (Inland Saline Check)	83	89	86	86
3516	28603	80	87	84	84
3517	28604	78	93	86	86
3518	CSR 10 (Early duration saline check)	86	89	87	87
3519	28605	101	107	104	104
3520	28606	74	77	76	76
3521	28607	93	86	89	89
3522	FL 478 (Saline Tolerant Check)	86	89	87	87
3523	28608	81	86	84	84
3524	Local Check	87	83	85	85
Exp. Mean		88	91	90	90

Table 7.9 contd.: Days to 50% flowering of entries of IVT AL&ISTVT Normal, Kharif 2019

ENTRY	IET No.	Zone II (1)	Zone VII						Zone VII (1) Mean	Overall (2) Mean
		PU	TE	TA		KA		KA (1)		
		KPT	KMP@	@TRY	@AML	BRM@	GNV	Mean		
3501	28591	88	83	75	88	89	96	96	96	92
3503	28592	86	84	92	91	91	102	102	102	94
3504	28593	85	107	98	93	97	102	102	102	93
3505	28594		88	96	97	96	101	101	101	101
3505	28595	92	86	105	90	100	97	97	97	94
3506	28596	87	104	96	102	109	102	102	102	94
3507	CSR 36 (Alkaline Check)	100	97	110	104	100	103	103	103	102
3508	28597	100	96	105	96	98	110	110	110	105
3509	28598	98	103	112	98	91	110	110	110	104
3510	28599	84	101	96	89	98	103	103	103	93
3511	28600	100	97	103	96	92	103	103	103	102
3512	Pusa 44 (Sensitive Check)	97	89	110	88	91	103	103	103	100
3513	28601	83	95	107	91	92	103	103	103	93
3514	28602	87	92	110	104	98	105	105	105	96
3515	CSR 23 (Inland Saline Check)	82	109	75	87	99	107	107	107	94
3516	28603	80	90	91	96	98	106	106	106	93
3517	28604	74	87	84	88	98	103	103	103	89
3518	CSR 10 (Early duration saline check)	85	92	99	96	92	100	100	100	92
3519	28605		84	98	90	92	102	102	102	102
3520	28606	71	83	92	98	90	95	95	95	83
3521	28607	86	83	105	102	88	102	102	102	94
3522	FL 478 (Saline Tolerant Check)	85	90	103	96	98	107	107	107	96
3523	28608	81	95	96	98	98	101	101	101	91
3524	Local Check	98	98	107	127	104	103	103	103	101
Exp. Mean		88	93	98	96	96	103	103	103	96

Table 7.10: Plant height (cm) of entries of IVT AL&ISTVT, Kharif 2019 (Alkalinity)

Entry No.	IET No.	Zone II					Zone II (3)	Zone III			Zone III (2)	Zone VII (1) PU (1)	Overall (6)
		HA			HA (3) Mean	UP 1 @KNP		UP 2		UP 2 (2) Mean			
		CSS	KUK	PPT			GBN	MSD	Mean		KRK	Mean	
3501	28591	55	87	79	74	79	74	67	123	95	95	90	84
3503	28592	58	89	77	75	78	75	83	122	102	102	111	90
3504	28593	60	1	78	46	69	46	93	125	109	109	123	80
3505	28594	51	79	78	69	81	69	73	109	91	91	114	84
3505	28595	49	78	78	68	67	68	68	111	90	90	110	82
3506	28596	56	91	68	72	105	72	93	125	109	109	121	92
3507	CSR 36 (Alkaline Check)	74	76	78	76	93	76	86	87	87	87	123	87
3508	28597	70	103	79	84	60	84	109	95	102	102	153	101
3509	28598	70	81	73	75	66	75	84	121	102	102	111	90
3510	28599	65	90	60	71	68	71	85	103	94	94	110	85
3511	28600	46	89	79	71	82	71	81	107	94	94	110	85
3512	Pusa 44 (Sensitive Check)	73	72	77	74	109	74	78	109	94	94	107	86
3513	28601	64	85	71	73	74	73	82	98	90	90	108	85
3514	28602	62	96	74	77	83	77	91	92	91	91	113	88
3515	CSR 23 (Inland Saline Check)	58	100	99	85	65	85	99	99	99	99	133	98
3516	28603	44	102	96	80	67	80	108	121	114	114	117	98
3517	28604	65	104	121	97	98	97	114	101	107	107	138	107
3518	CSR 10 (Early duration saline check)	63	83	70	72	68	72	73	107	90	90	90	81
3519	28605	73	91	79	81	70	81	81	127	104	104	117	95
3520	28606	69	106	96	90	77	90	101	109	105	105	92	95
3521	28607	56	100	86	80	83	80	97	111	104	104	98	91
3522	FL 478 (Saline Tolerant Check)	58	90	87	78	79	78	87	92	89	89	133	91
3523	28608	57	109	101	89	80	89	119	95	107	107	115	99
3524	Local Check	59	98	91	83	85	83	91	96	93	93	116	92
Exp. Mean		60	87	82	77	79	77	89	108	98	98	115	90

Table 7.10 contd.: Plant height (cm) of entries of IVT AL&ISTVT Inland salinity, Kharif 2019

Entry No.	IET No.	Zone II			Zone II (2)
		HA		HA (2)	
		CSS	PWL	Mean	Mean
3501	28591	52	83	67	67
3503	28592	62	79	71	71
3504	28593	52	80	66	66
3505	28594	50	83	66	66
3505	28595	60	80	70	70
3506	28596	68	69	68	68
3507	CSR 36 (Alkaline Check)	23	80	51	51
3508	28597	17	83	50	50
3509	28598	27	75	51	51
3510	28599	65	65	65	65
3511	28600	71	75	73	73
3512	Pusa 44 (Sensitive Check)	16	76	46	46
3513	28601	69	71	70	70
3514	28602	25	73	49	49
3515	CSR 23 (Inland Saline Check)	88	97	92	92
3516	28603	63	98	80	80
3517	28604	87	126	106	106
3518	CSR 10 (Early duration saline check)	56	73	64	64
3519	28605	16	84	50	50
3520	28606	76	95	85	85
3521	28607	41	86	64	64
3522	FL 478 (Saline Tolerant Check)	68	88	78	78
3523	28608	91	106	98	98
3524	Local Check	76	90	83	83
Exp. Mean		55	84	69	69

Table 7.10 contd.: Plant height (cm) of entries of IVT AL&ISTVT Normal, Kharif 2019

Entry No.	IET No.	Zone II (1)	Zone VII						Zone VII (1)	Overall (2)
		PU (1)	TE	TA		KA		KA (1)		
		KPT	KMP@	@TRY	@AML	BRM@	GNV	Mean		
3501	28591	111	42	59	91	49	56	56	56	83
3503	28592	97	101	96	74	54	101	101	101	99
3504	28593	87	95	116	107	55	91	91	91	89
3505	28594		90	133	95	69	88	88	88	88
3505	28595	103	130	109	99	57	91	91	91	97
3506	28596	110	85	102	98	52	85	85	85	97
3507	CSR 36 (Alkaline Check)	106	71	115	98	68	110	110	110	108
3508	28597	110	75	146	119	83	132	132	132	121
3509	28598	100	78	113	112	69	107	107	107	104
3510	28599	101	96	125	91	78	102	102	102	102
3511	28600	86	99	100	102	69	88	88	88	87
3512	Pusa 44 (Sensitive Check)	90	95	96	83	65	56	56	56	73
3513	28601	100	97	105	114	67	82	82	82	91
3514	28602	109	93	138	103	62	96	96	96	103
3515	CSR 23 (Inland Saline Check)	118	95	103	64	78	105	105	105	111
3516	28603	118	88	104	96	69	91	91	91	104
3517	28604	124	102	96	103	71	105	105	105	114
3518	CSR 10 (Early duration saline check)	84	78	55	98	38	49	49	49	66
3519	28605		56	113	97	29	84	84	84	84
3520	28606	102	80	103	80	49	94	94	94	98
3521	28607	118	81	103	120	51	96	96	96	107
3522	FL 478 (Saline Tolerant Check)	94	101	127	103	44	102	102	102	98
3523	28608	106	82	125	118	55	105	105	105	105
3524	Local Check	91	83	129	98	23	104	104	104	97
Exp. Mean		103	87	109	98	58	92	92	92	97

Table 7.11: Panicles/m2 of entries of IVT AL&ISTVT, Kharif 2019 (Alkalinity)

ENTRY	IET No.	Zone II					Zone II (3)	Zone III			Zone III (2)	Overall (5)
		HA			HA (3)	UP 1		UP 2		UP 2 (2)		
		CSS	KUK	PPT	Mean	@KNP		Mean	GBN	MSD	Mean	Mean
3501	28591	378	180	439	332	146	332	189	230	209	209	283
3503	28592	222	168	206	199	357	199	167	266	216	216	206
3504	28593	222	122	378	241	178	241	183	229	206	206	227
3505	28594	244	173	278	232	227	232	167	261	214	214	225
3505	28595	222	170	417	270	137	270	150	228	189	189	237
3506	28596	278	197	89	188	223	188	183		183	183	187
3507	CSR 36 (Alkaline Check)	311	177	317	268	281	268	183	227	205	205	243
3508	28597	200	172	256	209	273	209	144	210	177	177	196
3509	28598	433	264	433	377	169	377	233	234	234	234	320
3510	28599	244	157	244	215	207	215	150	288	219	219	217
3511	28600	289	177	311	259	285	259	167	200	183	183	229
3512	Pusa 44 (Sensitive Check)	333	178	250	254	166	254	178	229	203	203	233
3513	28601	300	239	467	335	290	335	239	295	267	267	308
3514	28602	222	201	283	235	308	235	189	197	193	193	218
3515	CSR 23 (Inland Saline Check)	289	182	356	276	253	276	172	280	226	226	256
3516	28603	333	193	367	298	178	298	183	315	249	249	278
3517	28604	311	216	328	285	354	285	206	221	213	213	256
3518	CSR 10 (Early duration saline check)	356	190	294	280	360	280	183	265	224	224	258
3519	28605	333	180	256	256	173	256	167		167	167	234
3520	28606	456	200	417	357	305	357	200	200	200	200	294
3521	28607	311	179	261	250	182	250	156	219	187	187	225
3522	FL 478 (Saline Tolerant Check)	400	156	328	294	295	294	139	226	182	182	250
3523	28608	433	218	444	365	224	365	211	260	236	236	313
3524	Local Check	367	183	389	313	306	313	167	270	218	218	275
Exp. Mean		312	186	325	274	245	274	179	243	208	208	249

Table 7.11 contd.: Panicles/m² of entries of IVT AL&ISTVT Inland salinity, Kharif 2019

Entry No.	IET No.	Zone II			Zone II (2) Mean
		HA		HA (2)	
		CSS	PWL	Mean	
3501	28591	144	439	292	292
3503	28592	122	272	197	197
3504	28593	92	378	235	235
3505	28594	89	301	195	195
3505	28595	122	410	266	266
3506	28596	89	102	96	96
3507	CSR 36 (Alkaline Check)	128	170	149	149
3508	28597	128	236	182	182
3509	28598	183	420	302	302
3510	28599	89	244	167	167
3511	28600	117	298	207	207
3512	Pusa 44 (Sensitive Check)	117	243	180	180
3513	28601	106	440	273	273
3514	28602	117	287	202	202
3515	CSR 23 (Inland Saline Check)	139	342	241	241
3516	28603	83	347	215	215
3517	28604	133	348	241	241
3518	CSR 10 (Early duration saline check)	133	308	221	221
3519	28605	117	279	198	198
3520	28606	206	423	314	314
3521	28607	117	274	196	196
3522	FL 478 (Saline Tolerant Check)	89	304	197	197
3523	28608	167	424	296	296
3524	Local Check	144	372	258	258
Exp. Mean		124	319	221	221

Table 7.11 contd.: Panicles/m² of entries of IVT AL&ISTVT Normal, Kharif 2019

Entry No.	IET No.	Zone II	Zone VII							Zone VII (2) Mean	Overall (3) Mean
		PU (1)	TE	KA			KA (1)	PUD	PUD (1)		
		KPT	KMP@	@AML	BRM@	GNV	Mean	KRK	Mean		
3501	28591	267	15	486	191	441	441	358	358	399	355
3503	28592	274	13	627	111	330	330	347	347	338	317
3504	28593	272	11	745	92	498	498	453	453	476	408
3505	28594		14	385	141	450	450	307	307	378	378
3505	28595	318	12	837	241	358	358	556	556	457	411
3506	28596	216	12	813	290	444	444	447	447	445	369
3507	CSR 36 (Alkaline Check)	256	9	646	231	378	378	329	329	353	321
3508	28597	226	11	671	301	378	378	300	300	339	301
3509	28598	266	12	789	271	448	448	340	340	394	351
3510	28599	290	12	952	241	501	501	307	307	404	366
3511	28600	290	12	902	190	480	480	407	407	443	392
3512	Pusa 44 (Sensitive Check)	294	12	747	140	387	387	331	331	359	337
3513	28601	310	10	911	237	378	378	404	404	391	364
3514	28602	266	13	680	138	363	363	371	371	367	333
3515	CSR 23 (Inland Saline Check)	294	12	828	236	519	519	304	304	412	372
3516	28603	236	11	829	137	432	432	320	320	376	329
3517	28604	328	14	749	81	270	270	493	493	382	364
3518	CSR 10 (Early duration saline check)	266	11	834	91	324	324	936	936	630	508
3519	28605		14	816	15	386	386	422	422	404	404
3520	28606	256	12	787	20	360	360	282	282	321	299
3521	28607	299	10	650	61	340	340	311	311	325	317
3522	FL 478 (Saline Tolerant Check)	238	12	646	41	455	455	443	443	449	379
3523	28608	254	11	543	53	375	375	287	287	331	305
3524	Local Check	261	11	451	9	410	410	413	413	412	361
Exp. Mean		272	12	722	148	404	404	394	394	399	360

ADVANCE VARIETY TRIAL 1- COASTAL SALINE TOLERANT VARIETY TRIAL (AVT-1-CSTVT)

Locations: 07**Test Entries: 16**

Checks: Bhuthnath (Coastal Saline), CSR 10 (Early), FL 478 (Saline Tolerant), Pusa 44 (Sensitive) and local check **Table:7.12**

AVT-1-CSTVT consisted of 16 entries of which two entries are in 2nd year of testing (IET Nos. 27836 and 27826); one entry is in 3rd year of testing (IET 27037) and five checks namely Bhuthnath (Coastal saline check), CSR 10 (Early check), FL 478 (Saline Tolerant check), Pusa 44 (Sensitive check) and local check. The trial was conducted at 12 locations but data was received from 7 locations namely NRRI-Cuttack (Odisha), Chinsurah and Canning (West Bengal), Panvel (Maharashtra), Machilipatnam (Andhra Pradesh), Brahmavar (Karnataka) and Navsari (Gujarat). Data was not considered for analysis from NRRI- Cuttack and Chinsurah (West Bengal) due to low CV; Brahmavar (Karnataka) and Panvel (Maharashtra) due to low experimental mean (<2000kg/ha); Machilipatnam (Andhra Pradesh) due to high pH of experimental site and Navsari (Gujarat) based on monitoring team report on the conduct of trial. The data pertaining to yield, days to 50% flowering, plant height, panicles/m² and quality are presented in tables 7.13, 7.14, 7.15, 7.16 and 7.17 respectively.

General information of trial in various locations in AVT-1-CSTVT, Kharif, 2019

Location/State	Soil pH	Soil EC (dSm-1)	Experimental mean (kg/ha)	Grain Yield Range (kg/ha)	CV %	Remarks
NRRI- Cuttack (Odisha)	5.9	6.84	2810	2455-3149	4.62	Data not considered for analysis due to low CV (<5)
Chinsurah (West Bengal)	6.5	3.5 – 4.5	4230	3751-4962	4.10	Data not considered for analysis due to low CV (<5) and the entries didn't get exposed to stress.
Canning (West Bengal)	6.7	6.87	3034	1844-3725	22.94	Data considered for analysis
Panvel (Maharashtra)	7-8	2.42, 2.49 & 2.57	1156	777-2203	14.35	Data not considered for analysis due to low experimental mean (<2000kg/ha)
Machilipatnam (Andhra Pradesh)	9.17	NA	5499	669-10324	12.49	High pH. Data not considered for analysis.
Brahmavar (Karnataka)	5.5	NA	1338	750-3175	17.93	Data not considered for analysis due to low experimental mean (<2000kg/ha).
Navsari (Gujarat)	8.2	5.8	3539	1632-6235	16.75	Data not considered for analysis based on monitoring team report on the conduct of trial

Overall performance of entries and Zone III

Among seven locations from which the data was received, only one location namely Canning (West Bengal) was found suitable for analysis on overall basis and in Zone III. The mean yield ranged from 1844 kg/ (Pusa 44) to 3725 kg/ha (Local check). Days to 50% flowering 91 days to 115 (IET 27835). Number of panicles /m² ranged from 242 (IET 27834 & CSR 10) 297 (local check), while the plant height varied from 74.56 cm (Pusa 44) to 108.33 (local check). Among the checks, local check (3725 kg/ha) recorded highest yield followed by Bhuthnath (3540 kg/ha), CSR 10 (3032 kg/ha), FL 478 (2248 kg/ha) and Pusa 44 (1844 kg/ha). None of the test entries surpassed the yield of the best check (3725 kg/ha) and hence none found suitable for promoting to next level of testing.

Zone VI

The trial was conducted at two locations (Panvel and Navsari). The data from both locations is not considered for analysis. Hence none of the entries were promoted in Zone VI.

Zone VII

The trial was conducted at two locations (Machilipatnam and Brahmavar). The data from both locations is not considered for analysis. Hence none of the entries were promoted in Zone VII.

Among the test entries in AVT1- CSTVT, none of the entries recorded the required superiority over the best check and hence none merit for promotion.

INITIAL VARIETY TRIAL - COASTAL SALINE TOLERANT VARIETY TRIAL (IVT-CSTVT)

Locations: 06

Test Entries: 27

Checks: Bhuthnath (Coastal Saline), CSR 10 (Early), FL 478 (Saline Tolerant), Pusa 44 (Sensitive) and local check **Table:7.18**

IVT-CSTVT consisted of 27 entries including five checks namely Bhuthnath (Coastal saline check), CSR 10 (Early check), FL 478 (Saline Tolerant check), Pusa 44 (Sensitive check) and local check. The trial was conducted at 12 locations but data was received from 6 locations namely NRRI-Cuttack (Odisha), Chinsurah and Canning (West Bengal), Panvel (Maharashtra), Machilipatnam (Andhra Pradesh) and Brahmavar (Karnataka). However, data was not considered for analysis from Chinsurah (West Bengal) and Panvel (Maharashtra) due to low stress levels in the experiment as sensitive check recorded high yield; Machilipatnam (Andhra Pradesh) due to high pH of experimental site and Brahmavar (Karnataka) due to high rainfall at PI stage and hence low stress level. Hence among the 6 locations from where the data was received, data from two locations only were considered in the final analysis. The data pertaining to yield, days to 50% flowering, plant height and panicles/m² are presented in tables 7.19, 7.20, 7.21 and 7.22 respectively.

General information of trial in various locations in IVT-CSTVT, Kharif, 2019

Location/State	Soil pH	Soil EC (dSm-1)	Experimental mean (kg/ha)	Grain Yield Range (Kg/ha)	CV %	Remarks
NRRI- Cuttack (Odisha)	5.7	6.59	3000	2483-3460	8.78	Data considered for analysis
Chinsurah (West Bengal)	6.5	3.5 – 4.5	4505	3858-5586	7.36	Data not considered for analysis due to low stress level and high yields
Canning (West Bengal)	6.7	5.43	3085	1378-4168	17.09	Data considered for analysis
Panvel (Maharashtra)	7-8	1.84, 2.62 & 2.41	3280	1080-5721	19.3	Data not considered for analysis due to low stress level
Machilipatnam (Andhra Pradesh)	9.17	NA	8098	4485-10990	19.18	High pH. Data not considered for analysis.
Brahmavar (Karnataka)	5.5	NA	1927	500-3750	30.99	Data not considered for analysis due to low experimental mean (<2000kg/ha) and high CV.

Overall performance of entries and Zone III

Among seven locations from which the data was received, data from two locations only namely NRRI-Cuttack (Odisha) and Canning (West Bengal) was found suitable for analysis on overall basis and in Zone III. The mean yield ranged from 2040 kg/ (Pusa 44) to 3807 kg/ha (Bhuthnath, Coastal saline check). Days to 50% flowering 86 days (CSR 10) to 113 (IET 28612). Number of panicles/m² ranged from 198 (IET 28618) to 313 (IET 28610) while the plant height varied from 82.57 cm (Pusa 44) to 113.01(IET 28627). Among the checks, Bhuthnath (3807 kg/ha) recorded highest yield followed by FL 478 (2981 kg/ha), CSR 10 (2866 kg/ha), local check (2805 kg/ha) and Pusa 44 (2040 kg/ha). **None of the test entries surpassed the yield of the best check (3807 kg/ha) and hence none found suitable for promoting to next level of testing.**

Zone VI

The trial was conducted at Panvel and the data was not suitable for analysis. Hence none of the entries were promoted in Zone VI.

Zone VII

The trial was conducted at two locations (Machilipatnam and Brahmavar). The data from both locations is not considered for analysis. Hence none of the entries were promoted in Zone VII.

Among the test entries in IVT- CSTVT, none of the entries recorded the required superiority over the best check and hence none merit for promotion.

Table 7.12: Composition of entries in Advance Variety Trial 1 – Coastal Saline Tolerant Variety Trial (AVT 1- CSTVT), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
2nd Year of testing:				
3601	27833	MCM 123(OYT 99)	CST 7-1-4 / CST 7-1	LB
3602	27835	RP 5716-336-56-41-6-7-1	RP Bio 226 / CST 7-1	MS
3603	27851	CR 3903-161-1-3-2	Santepheap / IR82810-407 // IR 71700-247-1-1-2	MS
3604	Bhuthnath (Coastal Saline Check)			
3605	27838	RP Bio 4919 - BC3 -NSR1	KMR 3 / O.rufipogon	SB
3606	FL 478 (Saline Tolerant check)			
3607	27834	NVSR 6147	GR-103 / SLR-51214	LB
3608	CSR 10 (Early duration saline check)			
3609	27051 (R)	CR 2851-S-1-B-4-1-4-1-1	Gayatri / SR 26B	MS
3610	27829	CSR 2748-44	CSR 27 / MI 48	LB
3611	Pusa 44 (Sensitive Check)			
3612	27852	CR 2851-S-1-6-2B-4-1	Gayatri / SR 26B	MS
3rd Year of testing:				
3613	27037	OR (CZ)-9-1	CST 7-1 Mutant	SB
2nd Year of testing:				
3614	27836	MCM 122 (OYT 74)	Swarna / CSRCS 7 -1-4	LB
3615	27826	RP 5683-876-4-7-2-1	Swarna / CST 7-1	SS
3616	Local Check			

Table 7.13: Grain yield (Kg/h) of entries in AVT 1 CSTVT Coastal Salinity, Kharif 2019

Entry No.	IET No.	Zone III				Zone III (1)	
		OD		BI (1)		Mean	
		@CTK		CNG			
3601	27833	2866	7	3357	5	3357	5
3602	27835	2937	4	2275		2275	
3603	27851	2731		3401	4	3401	4
3604	Bhuthnath (Coastal Saline Check)	2769	10	3540	3	3540	3
3605	27838	2784	8	2967		2967	
3606	FL 478 (Saline Tolerant check)	2762		2248		2248	
3607	27834	3013	3	3316	7	3316	7
3608	CSR 10 (Early duration saline check)	2455		3032	9	3032	9
3609	27051 (R)	3149	1	3339	6	3339	6
3610	27829	2697		2935		2935	
3611	Pusa 44 (Sensitive Check)	2510		1844		1844	
3612	27852	2925	5	3009	10	3009	10
3613	27037	3043	2	3599	2	3599	2
3614	27836	2874	6	3114	8	3114	8
3615	27826	2665		2843		2843	
3616	Local Check	2783	9	3725	1	3725	1
Exp. Mean		2810.08		3034.03		3034.03	
CD		184.74		991.34		991.34	
CV%		4.62		22.94		22.94	
D/S		7/16/2019		8/2/2019			
D/P		8/20/2019		8/30/2019			
Local Check Name		Luna Suvarna		Utpala			

*Superior to best check

%superior over best check

Table 7.13 contd.: Grain yield (Kg/h) of entries in AVT 1 CSTVT Normal, Kharif 2019

Entry No.	IET No.	Zone III		Zone VI				
		WB		MA		GU (1)		Zone VI (1)
		@CHN		@PNV		NVS		Mean
3601	27833	4036	8	1023	7	3297		3297
3602	27835	4060	7	777		3611	7	3611
3603	27851	4677	6			2263		2263
3604	Bhuthnath (Coastal Saline Check)	3751		1260	4	2129		2129
3605	27838	4012	9	832		1632		1632
3606	FL 478 (Saline Tolerant check)	3870		903		4444	5	4444
3607	27834	3989	10	1364	3 8 %	4794	2 6%	4794
3608	CSR 10 (Early duration saline check)	3846		937	10	3516	8	3516
3609	27051 (R)	4701	4	2203	1* 75%	3789	6	3789
3610	27829	3822		1001	8	4562	3	4562
3611	Pusa 44 (Sensitive Check)	3751				3370	9	3370
3612	27852	4701	4	1675	2* 33%	2206		2206
3613	27037	4962	1 5%	963	9	2869		2869
3614	27836	4796	2	900		3362	10	3362
3615	27826	3989	10	1099	6	6235	1* 37%	6235
3616	Local Check	4725	3	1244	5	4538	4	4538
Exp. Mean		4230		1156		3539		3539
CD		247.18		358.36		988.68		988.68
CV%		4.10		14.35		16.75		16.75
D/S		7/22/2019		7/30/2019		7/18/2019		
D/P		8/26/2019		8/27/2019		8/13/2019		
Local Check Name		Gosaba 5 (IET 23403)		Panvel1		DANDI		

*Superior to best check

%superior over best check

Table 7.13 contd.: Grain yield (Kg/h) of entries in AVT 1 CSTVT Normal, Kharif 2019

Entry No.	IET No.	Zone VIII						Overall (2)	
		AP (1)		KA		Zone VII(1)			
		MPM		@BRM		Mean		Mean	
3601	27833	6461	5	1100	6	6461	5	4879	6
3602	27835	669		975	9	669		2140	
3603	27851	5300	8	895		5300	8	3781	
3604	Bhuthnath (Coastal Saline Check)	6040	6	925		6040	6	4084	
3605	27838	2373		1075	8	2373		2002	
3606	FL 478 (Saline Tolerant check)	4576	10	1100	6	4576	10	4510	9
3607	27834	4451		1400	5	4451		4622	8
3608	CSR 10 (Early duration saline check)	4163		2400	2	4163		3840	
3609	27051 (R)	10324	1 * 33%	3175	1* 32%	10324	1 * 33%	7057	1 15 %
3610	27829	4688	9	900		4688	9	4625	7
3611	Pusa 44 (Sensitive Check)	3203		2125	3	3203		3287	
3612	27852	8028	3	850		8028	3	5117	5
3613	27037	5686	7	1950	4	5686	7	4278	10
3614	27836	9749	2* 25%	950	10	9749	2* 25%	6555	2 6%
3615	27826	4497		845		4497		5366	4
3616	Local Check	7778	4	750		7778	4	6158	3
Exp. Mean		5499		1338		5499		4519	
CD		978.70		426.18		978.7		1536.10	
CV%		12.49		17.93		12.49		21.60	
D/S		7/29/2019		7/25/2019					
D/P		8/16/2019		8/22/2019					
Local Check Name		Panduranga (MCM 100)		MO-4					

Table 7.14: Days to 50% flowering of entries in AVT 1 CSTVT Costal Salinity, Kharif 2019

Entry No.	IET No.	Zone III		Zone III (1)
		OD	BI (1)	
		@CTK	CNG	Mean
3601	27833	106	103	103
3602	27835	111	115	115
3603	27851	110	108	108
3604	Bhuthnath (Coastal Saline Check)	105	103	103
3605	27838	103	101	101
3606	FL 478 (Saline Tolerant check)	109	103	103
3607	27834	106	101	101
3608	CSR 10 (Early duration saline check)	98	95	95
3609	27051 (R)	111	101	101
3610	27829	99	101	101
3611	Pusa 44 (Sensitive Check)	113	108	108
3612	27852	109	101	101
3613	27037	106	103	103
3614	27836	112	110	110
3615	27826	100	101	101
3616	Local Check	105	91	91
Exp. Mean		106	103	103

Table 7.14 contd.: Days to 50% Flowering of entries in AVT 1 CSTVT Normal, Kharif 2019

Entry No.	IET No.	Zone III	Zone VI			Zone VIII			Overall (2)
		WB	MA	GU (1)	Zone VI (1)	AP (1)	KA	Zone VII(1)	
		@CHN	@PNV	NVS	Mean	MPM	@BRM	Mean	Mean
3601	27833	110	105	93	93	98	89	98	96
3602	27835	119	105	98	98	99	98	99	99
3603	27851	118		108	108	108	104	108	108
3604	Bhuthnath (Coastal Saline Check)	107	101	96	96	102	104	102	99
3605	27838	97	103	97	97	100	97	100	98
3606	FL 478 (Saline Tolerant check)	98	100	89	89	96	98	96	92
3607	27834	98	99	89	89	102	94	102	96
3608	CSR 10 (Early duration saline check)	91	88	86	86	100	84	100	93
3609	27051 (R)	106	103	109	109	105	83	105	107
3610	27829	97	108	87	87	94	98	94	90
3611	Pusa 44 (Sensitive Check)	103		94	94	102	99	102	98
3612	27852	106	99	107	107	99	100	99	103
3613	27037	106	105	99	99	101	94	101	100
3614	27836	112	105	102	102	107	94	107	105
3615	27826	95	102	86	86	92	89	92	89
3616	Local Check	95	98	88	88	106	95	106	97
Exp. Mean		103	101	95	95	101	95	101	98

Table 7.15: Plant height (cm) of entries in AVT 1 CSTVT Costal Salinity, Kharif 2019

Entry No.	IET No.	Zone III		BI (1)
		OD	BI (1)	
		@CTK	CNG	Mean
3601	27833	95	104	104
3602	27835	101	80	80
3603	27851	97	97	97
3604	Bhuthnath (Coastal Saline Check)	98	97	97
3605	27838	99	96	96
3606	FL 478 (Saline Tolerant check)	102	90	90
3607	27834	103	90	90
3608	CSR 10 (Early duration saline check)	103	81	81
3609	27051 (R)	100	84	84
3610	27829	106	84	84
3611	Pusa 44 (Sensitive Check)	101	75	75
3612	27852	101	82	82
3613	27037	106	103	103
3614	27836	101	95	95
3615	27826	103	89	89
3616	Local Check	113	108	108
Exp. Mean		102	91	91

Table 7.15 contd.: Plant height (cm) of entries of AVT 1 CSTVT Normal, Kharif 2019

Entry No.	IET No.	Zone III	Zone VI			Zone VIII			Overall (2)
		WB	MA	GU (1)	Zone VI (1)	AP (1)	KA	Zone VII(1)	
		@CHN	@PNV	NVS	Mean	MPM	@BRM	Mean	Mean
3601	27833	123	105	142	142	120	62	120	131
3602	27835	95	105	101	101	99	27	99	100
3603	27851	112		131	131	128	56	128	130
3604	Bhuthnath (Coastal Saline Check)	107	101	132	132	116	57	116	124
3605	27838	114	103	127	127	115	62	115	121
3606	FL 478 (Saline Tolerant check)	95	100	135	135	102	63	102	118
3607	27834	109	99	134	134	105	77	105	120
3608	CSR 10 (Early duration saline check)	90	88	119	119	99	69	99	109
3609	27051 (R)	107	103	143	143	115	69	115	129
3610	27829	99	108	117	117	101	65	101	109
3611	Pusa 44 (Sensitive Check)	86		84	84	82	52	82	83
3612	27852	110	99	134	134	107	77	107	120
3613	27037	114	105	151	151	117	68	117	134
3614	27836	107	105	133	133	121	78	121	127
3615	27826	97	102	117	117	103	66	103	110
3616	Local Check	110	98	100	100	105	45	105	102
Exp. Mean		105	101	125	125	108	62	108	117

Table 7.16: Panicles/m2 of entries of AVT 1 CSTVT Costal Salinity, Kharif 2019

Entry No.	IET No.	Zone III		Zone III (1) Mean
		OD	BI (1)	
		@CTK	CNG	
3601	27833	358	249	249
3602	27835	406	257	257
3603	27851	396	290	290
3604	Bhuthnath (Coastal Saline Check)	359	264	264
3605	27838	389	297	297
3606	FL 478 (Saline Tolerant check)	322	264	264
3607	27834	272	242	242
3608	CSR 10 (Early duration saline check)	230	242	242
3609	27051 (R)	336	260	260
3610	27829	270	253	253
3611	Pusa 44 (Sensitive Check)	233	264	264
3612	27852	351	271	271
3613	27037	310	271	271
3614	27836	365	257	257
3615	27826	351	260	260
3616	Local Check	351	297	297
Exp. Mean		331	265	265

Table 7.16 contd.: Panicles/m2 of entries of AVT 1 CSTVT Normal, Kharif 2019

Entry No.	IET No.	Zone III	Zone VI				Zone VIII		Overall (2) Mean
		WB	MA	GU (1)	Zone VI (1)	AP (1)	KA	Zone VII(1)	
		@CHN	@PNV	NVS	Mean	MPM	@BRM	Mean	
3601	27833	330	221	315	315	161	17	161	238
3602	27835	272	334	270	270	30	3	30	150
3603	27851	256		291	291	139	4	139	215
3604	Bhuthnath (Coastal Saline Check)	330	432	354	354	163	81	163	259
3605	27838	503	205	276	276	85	121	85	181
3606	FL 478 (Saline Tolerant check)	396	316	252	252	153	143	153	202
3607	27834	314	250	309	309	121	181	121	215
3608	CSR 10 (Early duration saline check)	363	380	309	309	115	194	115	212
3609	27051 (R)	314	392	339	339	225	109	225	282
3610	27829	330	322	264	264	106	171	106	185
3611	Pusa 44 (Sensitive Check)	330		270	270	96	142	96	183
3612	27852	314	424	300	300	202	194	202	251
3613	27037	281	280	306	306	156	195	156	231
3614	27836	347		297	297	225	140	225	261
3615	27826	281	286	327	327	119	170	119	223
3616	Local Check	289	329	252	252	214	40	214	233
Exp. Mean		328	321	296	296	144	119	144	220

Table 7.17: Grain quality characteristics of entries in AVT 1-CSTVT, Kharif 2019

Entry No.	IET No.	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
3601	27833	78.8	70.5	61.3	6.65	2.47	2.69	LB	OC	5.0	27.63	43
3602	27835	75.0	68.6	65.9	5.03	1.99	2.52	MS	A	7.0	23.63	22
3603	27851	75.0	64.8	54.6	5.54	2.18	2.54	MS	A	5.0	27.13	31
3604	Bhuthnath	76.4	67.8	58.0	6.08	2.29	2.65	LB	A	5.0	26.13	25
3605	27838	76.8	67.1	56.0	5.36	2.37	2.26	SB	OC	5.0	26.51	61
3606	FL-478	76.7	68.5	53.8	6.48	2.44	2.65	LB	VOC	4.0	24.31	40
3607	27834	77.6	67.6	62.6	6.34	2.47	2.56	LB	OC	4.0	26.89	55
3608	CSR-10	77.4	66.8	59.7	6.3	2.14	2.94	LB	A	4.0	23.14	46
3609	27051	77.8	68.5	64.6	5.73	2.09	2.74	MS	A	4.0	26.81	44
3610	27829	78.0	70.4	61.9	6.33	2.26	2.80	LB	VOC	7.0	27.69	46
3611	Pusa-44	74.8	67.0	60.4	5.32	2.07	2.57	MS	VOC	7.0	26.28	22
3612	27852	77.6	67.4	57.4	5.8	2.14	2.71	MS	VOC	5.0	27.77	45
3613	27037	77.3	68.7	65.5	5.25	2.18	2.40	SB	A	7.0	26.42	31
3614	27836	78.8	68.8	58.8	6.3	2.43	2.59	LB	OC	6.0	26.31	24
3615	27826	76.9	67.9	57.1	5.76	1.83	3.14	SS	VOC	4.0	25.16	61

HULL: Hulling (%); MILLING (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB: Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

Table 7.18: Composition of entries in Initial Variety Trial – Coastal Saline Tolerant Variety Trial (IVT- CSTVT), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
1st Year of testing:				
3701	28609	CN 2018-1	Bhuthnath / Kaushalya	LS
3702	28610	CR 2850-S-2B-12-1-2-5-1	Gayatri / FL496	SB
3703	28611	MCM 127 (OYT 116)	BPT 5204 / CSR 13	MS
3704	28612	RP 6332-123-6-5-2	Sugandha Samba / A69-1	MS
3705	28613	CR 3884-244-8-5-6-2-1	Khandagiri / FL378	MS
3706	28614	NVSR 6157	Jaya / IR 71829-3R-82-1-1	LB
3707	28615	CR 3879-3-1-6-1-3-1	Naveen / FL378	MS
3708	Bhuthnath (Coastal Saline Check)			
3709	28616	IIRRH-139 (Hybrid)	-	MS
3710	28617	CR 3884-244-8-7-4-1-3	Khandagiri / FL378	MS
3711	28618	CSR 63	IR 4630-22-2-5-1-3 / IR 61920-3B-22-2-1	MS
3712	28619	CR 3881-4-1-6-3-4-1	Naveen / FL496 / Naveen	MS
3713	28620	RP 6335-136-7-3-1	MTU 1010 / CSR 3005-2-30-5	LS
3714	CSR 10 (Early duration saline check)			
3715	28621	CSRM1-27	Cheriviruppu / IR 10205-37-1-3	LB
3716	28622	CR 3884-244-8-5-6-1-1	Khandagiri / FL378	MS
3717	28623	NVSR 6156	Dandi / IR 50184-18-2B-1	LB
3718	28624	CR 3881-M-3-1-5-1-1-1	Naveen / FL496 / Naveen	SB
3719	28625	MCM 126 (OYT 109)	MTU 1064 / Swarna Sub 1 / CSR 683-169-1	MS
3720	28626	CSR 62	A 69-1 / IR 73718-23-2-1-3	LS
3721	FL 478 (Saline Tolerant check)			
3722	28627	CR 3439-10-M-3-B	Naveen / Chettiviruppu	LB
3723	28628	MCM 125 (OYT 106)	MTU 1042 / MTU 1061	MS
3724	Pusa 44 (Sensitive Check)			
3725	28629	NVSR 6161	NAUR-1 / IR 72049- B- R- 22- 3-1-1	LS
3726	28630	CSR 2013-IR 42-22	A69-1 / IR 73718-23-2-1-4	LB
3727	Local Check			

Table 7.19: Grain Yield of entries in IVT - CSTVT Costal Salinity Kharif 2019

Entry No	IET No	ZONE III				ZONE III (2)	
		OD		WB			
		CTK		CNG		mean	
3701	28609	3179	9	3475	7	3327	7
3702	28610	3460	1	3967	2	3714	2
3703	28611	3080		1763		2422	
3704	28612	2973		2378		2676	
3705	28613	2746		2059		2403	
3706	28614	2855		3525	6	3190	
3707	28615	3182	8	3468	8	3325	8
3708	Bhuthnath (Coastal Saline Check)	3445	3	4168	1	3807	1
3709	28616	2557		3368		2963	
3710	28617	3183	7	3098		3141	
3711	28618	2698		3241		2970	
3712	28619	2954		3463	9	3209	10
3713	28620	3193	6	3244		3219	9
3714	CSR 10 (Early duration saline check)	2904		2827		2866	
3715	28621	2483		3375		2929	
3716	28622	2872		3225		3049	
3717	28623	2947		3884	3	3416	4
3718	28624	2811		3184		2998	
3719	28625	2768		2109		2439	
3720	28626	3223	5	3732	4	3478	3
3721	FL 478 (Saline Tolerant check)	2943		3019		2981	
3722	28627	2970		3041		3006	
3723	28628	3458	2	2657		3058	
3724	Pusa 44 (Sensitive Check)	2702		1378		2040	
3725	28629	3158	10	3633	5	3396	5
3726	28630	3239	4	3449	10	3344	6
3727	Local Check	3043		2567		2805	
Exp. Mean		3001		3085		3051	
CD		371.1		742.32		432.21	
CV%		8.78		17.09		10.06	
D/S		7/12/2019		8/1/2019			
D/P		8/21/2019		8/28/2019			
Local Check Name		Luna Suvarna		Sumati			

Table 7.19 contd.: Grain Yield of entries in IVT - CSTVT Normal Kharif 2019

Entry No	IET No	Zone III (1)		Zone VI (1)		Zone VII				Zone VII (1)		Overall (3)	
		WB (1)		MA (1)		AP		KA		Zone VII (1)		Overall (3)	
		CHN		PNV		MTM		@BRM		Mean		Mean	
3701	28609	5185	3	4103	6 15%	9410	9	2750	4	9410	9	6233	2 7%
3702	28610	4784	8	5721	1 * 61%	6306		1400		6306		5604	
3703	28611	4414		4162	4 17%	4849		1650		4849		4475	
3704	28612	4167		2988		4817		1250		4817		3991	
3705	28613	3858		3744	7 5%	9061		2250	8	9061		5554	
3706	28614	4660	9	3299		9905	3	1500		9905	3	5955	6
3707	28615	4506		4149	5 17%	9806	4	500		9806	4	6154	3 5%
3708	Bhuthnath (Coastal Saline Check)	4568	10	3227		9756	5	1000		9756	5	5850	7
3709	28616	3858		2849		6601		1250		6601		4436	
3710	28617	4352		3598	8	9192		2000	10	9192		5714	9
3711	28618	4969	5	1080		9411	8	1500		9411	8	5153	
3712	28619	4506		4366	3 23%	8438		2050	9	8438		5770	8
3713	28620	3994		3478	10	7283		1750		7283		4918	
3714	CSR 10 (Early duration saline check)	5586	1	1558		6707		1750		6707		4617	
3715	28621	4506		1840		7225		1500		7225		4524	
3716	28622	4074		3466		9542	6	2750	4	9542	6	5694	10
3717	28623	4475		2974		9301	10	2500	7	9301	10	5583	
3718	28624	4043		3347		7676		1750		7676		5022	
3719	28625	4383		3375		6019		1250		6019		4592	
3720	28626	4877	7	2958		4485		1750		4485		4107	
3721	FL 478 (Saline Tolerant check)	4074		3561	9	7485		1750		7485		5040	
3722	28627	3981		3185		10990	1	3750	1	10990	1 13%	6052	4
3723	28628	5463	2	4972	2 * 40%	9451	7	3550	3	9451	7	6629	1 13%
3724	Pusa 44 (Sensitive Check)	4043		1944		8204		1500		8204		4730	
3725	28629	4475		2759		10709	2	2750	4	10709	2 10%	5981	5
3726	28630	4877	6	2787		8325		3750	1	8325		5330	
3727	Local Check	4969	4	3082		7707		900		7707		5253	
Exp. Mean		4505.49		3280.43		8098.54		1927.78		8098.54		5294.85	
CD		466.98		891.47		2187.7		1228.4		2187.7		1129.62	
CV%		7.36		19.3		19.18		30.99		19.18		13.8	
D/S		7/22/2019		7/4/2019		7/29/2019		7/26/2019					
D/P		8/26/2019		8/8/2019		8/16/2019		8/22/2019					
Local Check Name		Gosaba 5 (IET 23403)		Panvel 1		Panduranga (MCM 100)		MO-4					

Table 7.20: Days to 50% Flowering of entries in IVT - CSTVT Costal Salinity Kharif 2019

Entry No	IET No	ZONE III		ZONE III (2)
		OD	WB	
		CTK	CNG	Mean
3701	28609	115	92	104
3702	28610	109	104	106
3703	28611	116	96	106
3704	28612	110	116	113
3705	28613	103	116	109
3706	28614	98	104	101
3707	28615	100	112	106
3708	Bhuthnath (Coastal Saline Check)	111	109	110
3709	28616	101	116	108
3710	28617	104	93	99
3711	28618	97	95	96
3712	28619	112	99	106
3713	28620	108	90	99
3714	CSR 10 (Early duration saline check)	94	77	86
3715	28621	98	104	101
3716	28622	101	104	103
3717	28623	103	90	97
3718	28624	98	95	97
3719	28625	104	95	99
3720	28626	113	80	97
3721	FL 478 (Saline Tolerant check)	105	90	97
3722	28627	105	95	100
3723	28628	114	98	106
3724	Pusa 44 (Sensitive Check)	105	90	98
3725	28629	99	95	97
3726	28630	108	112	110
3727	Local Check	96	114	105
Exp. Mean		105	99	102

Table 7.20 contd.: Days to 50% Flowering of entries in IVT - CSTVT Normal Kharif 2019

Entry No	IET No	Zone III (1)	Zone VI (1)	Zone VII		Zone VII (1)	Overall (3)
		WB (1)	MA (1)	AP	KA		
		CHN	PNV	MTM	@BRM	mean	mean
3701	28609	103	108	96	99	96	102
3702	28610	105	117	107	102	107	110
3703	28611	105	112	110	93	110	109
3704	28612	106	112	101	102	101	106
3705	28613	104	104	82	98	82	96
3706	28614	95	102	86	97	86	94
3707	28615	83	111	84	104	84	92
3708	Bhuthnath (Coastal Saline Check)	105	114	98	106	98	105
3709	28616	98	100	84	98	84	94
3710	28617	96	103	88	98	88	96
3711	28618	95	85	85	98	85	88
3712	28619	103	108	90	102	90	100
3713	28620	95	103	94	101	94	97
3714	CSR 10 (Early duration saline check)	87	91	79	93	79	85
3715	28621	86	100	79	94	79	88
3716	28622	97	112	86	94	86	98
3717	28623	96	103	85	98	85	95
3718	28624	98	104	83	98	83	95
3719	28625	106	119	101	102	101	109
3720	28626	103	123	107	102	107	111
3721	FL 478 (Saline Tolerant check)	104	105	91	102	91	100
3722	28627	103	103	96	104	96	100
3723	28628	115	123	108	104	108	115
3724	Pusa 44 (Sensitive Check)	96	112	96	102	96	101
3725	28629	95	102	89	98	89	95
3726	28630	98	112	96	98	96	102
3727	Local Check	96	99	98	102	98	98
Exp. Mean		99	107	92	99	92	99

Table 7.21: Plant Height of entries in IVT - CSTVT Costal Salinity Kharif 2019

Entry No	IET No	ZONE III		ZONE III (2)
		OD	WB	
		CTK	CNG	mean
3701	28609	96	96	96
3702	28610	90	94	92
3703	28611	101	80	90
3704	28612	101	70	86
3705	28613	114	88	101
3706	28614	103	88	95
3707	28615	93	100	96
3708	Bhuthnath (Coastal Saline Check)	88	104	96
3709	28616	103	85	94
3710	28617	97	94	95
3711	28618	102	75	88
3712	28619	99	97	98
3713	28620	92	82	87
3714	CSR 10 (Early duration saline check)	92	61	77
3715	28621	104	83	93
3716	28622	119	97	108
3717	28623	95	93	94
3718	28624	97	97	97
3719	28625	108	97	102
3720	28626	97	87	92
3721	FL 478 (Saline Tolerant check)	95	90	93
3722	28627	120	106	113
3723	28628	124	88	106
3724	Pusa 44 (Sensitive Check)	97	69	83
3725	28629	90	105	97
3726	28630	103	99	101
3727	Local Check	101	84	92
Exp. Mean		101	89	95

Table 7.21 contd.: Plant Height of entries in IVT - CSTVT Normal Kharif 2019

Entry No	IET No	Zone III (1)	Zone VI(1)	Zone VII		Zone VII (1)	Overall (3)
		WB (1)	MA (1)	AP	KA		
		CHN	PNV	MTM	@BRM	mean	mean
3701	28609	115	111	118	65	118	114
3702	28610	117	128	127	60	127	124
3703	28611	105	106	120	61	120	110
3704	28612	90	101	107	48	107	99
3705	28613	110	116	117	62	117	114
3706	28614	100	107	122	57	122	110
3707	28615	121	126	124	63	124	123
3708	Bhuthnath (Coastal Saline Check)	119	114	122	57	122	118
3709	28616	99	106	106	73	106	104
3710	28617	117	122	128	83	128	122
3711	28618	100	75	99	75	99	91
3712	28619	119	123	124	85	124	122
3713	28620	114	103	120	78	120	112
3714	CSR 10 (Early duration saline check)	89	97	69	52	69	85
3715	28621	93	98	94	68	94	95
3716	28622	120	126	125	88	125	123
3717	28623	117	106	119	87	119	114
3718	28624	112	109	124	99	124	115
3719	28625	127	107	136	92	136	123
3720	28626	109	109	126	55	126	115
3721	FL 478 (Saline Tolerant check)	105	98	119	60	119	107
3722	28627	126	133	145	62	145	134
3723	28628	109	112	115	59	115	112
3724	Pusa 44 (Sensitive Check)	97	93	92	28	92	94
3725	28629	124	106	137	48	137	122
3726	28630	119	116	128	47	128	121
3727	Local Check	117	90	122	35	122	109
Exp. Mean		111	108	118	64	118	112

Table 7.22: Panicle/m² of entries in IVT - CSTVT Costal Salinity Kharif 2019

Entry No	IET No	ZONE III		ZONE III (2)
		OD	WB	
		CTK	CNG	Mean
3701	28609	179	301	240
3702	28610	339	286	313
3703	28611	209	330	269
3704	28612	174	279	227
3705	28613	216	293	255
3706	28614	190	297	244
3707	28615	233	297	265
3708	Bhuthnath (Coastal Saline Check)	243	330	287
3709	28616	238	290	264
3710	28617	176	268	222
3711	28618	118	279	198
3712	28619	195	345	270
3713	28620	170	345	257
3714	CSR 10 (Early duration saline check)	172	286	229
3715	28621	170	297	234
3716	28622	190	264	227
3717	28623	208	301	255
3718	28624	130	293	212
3719	28625	169	308	239
3720	28626	178	293	236
3721	FL 478 (Saline Tolerant check)	182	315	249
3722	28627	174	341	257
3723	28628	203	279	241
3724	Pusa 44 (Sensitive Check)	205	301	253
3725	28629	203	268	235
3726	28630	184	279	231
3727	Local Check	160	275	218
Exp. Mean		193	298	245

Table 7.22 contd.: Panicle/m² of entries in IVT - CSTVT Normal Kharif 2019

Entry No	IET No	Zone III (1)	Zone VI (1)	Zone VII		Zone VII (1)	Overall (3)
		WB (1)	MA (1)	AP	KA		
		CHN	PNV	MTM	@BRM	Mean	Mean
3701	28609	347	420	205	122	205	324
3702	28610	314	488	202	66	202	334
3703	28611	371	388	107	7	107	289
3704	28612	380	336	127	25	127	281
3705	28613	281	363	275	51	275	306
3706	28614	297	330	269	94	269	299
3707	28615	355	366	285	150	285	335
3708	Bhuthnath (Coastal Saline Check)	363	358	252	171	252	324
3709	28616	413	332	218	191	218	321
3710	28617	429	290	229	211	229	316
3711	28618	512	233	251	241	251	332
3712	28619	371	512	212	272	212	365
3713	28620	470	364	216	290	216	350
3714	CSR 10 (Early duration saline check)	363	339	216	190	216	306
3715	28621	462	380	213	240	213	352
3716	28622	429	380	221	280	221	343
3717	28623	396	416	248	235	248	353
3718	28624	363	409	162	199	162	311
3719	28625	330	329	142	141	142	267
3720	28626	289	387	145	51	145	273
3721	FL 478 (Saline Tolerant check)	264	322	163	151	163	250
3722	28627	305	292	230	87	230	276
3723	28628	314	293	222	4	222	276
3724	Pusa 44 (Sensitive Check)	314	276	177	1	177	255
3725	28629	347	241	290	12	290	292
3726	28630	322	322	227	13	227	290
3727	Local Check	314	356	202	10	202	290
Exp. Mean		360	352	211	130	211	308

AEROBIC TRIALS

Decline in water resources and erratic rainfall necessitate the need for identification of high water-use efficient rice cultivars suitable for aerobic condition. Among the available water saving technologies, aerobic rice has very good potential which can increase the water productivity of the rice crop especially in water-scarce irrigated areas without any yield penalty. In this system, rice is sown by direct dry seeding and irrigation is given to keep the soil sufficiently moist but never flooded for attaining good plant growth and enhanced yields with a view to develop rice varieties suitable for aerobic conditions. Therefore, breeding cultivars suitable for aerobic condition has increasingly becoming popular to reduce the requirement for rice cultivation. Therefore, two trials were conducted viz., AVT1-Aerob and IVT-Aerob. All the two trials were conducted at - locations across India.

ADVANCE VARIETY TRIAL 1 –AEROBIC (AVT 1 – AEROB)

Locations:	28	Test Entries:	32
Checks:	CR Dhan 201- National; CR Dhan 202 (Northern, Eastern & Central), AAUDR-1 (Western), MAS 946-1 (Southern)—Zonal; PA 6129 (Hybrid) and Local Check.	Table:	8.1

The ‘Advanced Variety Trial 1 – Aerobic (AVT 1 – Aerob)’ was constituted with 32 entries along with four checks (NC, ZC, HC and LC). AVT 1 – Aerobic was sent to 28 locations and data was received from 19 centers. The data was not received from Banswara, Bhubaneswar, NRRI - Cuttack, Masodha, Varanasi, Arundhuti Nagar, Jabalpur, Bilaspur, and Sirsi. Among the 18 centers from where the data was received, the data from four locations was not considered due to low experimental yield in Ranchi (1671 kg/ha), Wangbal (2632 kg/ha), Derol (2238 kg/ha) and Vyara (2678 kg/ha). The experimental mean grain yield varied from 5981 kg/ha at Bikramganj to 1671 kg/ha at Ranchi. The CV ranged from 5.69% (Pusa) to 22.97% (Lemucherra). The data pertaining to yield, days to 50% flowering, plant height, number panicles/m² and quality are presented in tables 8.2, 8.3, 8.4, 8.5 and 8.6 respectively. Since the 32 entries were not sent to all the centers so overall assessment of entries is not possible. Therefore, only zone-wise discussion is presented below.

Zone II

In Zone II, the trial was sent to Ludhiana (Punjab), Kaul (Haryana) and Banswara (Rajasthan). The data was received from Ludhiana and Kaul and was considered for analysis. The mean experimental yield at Ludhiana and Kaul was 3709 kg/ha and 3017 kg/ha respectively. Further, the mean CV was 12.96% at Ludhiana and 11.45% at Kaul. The mean

yield ranged from 2101 kg/ha (IET 27966) to 4839 kg/ha (IET 27951). Flowering duration varied from 72 days (IET 27966) to 89 days (IET 27973). The plant height ranged from 75.8 cm (IET 27973) to 111.7 cm (IET 27958). The range of number of panicles/m² was from 229 (IET 27962) to 450 (IET 27939).

In Zone II, IET 27951 was the only entry that exhibited the requisite yield advantage (10.8%) over the BVC; **hence it is promoted to third year of testing (AVT 2)**. The quality: HRR – 56.7%; AC – 24.3% and GC – 63.0.

IET 26194, a third-year repeat entry was the only entry that showed a yield advantage over the BVC (12.3%) in **Zone III**. The quality of IET 26194 is: HRR – 62.4%, AC – 21.8% and GC – 22.0. The other details of IET 27951 and IET 26194 are given in below table.

In other zones (IV, V, VI and VII) no entry performed better than the BVC/HC.

Performance of entries during Kharif 2019

S.No	IET/Designation/ Cross Combination	Yield DFF GT	Yield Adv over NC, ZC, LC, HC
Zone II			
1	27951 HURS18-2-IR98976-20-1-2-2 IR1L152 / Sabitri	4839 73 LS	10.8 100.8 32.6 57.7
	CR Dhan 201 (NC) Zonal Check (ZC) PA 6129 (HC) Local Check (LC)	4366 2410 3649 3068	
Zone III			
1	26194 (R) RP 5591-123-16-2 MTU 1010 / IR 79915-B-83-4-3	5210 80 LB	13.4 12.3 3.8 15.4
	CR Dhan 201 (NC) Zonal Check (ZC) PA 6129 (HC) Local Check (LC)	4595 4639 5011 4516	

Three year performance of entries

IET 26194, a repeat entry was the only entry that showed a yield advantage of 12.3% over the BVC in Bihar (Zone III). The DFF, plant height and panicles/m² of IET 26194 were 80 days, 108.9 cm, and 324 respectively. Further, it also exhibited a yield superiority of 7.6% and 10.1% in Bihar over the BVC in 2018 and 2017. The quality of IET 26194 is: HRR – 62.4%, AC – 21.8%, and GC – 22.0. **IET 26194 exhibited yield superiority in Bihar only during 2017, 2018 and 2019.**

Three year performance of entries

Entry	Year	Zone	Yield (kg/ha)	Yield adv. over BVC/HC (%)	States	Yield (Kg/ha)	Yield adv. over BVC/HC (%)	Remarks
26194	2019	Z3	5210	12.3	BI-2	5210	12.3	Out-yielded the BVC only in Bihar
	2018	Z3	5603	13.0	BI-9 OD-3	5653 5450	7.6 16.5	
	2017	Z3	4347	13.1	BI-4 JH-5	4975 3978	10.1 16.2	

Entries promoted to third year:

Zone II: IET 27951

INITIAL VARIETY TRIAL – AEROBIC (IVT-AEROB)

Locations: 28

Test Entries: 64

Checks: CR Dhan 201- National; CR Dhan 202 (Northern, Eastern & Central), AAUDR-1 (Western), MAS 946-1 (Southern)—Zonal; PA 6129 (Hybrid) and Local Check. **Table: 8.7**

Initial Variety Trial – Aerobic (IVT-Aerob) was constituted with 64 test entries and four checks (NC, ZC, HC and LC). The trial was sent to 28 locations but data was not received from 10 locations that included Banswara, Bhubaneswar, Cuttack, Masodha, Varanasi, Arundhutinagar, Lembucherra, Jabalpur, Bilaspur, and Sirsi. Further, the data received from the following centres was not considered for analysis due to: low yield Ranchi 1463, Wangbal 851 kg/ha, Rewa 2027 kg/ha, Derol 1576 kg/ha and Mandya 2253 kg/ha. Further, it is observed that data received from Wangbal center is not in proper format, while in data submitted by Raipur center, data pertaining to local check is missing.

CV% at experimental locations varied from 4.69% (Parbhani) to 23.71% at Jagdalpur. Experimental mean of grain yield ranged from 851 kg/ha at Wangbal to 5742 kg/ha at Warangal.

Overall mean yield among the 60 test entries and 4 checks varied from 2152 kg/ha (IET 28685) to 5453 kg/ha (IET 28650), days to 50% flowering from 73 (IET 28656) to 100 days (IETs 28632 and 28689), plant height from 86 cm (IET 28647) to 137 cm (IET 28676) and panicles/m² ranged from 250 (IET 28684) to 336 (Local Check). The data pertaining to yield, days to 50% flowering, plant height and number of panicles/m² are presented in tables 8.8, 8.9, 8.10 and 8.11 respectively.

On overall basis, 21 entries were found superior to Local check (4626 kg/ha) and recorded more than 5 percent yield improvement. While among the entries IET 28650 (IIRRH 128), a hybrid with a grain yield of 5453 kg/ha was out-yielded the LC (4626 kg/ha), the BVC and HC (5338 kg/ha) with a yield superiority of 18% and 2% respectively. The days to 50% flowering, plant height and panicles/m² of IET 28650 were 85, 108 cm and 282 respectively. Though these entries performance on over all mean basis is superior, due to their inconsistent performance across zones, entries have been considered for promotion based on their zonal performance in respective zones.

Zone wise Performance of entries in IVT Aerobic during Kharif 2019

Performance of Genotypes in IV-1-1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100-101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311-312-313-314-315-316-317-318-319-320-321-322-323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000											
S. No.	IET No./ Designation/ Cross combination	GT	Zone II		Zone III		Zone V		Zone VI		Remarks
			GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	
Zone II											
1	IET 28637 HKR 16-1-IR 14L521 IR09L272 / IR 10L146	LS	5250 91	8							Promoted for Zone II
2	IET 28658 RCPR 62-IR14L360 IR 09L272 / IR 09L337	LS	5350 81	10							Promoted for Zone II
Zone III											
1	IET 28650*(Hybrid)	MS			6086 86	9					Promoted For Z-III
2	IET 28637 HKR 16-1-IR 14L521 IR09L272 / IR 10L146	LS			5252 81	11					Promoted For Z-III
3	IET 28641 CR 3947-1-2-1-1-1 IR64 / IET 23467	LS			5193 83	10					Promoted For Z-III
4	IET 28653 RP 6112-MS-M-22-3-9-8-5- 4-2 BPT 5204 Mutant	MB			5093 87	8					Promoted For Z-III
5	IET 28658 RCPR 62-IR14L360 IR 09L272 / IR 09L337	LS			5068 81	7					Promoted For Z-III
6	IET 28669 MSN105-RP5391-MSN 28- 1 RP Bio 226 / IRGC 11010 // MTU 1081	MB			5810 88	23					Promoted For Z-III
7	IET 28631 RCPR63-IR97034-21-2-1-3 IR09L337 / IR09L154	LS			5042 81	7					Promoted For Z-III
8	IET 28635 PAU 5567-32-3-1-5 (RYT 3687) PR 120 // PAU 201 / UPR 1561-6-3	LS			5407 107	14					Dropped due to > FD 90 days
9	IET 28636	LS			5687	20					Promoted

S. No.	IET No./ Designation/ Cross combination	GT	Zone II		Zone III		Zone V		Zone VI		Remarks
			GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	
	RP 6361-RAF-252 -GSR- IR1-DQ146-L18-Y1 GSR IR1-8-S6-S3-Y2 / GSR IR 1-9-S9-Y3-SU1				79						For Z-III
10	IET 28672 NWGR 12002 IR 17 / IET 16810	LB			5248 77	11					Promoted For Z-III
11	IET 28675 RP 5624-413-B-12-1 Sahbhagidhan / KMR -3	LB			5443 96	15					Dropped due to > FD90 days
12	IET 28678 CRR 808-1 IR 09L272 / IR 10L165	LS			5209 79	10					Promoted For Z-III
Zone V											
1	IET 28631 RCPR63-IR 97034-21-2-1-3 IR09L337 / IR09L154	LS					6049 81	8			Promoted for Z-V
2	IET 28634 JDP – 2018 Selection from IR 86857	MS					6108 78	9			Promoted for Z-V
3	IET 28637 HKR 16-1-IR 14L521 IR09L272 / IR 10L146	LS					5972 80	6			Promoted for Z-V
4	IET 28642 UPR 4110-4-1-1-1 Jaya / Pant Dhan 10	LB					6286 89	12			Promoted for Z-V
5	IET 28645 YRH 2027 (Hybrid)	LB					6178 83	10			Dropped < HC
6	IET 28650 IIRRH-128 (Hybrid)	MS					6346 73	13			Dropped < HC
7	IET 28673 CR 3847-1-1-1-2-1 IR 79643-39-2-2 / CR Dhan 201	LS					6449 81	15			Promoted for Z-V
8	IET 28674 RP 6353-26-13-39-5 MTU 1010 / ST 6 // ST 12 /// MTU 1010	LS					5894 79	5			Promoted for Z-V
Zone VI											
1	IET 28635 PAU 5567-32-3-1-5 (RYT 3687) PR 120 // PAU 201 / UPR 1561-6-3	LS							5369 89	12	Promoted for Z-VI
2	IET 28640 NVSr 6231 NAUR-1 / IR 7664-B-25-1- 2-1-3-12-4-AJY1	LB							5101 77	6	Promoted for Z-VI

S. No.	IET No./ Designation/ Cross combination	GT	Zone II		Zone III		Zone V		Zone VI		Remarks
			GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	
3	IET 28648 <i>US 384 (Hybrid)</i>	LS							5744 94	20	Dropped < 5 % HC
4	IET 28654 PAU 3391-29-3-1-3-3-1-2- 1-1 (RYT 3692) TDCD 3815 / PAU 2963- 17-3-1-3	LS							5617 101	17	Dropped > FD 90 Days
5	IET 28655 CR 3938-2-2-1-1-1-2-1 IR 73907-753-2-3 / Prathiksyia	LS							5388 94	12	Dropped > FD 90 Days
6	IET 28671 CR 4115-2-2-1-1-1 Kudrat / EC 491313	SB							5149 81	7	Promoted for Zone VI
7	IET 28673 CR 3847-1-1-1-2-1 IR 79643-39-2-2 / CR Dhan 201	LS							5386 84	12	Promoted for Zone VI
8	IET 28677 CR 3856-44-22-2-1-3-2-2 IR 73963-86-1-5-2-2 / CR 2324-1-1	LS							5115 90	7	Promoted for Zone VI
9	IET 28681 IR 73933-8-2-2-3-3 CR 3852-1-1 IR 65629-157-3-2-3-2-1 / IR 68763-46-1-2-5-2	LS							5167 94	8	Dropped > FD 90 Days
10	IET 28683 IR 71700-247-5-3-2 CR 3727-2-2-1-1 IR 66159-164-5-3-5/IR 64	LS							5067 101	6	Dropped > FD 90 Days
CR Dhan 201 / CR Dhan 202 (NC)			4850 90		3858 81		5478 80		3867 86		
Hybrid check			3200 89		5605 80		6853 82		5566 76		
Zonal Check			2450 92		4729 78		4900 81		1290 68		
Local Check			4500 88		4021 79		4868 81		4795 83		
Zone VII											
S. No.	IET No./ Designation/ Cross combination	GT	Zone VII								
			GY (Kg/ha)/ FD	% BC							
1	IET 28631 RCPR63-IR 97034-21-2-1-3 IR09L337 / IR09L154	LS	5918 88	11							Promoted for Zone VII
2	IET 28645	LB	5626	6							Promoted

S. No.	IET No./ Designation/ Cross combination	GT	Zone II		Zone III		Zone V		Zone VI		Remarks
			GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	
	YRH 2027 (Hybrid)		86								for Z- VII
3	IET 28654 PAU 3391-29-3-1-3-3-1-2- 1-1 (RYT 3692) TDCD 3815 / PAU 2963- 17-3-1-3	LS	5959 95	12							Dropped > FD 90 Days
4	IET 28655 CR 3938-2-2-1-1-1-2-1 IR 73907-753-2-3 / Prathiksyra	LS	5884 96	11							Dropped > FD 90 Days
5	IET 28664 MSN 104- RP 5373-MSN 7- 2 Sampada / IRGC 39111 // RP Bio 226	MS	6320 93	19							Dropped > FD 90 Days
CR Dhan 201 / CR Dhan 202 (NC)			5093 86								
Hybrid check			4265 89								
Zonal Check			5310 79								
Local Check			5187 85								

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Overall										
S. No.	IET No./ Designation/ Cross combination	GT	Over all							
			GY (Kg/ha)/FD	% BC						
1	IET 28631	LS	5264 85	14						
2	IET 28635	LS	4971 80	7						
3	IET 28636	LS	5021 83	9						
4	IET 28637	LS	5077 83	10						
5	IET 28638		5166 85	12						
6	IET 28640	LB	4917 84	6						
7	IET 28641	LS	4954 87	7						
8	IET 28644		4849 78	5						
9	IET 28645	LB	5039 83	9						
10	IET 28648	LS	5047 90	9	D					
11	IET 28650	MS	5453 85	18	D					
12	IET 28653	MB	5037 82	9						
13	IET 28654	LS	4995 94	8	D					Dropped FD > 90 Days
14	IET 28655	LS	5002 87	8	D					
15	IET 28658	LS	5040 82	9						
16	IET 28669	MB	5348 91	16						
17	IET 28671		4861 86	5						
18	IET 28673		5204 85	12						
19	IET 28677		4889 89	6						
20	IET 28678	LS	5150 85	11						
21	IET 28689		4915 100	6	D					Dropped FD>90 days
CR Dhan 201 / CR Dhan 202 (NC)			4530 83							
Hybrid check			5338 82							
Zonal Check			3964 78							
Local Check			4626 82							

D: Dropped.

List of entries promoted to AVT 1- Aerobic:**Zone II: IET 28637 and IET 28658****Zone III: IET 28650*(Hybrid), IET 28637, IET 2864, IET 28653, IET 28658, IET 28669, IET 28631, IET 28636, IET 28672 and IET 28678****Zone V: IET 28631, IET 28634, IET 28637, IET 28642, IET 28673 and IET 28674****Zone VI: IET 28635, IET 28640, IET 28671, IET 28673 and IET 28677****Zone VII: IET 28631 and IET 28645****Table 8.1: Composition of entries in Advance Variety Trial 1 – Aerobic (AVT 1-Aerob), Kharif 2019**

Entry No.	IET No.	Designation	Cross combination	Grain Type
2nd Year of testing:				
3801	27939	TRC 2018-8	Pyzum / Samba Mahasuri	LS
3802	27929	RP 6313-GSR IR 1-DQ 126-L 15-Y1	IRRI 201 / GSR IR 1-12-S2-Y3-Y1	LS
3803	27927	RCPR 57-IR 84898-B-165-9-1-1	IR 78877-208-B-1-1 / IR 78878-53-2-2-2	LB
3804	27944	CR 4007-547-11-2-1-2-3-3	Satyabhama / Co(R) 50	SB
3805	27949	NWGR 14071	SK-20 / Vandana / 69-1-2-2-1-1-1	LB
3806	27943	US 341 (Hybrid)	-	MS
3807	27951	HURS 18-2-IR98976-20-1-2-2	IR11L152 / Sabitri	LB
3808	27954	HHZ 3-SAL 13-Y2-DT1 (RYT 3578)		LS
3809	27958	CR 4161-4-IR14L 572	IR10L146 / IR10L149	SB
3810	27962	RCPR 56-IR 93827-29-1-1-4	IR 81039-B-173-U 3-3 / IR 81063-B-94-U-3-1	LS
3811	27963	RP 6301-189-17-2	IR 58025A / KMR 3R	MS
3812	CR Dhan 201 (NC)			
3813	27973	NVSR 2112	Gurjari / PAU 201	LB
3814	27968	YRH 721 (Hybrid)	-	LB
3815	27956	RP 5972-13-1-6-67-129-266	MTU 1010 // Vandana	LS
3816	27952	CR 4114-1-2-1-2-2-1	CR3848-1-1-2-1-1 / Vandana	LS
3817	27937	IIRRH 124 (Hybrid)	-	LB
3818	27926	BPT 2787	JGL 3855 / Annada	SB
3819	27938	MSN 101(DH 4)	Doubled Haploid from KRH 4	SB
3820	27942	CR 4114-2-1-1-1-1	CR 3848-1-1-2-1-1 / Vandana	MS
3821	27978	RP 6307-GSR IR 1-DQ136-Y8-Y1	GSR IR 1-8-S6-S3-Y2 / GSR IR 1-5-D7-Y3-S1	LS
3822	CR Dhan 202 (Northern, Eastern & Central), AAUDR –1 (Western), MAS 946-1 (Southern)-ZC			
3823	27980	TRC 2018-5	TRC 2008-6 / TRC 87-251	LS
3824	27967	NVSR 395	IET-19347 / NAUR-1	LB
3825	27961	RP 5401-B-18-4-2-1-1-1	Swarna / IRGC 63246 // DSB3	LB
3826	27948	CR 4116-3-2-1-1-1	CR 4043-3-1-1-1 / CR Dhan 204	LS
3827	27950	YRH 716 (Hybrid)	-	LB
3828	27940	HKR 16-2-IR 95780-43-1-1-1	Introduction from IRRI	LB
3829	27936	BPT 2901	JGL 3855 / Ramappa	SB
3830	27966	CR 4011-8-3- GSR IR1-DQ136-Y8-Y1	GSR IR1-8-S6-S3-Y2 / GSR IR1-5-D7-Y3-S1	LS

Entry No.	IET No.	Designation	Cross combination	Grain Type
3831	27981	RP 6306-GSR IR 1-23-S15-Y1-Y1-D2	Huang-hua-zhan / Liao-Jing 9	LS
3832	PA 6129 (HC)			
3 rd Year of testing:				
3833	26194 (R)	RP 5591-123-16-2	MTU 1010 / IR 79915-B-83-4-3	LB
2 nd Year of testing:				
3834	27971	JGL 24423	MTU 1010 / NLR 34449 / MTU 1010	LB
3835	Local Check			
3836	27977	RP 6314-GSR IR1-DQ150-R5-Y 1	IRRI 209 / IRRI 192	LS

Table 8.2: Grain yield (Kg/h) of entries of AVT-1-AEROB Zone –II, Kharif 2019

Entry No	IET No	Zone II						Zone II	
		PU			HA			Mean	
		LDN			KUL				
3801	27939	3512			1991			2752	
3802	27929	4315	6	21.17%	2046			3180	
3803	27927	3857	10	8.32%	4583	3*#	15.06% 22.62%	4220	4# 15.64%
3805	27949	4060	9	14.02%	3710	7		3885	6 6.47%
3807	27951	4495	4 #	26.24%	5183	1*#	30.13% 38.68%	4839	1# 10.84% 32.61%
3808	27954	4067	8		2700			3384	
3809	27958	2494			1909			2202	
3810	27962	3577			2782			3180	
3811	27963	5017	1#	5.63% 40.90%	2264			3641	8
3812	CR Dhan 201 (NC)	4750	2		3983	5		4366	2
3813	27973	3451			3273	10		3362	
3814	27968	3512			3655	8		3584	9
3815	27956	3441			2319			2880	
3816	27952	3715			2782			3249	
3817	27937	2919			5046	2*#	26.71% 35.03%	3983	5 9.15%
3818	27926								
3821	27978	4727	3#	32.76%	2182			3455	
3822	Zonal Check (ZC)	2530			2291			2410	
3823	27980	3815			2973			3394	
3826	27948	3519			2455			2987	
3827	27950	3667			3382	9		3525	10
3828	27940	4279	7	20.18	4446	4#	11.64% 18.97%	4363	3# 19.56%
3830	27966	2101						2101	
3831	27981	3477			1882			2680	
3832	PA 6129 (HC)	3561			3737	6		3649	7
3834	27971	3081			2428			2754	
3835	Local Check	3709			2428			3068	
3836	27977	4482	5#	25.82%	2019			3250	
Exp. Mean		3709			3017			3346	
CD		790			568			474	
CV%		12.96			11.45			8.72	
D/S		7/19/2019			7/9/2019				
D/P									
Local Check Name		PR 126			HKR-48				

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 8.2 contd.: Grain yield (Kg/h) of entries of AVT-1-AEROB Zone –III, Kharif 2019

Entry No	IET No	Zone III										Zone III (3)			
		BI						BI (3)		JH					
		BKG		PSA		PTN		Mean		RCI@		Mean			
3812	CR Dhan 201 (NC)	5101	7	5433	2	3250	5	4595	5	1643	5	4595	5		
3817	27937	6111	4 8.04%	5200	3# 13.87%	4450	1* # 28.52% 20.27%	5254	1* 13.26%	1803	4	5254	1* 13.26%		
3822	Zonal Check (ZC)	5657	5	5167	4	3093	6	4639	4	1022	6	4639	4		
3825	27961	6667	2 17.86%	2800	7	1938	7	3801	7	341	7	3801	7		
3832	PA 6129 (HC)	6768	1	4567	6	3700	3	5011	3	2684	1	5011	3		
3833	26194 (R)	6313	3 11.61%	5600	1# 3.07% 22.63%	3718	2 7.38%	5210	2* 12.32%	1963	3	5210	2* 12.32%		
3835	Local Check	5253	6	4833	5	3463	4	4516	6	2244	2	4516	6		
Exp. Mean		5981		4800		3373		4718		1671		4718			
CD		1838		491		408		411		356		411			
CV%		12.57		5.69		11.09		7.18		8.67		7.18			
D/S		18-07-2019		16-07-2019		17-07-2019				13-07-2019					
Local Check Name		Sabour Ardhal		R. Nilam		Rajendra Bhagwati				BD-201					

*Superior to best check %superior over best check

#Superior over hybrid check %Superior over hybrid check

Table 8.2 contd.: Grain yield (Kg/h) of entries of AVT-1-AEROB Zone –IV, Kharif 2019

Entry No	IET No	Zone IV				Zone IV (1)	
		TR		MA			
		LMB		WBL@		Mean	
3804	27944	5329	5	1667		5329	5
3806	27943	5714	3	2067	10	5714	3
3807	27951	4419		3667	4	4419	
3809	27958	4034		2133	9	4034	
3812	CR Dhan 201 (NC)	4408		2800	8	4408	
3813	27973	5200	6	2000		5200	6
3817	27937	4430		1333		4430	
3819	27938	4665	8	167		4665	8
3820	27942	4772	7	3133	7	4772	7
3822	Zonal Check (ZC)	4537	9	3733	3	4537	9
3823	27980	4023		3867	1	4023	
3830	27966	4505	10	3333	6	4505	10
3832	PA 6129 (HC)	6345	1	2067	10	6345	1
3833	26194 (R)	5682	4	3867	1	5682	4
3835	Local Check (LC)	5842	2	3647	5	5842	2
Exp. Mean		4927		2632		4927	
CD		1387		983		1387	
CV%		22.97		14.74		22.97	
D/S		7/28/2019		8/8/2019			
D/P		8/19/2019					
Local Check Name				Sana			

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 8.2 contd.: Grain yield (Kg/h) of entries of AVT-1-AEROB Zone -V & Zone VII, Kharif 2019

Entry No	IET No	Zone V													
		MP				CH				CH (2)		Zone V (3)			
		REW				RPR		JDP		Mean		Mean			
3812	CR Dhan 201 (NC)	3818	4			3883	4	3205	5	3544	4	3635	4		
3817	27937	4393	1	4.39%	14.26%	5801	2	3.87%	3650	2	4726	2	4615	2	13.35%
3822	Zonal Check (ZC)	4208	2		9.45%	3051	5		3423	4	3237	5	3560	5	
3832	PA 6129 (HC)	3844	3			6931	1		4229	1	5580	1	5002	1	
3835	Local Check	3033	5			5586	3		3595	3	4590	3	4071	3	
	Exp. Mean	3859				5050			3620		4335		4177		
	CD	1232				938			990		453		552		
	CV%	20.72				15.31			22.69		8.43		8.82		
	D/S	7/14/2019				7/7/2019		7/12/2019							
	D/P														
	Local Check Name					Indira Aerobic 1		Indira Aerobic							

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 8.2 contd.: Grain yield (Kg/h) of entries of AVT-1-AEROB Zone -V & Zone VII, Kharif 2019

Entry No	IET No	Zone VII												Overall (7)					
		TE				TE(2)		TN (1)		KA (1)		Zone VII (4)		Mean					
		RDR		WGL	Mean	CBT	MND	Mean											
3812	CR Dhan 201 (NC)	5431	4	5984	2	5708	4	4747	2	3243	4	4851	4	4330	4				
3817	27937	6934	1	17.22%	21.85%	5658	4	6296	1*	7.44%	4442	3	4188	3	5306	2	5010	2	5.31%
3822	Zonal Check (ZC)	4469	5	5035	5	4752	5	2396	5	3012	5	3728	5	3656	5				
3832	PA 6129 (HC)	5691	3	6624	1	6157	2	5157	1	6643	1	6028	1	5588	1				
3835	Local Check	5916	2	5804	3	5860	3	3837	4	5529	2	5271	3	4757	3				
Exp. Mean		5688		5821		5755		4116		4523		5037		4668					
CD		1245		558		395		646		1032		595		453					
CV%		16.18		8.88		8.6	6255.11	11.18		14.64		8.85		7.58					
D/S		7/19/2019			7/10/2019			7/15/2019		8/5/2019									
D/P																			
Local Check Name		MTU 1010			KNM-118			Anna (R) 4		KMP-175									

Table 8.2 contd.: Grain yield (Kg/h) of entries of AVT-1-AEROB Zone –VI, Kharif 2019

Entry No	IET No	Zone VI												Zone V (2)
		MA (1)		GU						GU(1)				
		PBN		NVS		DRL@		VYR@		Mean				
3806	27943	2963	5	5492	2#	15.85%	2014	5	4077	1	5492	2#	15.85%	4228
3812	CR Dhan 201 (NC)	2347	8	4506	6		1840	7	1748	6	4506	6		3426
3817	27937	3141	4	6.85%	4729	5	3140	1	3214	2	4729	5		3935
3822	Zonal Check (ZC)	2933	7	5692	1		2050	4	1441	7	5692	1		4313
3824	27967	3233	3	9.98%	3780	7	2546	2	2711	4	3780	7		3506
3829	27936	3633	1*	23.59%	6.61%	3295	8				3295	8		3464
3832	PA 6129 (HC)	3407	2	4741	4		1971	6	3211	3	4741	4		4074
3835	Local Check (LC)	2939	6	4755	3		2109	3	2345	5	4755	3		3847
	Exp. Mean	3074		4624			2238		2678		4624			3849
	CD	482		567			569		468					623
	CV%	8.86		8.3			14.72		13.4					10.37
	D/S	7/12/2019			7/19/2019			7/10/2019		7/11/2019				
	D/P													
	Local Check Name	PBNR 03-2			NAUR-1			GR-9		NAUR-1				

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 8.3.: Days to 50% flowering of entries of AVT-1-AEROB Zone –II, Kharif 2019

Entry No	IET NO	PU	HA	Zone II (2)
		LDN	KUL	Mean
3801	27939	89	88	88
3802	27929	73	89	81
3803	27927	72	84	78
3805	27949	87	86	86
3807	27951	66	79	73
3808	27954	76	88	82
3809	27958	65	90	78
3810	27962	71	87	79
3811	27963	71	86	79
3812	CR Dhan 201 (NC)	72	86	79
3813	27973	87	91	89
3814	27968	74	83	78
3815	27956	69	79	74
3816	27952	89	85	87
3817	27937	77	87	82
3818	27926			
3821	27978	66	86	76
3822	Zonal Check (ZC)	73	87	80
3823	27980	74	85	80
3826	27948	87	89	88
3827	27950	74	86	80
3828	27940	68	82	75
3830	27966	72		72
3831	27981	70	83	77
3832	PA 6129 (HC)	77	85	81
3834	27971	75	88	81
3835	Local Check	75	87	81
3836	27977	74	89	82
Exp. Mean		75	86	80

Table 8.3 contd.: Days to 50% flowering of entries of AVT-1-AEROB Zone –III, Kharif 2019

Entry No.	IET NO	ZONE III					
		BI			BI (3) Mean	JH RCI@	Zone III (3) Mean
		BKG	PSA	PTN			
3812	CR Dhan 201 (NC)	78	77	82	79	86	79
3817	27937	80	81	83	81	90	81
3822	Zonal Check	80	77	78	78	91	78
3825	27961	85	90	102	92	100	92
3832	PA 6129 (HC)	80	78	86	81	91	81
3833	26194 (R)	78	78	84	80	92	80
3835	Local Check	81	81	84	82	85	82
Exp. Mean		80	80	85	82	91	82

Table 8.3 contd.: Days to 50% flowering of entries of AVT-1-AEROB Zone –IV, Kharif 2019

Entry No.	IET NO	ZONE IV
		MA
		WBL@
3804	27944	98
3806	27943	97
3807	27951	82
3809	27958	115
3812	CR Dhan 201 (NC)	99
3813	27973	99
3817	27937	88
3819	27938	103
3820	27942	75
3822	Zonal Check (ZC)	87
3823	27980	88
3830	27966	88
3832	PA 6129 (HC)	89
3833	26194 (R)	88
3835	Local Check	75
	Exp. Mean	91

Table 8.3 contd.: Days to 50% flowering of entries of AVT-1-AEROB Zone -V & Zone VII, Kharif 2019

Entry No.	IET NO	ZONE-V					ZONE VII					
		MP	CH	CH(2)	Zone V	Mean	TE		TE (2)	TN	KA	Zone VII Mean
		REWA	RPR	JDP	Mean		RDR	WGL	Mean	CBT	MND	
3812	CR Dhan 201 (NC)	86	81	79	80	82	91	83	87	92	92	89
3817	27937	88	80	80	80	83	89	80	85	91	92	88
3822	Zonal Check (ZC)	76	75	74	75	75	97	76	87	84	91	87
3832	PA 6129 (HC)	84	80	80	80	81	99	82	90	95	94	92
3835	Local Check	61	79	84	82	75	98	80	89	91	93	90
	Exp. Mean	79	79	79	79	79	95	80	87	90	92	89

Table 8.3 contd.: Days to 50% flowering of entries of AVT-1-AEROB Zone –VI, Kharif 2019

Entry No.	IET No.	MA	GU		GU(1)	Zone VI (2)
		PBN	NVS	@	@	Mean
3806	27943	101	85	85	92	85
3812	CR Dhan 201 (NC)	91	85	85	90	85
3817	27937	91	81	83	88	81
3822	Zonal Check (ZC)	83	69	69	74	69
3824	27967	87	81	79	89	81
3829	27936	98	104			104
3832	PA 6129 (HC)	96	87	84	86	87
3835	Local Check	80	91	64	91	91
	Exp. Mean	91	85	78	87	85

Table 8.4: Plant Height (cm) of entries of AVT-1-AEROB Zone –II, Kharif 2019

Entry No	IET NO	PU	HA	Zone II (2)
		LDN	KUL	Mean
3801	27939	94	83	89
3802	27929	91	99	95
3803	27927	126	72	99
3805	27949	103	74	89
3807	27951	95	86	91
3808	27954	93	72	82
3809	27958	121	102	112
3810	27962	104	57	80
3811	27963	105	68	86
3812	CR Dhan 201 (NC)	111	66	89
3813	27973	98	54	76
3814	27968	107	71	89
3815	27956	101	113	107
3816	27952	101	96	99
3817	27937	123	97	110
3818	27926			
3821	27978	103	75	89
3822	Zonal Check (ZC)	115	80	97
3823	27980	91	69	80
3826	27948	107	82	95
3827	27950	99	80	90
3828	27940	113	82	98
3830	27966	86		86
3831	27981	101	84	93
3832	PA 6129 (HC)	98	96	97
3834	27971	94	82	88
3835	Local Check	90	87	89
3836	27977	105	86	96
Exp. Mean		103	81	92

Table 8.4 contd.: Plant Height (cm) of entries of AVT-1-AEROB Zone –III, Kharif 2019

Entry No.	IET NO	ZONE III					
		BI			BI (3)	JH	Zone III (3)
		BKG	PSA	PTN	Mean	RCI@	Mean
3812	CR Dhan 201 (NC)	125.00	124.00	105.77	118.26	91.00	118.26
3817	27937	126.00	111.00	118.75	118.58	95.00	118.58
3822	Zonal Check (ZC)	130.00	110.00	111.43	117.14	91.00	117.14
3825	27961	92.00	106.00	89.91	95.97	80.00	95.97
3832	PA 6129 (HC)	122.00	100.00	92.03	104.68	92.00	104.68
3833	26194 (R)	118.00	106.00	102.93	108.98	95.00	108.98
3835	Local Check	122.00	105.00	108.65	111.88	95.00	111.88
Exp. Mean		119.29	108.86	104.21	110.78	91.29	110.78

Table 8.4 contd.: Plant Height (cm) of entries of AVT-1-AEROB Zone –IV, Kharif 2019

Entry No.	IET NO	ZONE IV		
		TR	MA	Zone IV (1)
		LMB	WBL@	Mean
3804	27944	115	94	115
3806	27943	93	84	93
3807	27951	108	98	108
3809	27958	114	93	114
3812	CR Dhan 201 (NC)	103	102	103
3813	27973	112	92	112
3817	27937	116	84	116
3819	27938	142	89	142
3820	27942	107	67	107
3822	Zonal Check (ZC)	113	97	113
3823	27980	99	92	99
3830	27966	101	79	101
3832	PA 6129 (HC)	96	90	96
3833	26194 (R)	111	92	111
3835	Local Check	96	78	96
Exp. Mean		108	89	108

Table 8.5: Panicles/m2 of entries of AVT-1-AEROB Zone –IV, Kharif 2019

Entry No.	IET NO	ZONE IV		
		TR	MA	Zone IV (1)
		LMB	WBL@	Mean
3804	27944	376	317	376
3806	27943	314	422	314
3807	27951	331	310	331
3809	27958	320	289	320
3812	CR Dhan 201 (NC)	344	336	344
3813	27973	277	287	277
3817	27937	295	287	295
3819	27938	315	240	315
3820	27942	328	270	328
3822	Zonal Check (ZC)	252	378	252
3823	27980	328	352	328
3830	27966	277	262	277
3832	PA 6129 (HC)	321	366	321
3833	26194 (R)	344	352	344
3835	Local Check	312	371	312
Exp. Mean		316	323	316

Table 8.4 contd.: Plant Height (cm) of entries of AVT-1-AEROB Zone -V &Zone VII, Kharif 2019

Entry No.	IET NO	ZONE-V					ZONE VII					
		MP	CH		CH(2)	Zone V	TE		TE (2)	TN	KA	Zone VII
		REWA	RPR	JDP	Mean	Mean	RDR	WGL	Mean	CBT	MND	Mean
3812	CR Dhan 201 (NC)	89	112	117	114	106	74	105	90	101	84	91
3817	27937	113	132	120	126	122	88	109	99	110	80	97
3822	Zonal Check (ZC)	87	90	101	95	92	72	89	81	88	81	83
3832	PA 6129 (HC)	83	111	98	104	97	68	88	78	94	76	81
3835	Local Check	79	112	88	100	93	70	105	88	91	87	88
Exp. Mean		90	111	105	108	102	74	99	87	97	82	88

Table 8.4 contd.: Plant Height (cm) of entries of AVT-1-AEROB Zone –VI, Kharif 2019

Entry No.	IET No.	MA	GU			GU(1)	Zone VI Mean
		PBN	NVS	DRL@	VYR@	Mean	
3806	27943	53	85	84	116	85	69
3812	CR Dhan 201 (NC)	48	85	106	116	85	66
3817	27937	63	81	104	121	81	72
3822	Zonal Check (ZC)	83	69	96	128	69	76
3824	27967	62	81	101	115	81	71
3829	27936	47	104		96	104	75
3832	PA 6129 (HC)	46	87	99	111	87	67
3835	Local Check	78	91	105	112	91	85
	Exp. Mean	60	85	99	114	85	73

Table 8.5 contd.: Panicles/m2 of entries of AVT-1-AEROB Zone –II, Kharif 2019

Entry No	IET NO	PU	HA	Zone II (2)
		LDN	KUL	Mean
3801	27939	393	417	405
3802	27929	317	250	283
3803	27927	353	245	299
3805	27949	293	173	233
3807	27951	320	265	293
3808	27954	337	290	313
3809	27958	273	305	289
3810	27962	270	187	229
3811	27963	297	254	275
3812	CR Dhan 201 (NC)	287	224	255
3813	27973	330	223	277
3814	27968	243	282	263
3815	27956	287	312	299
3816	27952	307	263	285
3817	27937	273	374	324
3818	27926			
3821	27978	290	240	265
3822	Zonal Check (ZC)	273	345	309
3823	27980	273	366	320
3826	27948	287	239	263
3827	27950	267	236	252
3828	27940	320	238	279
3830	27966	297		297
3831	27981	270	243	257
3832	PA 6129 (HC)	313	175	244
3834	27971	280	223	252
3835	Local Check	223	251	237
3836	27977	273	243	258
Exp. Mean		294	264	280

Table 8.5 contd.: Panicles/m2 of entries of AVT-1-AEROB Zone –III, Kharif 2019

Entry No.	IET NO	ZONE III					
		BI			BI (3) Mean	JH RCI@	Zone III (3) Mean
		BKG	PSA	PTN			
3812	CR Dhan 201 (NC)	535	313	246	365	286	365
3817	27937	278	262	198	246	188	246
3822	Zonal Check (ZC)	320	364	192	292	210	292
3825	27961	390	254	204	283	228	283
3832	PA 6129 (HC)	356	160	230	249	225	249
3833	26194 (R)	461	262	251	324	289	324
3835	Local Check	426	263	234	307	255	307
Exp. Mean		395	268	222	295	240	295

Table 8.5 contd.: Panicles/m2 of entries of AVT-1-AEROB Zone -V & Zone VII, Kharif 2019

Entry No.	IET NO	ZONE-V					ZONE VII					
		MP	CH	CH(2)	Zone V Mean	TE Mean	TE		TE (2) Mean	TN	KA	Zone VII (7) Mean
		REWA	RPR	JDP			RDR	WGL		CBT	MND	
3812	CR Dhan 201 (NC)	247	159	304	231	237	326	400	363	426	335	372
3817	27937	185	195	231	213	204	314	360	337	383	367	356
3822	Zonal Check (ZC)	155	170	295	233	207	334	404	369	446	351	384
3832	PA 6129 (HC)	192	216	286	251	232	351	375	363	463	360	387
3835	Local Check	244	265	282	273	263	325	386	356	461	363	384
Exp. Mean		205	201	280	240	228	330	385	357	436	355	377

Table 8.5 contd.: Panicles/m2 of entries of AVT-1-AEROB Zone –VI, Kharif 2019

Entry No.	IET No.	MA	GU	GU	GU (1)	Zone VI (2)
		PBN	NVS	VYR@	Mean	Mean
3806	27943	262	273	195	273	267
3812	CR Dhan 201 (NC)	215	282	162	282	248
3817	27937	280	242	123	242	261
3822	Zonal Check (ZC)	263	244	151	244	253
3824	27967	348	242	142	242	295
3829	27936	378	262		262	320
3832	PA 6129 (HC)	348	244	150	244	296
3835	Local Check	284	275	194	275	279
Exp. Mean		297	258	160	258	277

Table 8.6: Grain quality characteristics of entries in AVT 1-AEROB, Kharif 2019

Entry No.	IET No.	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
3801	27939	77.7	67.1	50.7	6.87	2.03	3.38	LS	VOC	5.0	18.97	100
3802	27929	76.2	69.2	59.3	6.75	2.05	3.29	LS	VOC	7.0	19.00	48
3803	27927	76.4	69.3	63.5	6.22	2.34	2.65	LB	VOC	4.0	22.79	43
3804	27944	75.8	66.5	57.8	5.55	2.33	2.38	SB	VOC	4.0	23.99	85
3805	27949	78.5	66.7	46.2	6.26	2.55	2.45	LB	OC	4.0	26.60	70
3806	27943	78.6	70.3	60.8	5.87	2.09	2.80	MS	A	4.0	22.20	72
3807	27951	80.1	70.2	56.7	6.00	2.19	2.73	LB	VOC	7.0	24.31	63
3808	27954	77.8	69.7	62.6	6.37	2.10	3.03	LS	A	7.0	19.24	95
3809	27958	76.6	68.6	58.6	5.55	2.27	2.44	SB	VOC	5.0	23.02	49
3810	27962	78.7	69	53.8	7.05	2.13	3.30	LS	VOC	4.0	26.07	56
3811	27963	77.7	69.7	62.9	5.77	2.27	2.54	MS	VOC	4.0	24.31	61
3812	CR DHAN 201	77.1	69.3	59.9	6.35	2.24	2.83	LB	A	7.0	23.99	25
3813	27973	77.5	68.9	53.9	6.63	2.51	2.64	LB	OC	5.0	27.01	56
3814	27968	77.8	69.4	58.4	6.07	2.35	2.58	LB	VOC	4.0	22.82	58
3815	27956	77.9	69.3	60.0	6.52	2.11	3.09	LS	VOC	4.0	21.35	76
3816	27952	75.3	65.3	45.4	7.36	2.02	3.64	LS	A	4.0	25.54	69
3817	27937	77.2	69	55.3	6.35	2.36	2.69	LB	VOC	4.0	24.81	38
3818	27926	77.0	68.1	60.9	5.48	2.26	2.42	SB	VOC	7.0	24.69	42
3819	27938	76.0	69.6	65.9	5.26	2.14	2.45	SB	A	7.0	24.14	22
3820	27942	78.0	68	53.2	5.44	2.11	2.57	MS	A	5.0	26.37	60
3821	27978	75.0	68.3	58.1	6.48	2.01	3.22	LS	A	7.0	16.19	78
3822	MAS -946-1	79.1	71.1	67.8	5.47	2.32	2.35	SB	VOC	4.0	23.17	56
3823	27980	75.2	67.2	54.8	6.67	1.93	3.45	LS	A	4.0	21.79	97
3824	27967	77.5	70	62.7	6.11	2.29	2.67	LB	A	7.0	24.58	22
3825	27961	77.6	66.6	50.6	6.47	2.19	2.95	LB	VOC	5.0	24.72	66
3826	27948	78.4	68.4	47.5	6.43	2.12	3.03	LS	VOC	5.0	27.33	59
3827	27950	79.6	70.5	58.7	6.18	2.25	2.74	LB	VOC	7.0	24.72	49
3828	27940	77.1	69.3	61.7	6.62	2.28	2.90	LB	VOC	7.0	22.11	47
3829	27936	76.5	70.1	64.6	5.15	2.18	2.36	SB	A	7.0	23.29	22
3830	27966	76.1	67.8	59.7	6.26	1.89	3.31	LS	A	4.0	23.29	57
3831	27981	77.0	69.4	62.7	6.20	1.96	3.16	LS	A	7.0	15.51	87
3832	PA 6129	80.3	71.6	61.5	6.33	2.22	2.85	LB	VOC	7.0	22.67	58
3833	26194	77.5	69.7	62.4	6.30	2.23	2.82	LB	A	7.0	21.82	22
3834	27971	78.8	70.6	64.3	6.38	2.30	2.77	LB	A	4.0	22.11	55
3835	Local Check	-	-	-	-	-	-	-	-	-	-	-
3836	27977	76.8	68.8	61.1	6.75	2.04	3.30	LS	A	7.0	18.71	95

HULL: Hulling (%); MILLING (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; LB Long Bold; SB: Short Bold; LS: Long Slender; MS: Medium Slender; SS: Short Slender.

Table 8.7: Composition of entries in Initial Variety Trial – Aerobic (IVT-Aerob), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
1st Year of testing:				
3901	28631	RCPR 63-IR 97034-21-2-1-3	IR09L337 / IR09L154	LS
3902	28632	BPT 3049	MTU 1010 / IR 50	LS
3903	28633	RP 6296-40-6-9	MTU 1010*2 / ST 12	LS
3904	28634	JDP - 2018	Selection from IR 86857	MS
3905	28635	PAU 5567-32-3-1-5 (RYT 3687)	PR 120 // PAU 201 / UPR 1561-6-3	LS
3906	28636	RP 6361-RAF-252 -GSR-IR1-DQ146-L18-Y1	GSR IR1-8-S6-S3-Y2 / GSR IR 1-9-S9-Y3-SU1	LS
3907	28637	HKR 16-1-IR 14L521	IR09L272 / IR 10L146	LS
3908	28638	IIRRH-129 (Hybrid)	-	LS
3909	28639	MSN 107	Doubled Haploid from KRH 4	MS
3910	28640	NVSR 6231	NAUR-1 / IR 7664-B-25-1-2-1-3-12-4-AJY1	LB
3911	28641	CR 3947-1-2-1-1-1	IR64 / IET 23467	LS
3912	28642	UPR 4110-4-1-1-1	Jaya / Pant Dhan 10	LB
3913	28643	REWA 1326-11-67-2	Mutant from Germplasm- ACC No.593	LS
3914	28644	HURS-19-2-IR 98976-20-1-2-2	IR11L152 / Sabitri	LS
3915	28645	YRH 2027 (Hybrid)	NPS 2030 A / NPS 4069	LB
3916	CR Dhan 201 (NC)			
3917	28646	CRR 754-2	CRR 680-B-B-25-4 / Anjali	LB
3918	28647	CR 4009-14194-1-2-3-2-1	Pyari / 2* MTU1010	MB
3919	28648	US 384 (Hybrid)	-	LS
3920	28649	RP Bio 5477-NH 4866	N22 Mutant	MB
3921	28650	IIRRH-128 (Hybrid)	-	MS
3922	28651	BPT 2910	BPT 5204 / IR50	SB
3923	28652	JDP - 1518	Danteshwari / Poornima	MS
3924	28653	RP 6112-MS-M-22-3-9-8-5-4-2	BPT 5204 Mutant	MB
3925	28654	PAU 3391-29-3-1-3-3-1-2-1-1 (RYT 3692)	TDCD 3815 / PAU 2963-17-3-1-3	LS
3926	28655	CR 3938-2-2-1-1-1-2-1	IR 73907-753-2-3 / Prathiksha	LS
3927	28656	NVSR 392	IET 19347 / IRRI-AERO-1	MS
3928	28657	R 2032-87-1-23-1	R 979-1528-2-1/ BPH-12	LS
3929	28658	RCPR 62-IR14L360	IR 09L272 / IR 09L337	LS
3930	28659	NVSR 2287	Jaya / Purna	LB
3931	28660	MSN 106	Doubled Haploid from KRH 4	MS
3932	28661	CR 4212-12-17-1-1-2-1-1	Sahabhagidhan / IR 20	MS
3933	28662	REWA 1327-2-66-2	Mutant from Germplasm - ACC.No. 778	MS
3934	CR Dhan 202 (Northern, Eastern & Central), AAUDR – 1 (Western), MAS 946-1 (Southern)—ZC			
3935	28663	CRR 721-1-B	IR 71525-19-1-1 / Thadokkhyam 1	LS
3936	28664	MSN 104- RP 5373-MSN 7-2	Sampada / IRGC 39111 // RP Bio 226	MS
3937	28665	RP 6345-19-26-42-3	CT 5805 / Habataki // CT 5805 / ST12 /// CT 5805	LB
3938	28666	NVSR 439	(CSR-36 / IRGC 13496) / Pusa-1609	MS

Entry No.	IET No.	Designation	Cross combination	Grain Type
3939	28667	CR 4211-2-1-1-1-1	IR 73930-31-3-2 / CR 3856-44-22-2-1	LS
3940	28668	R 2155-266-2-156-1	Mahamaya / PR -1-10	SB
3941	28669	MSN 105- RP 5391-MSN 28-1	RP Bio 226 / IRGC 11010 // MTU 1081	MB
3942	28670	CRR 806-2	IR 98003: 257 / MR 219	LS
3943	28671	CR 4115-2-2-1-1-1	Kudrat / EC 491313	SB
3944	28672	NWGR 12002	IR 17 / IET 16810	LB
3945	28673	CR 3847-1-1-1-2-1	IR 79643-39-2-2 / CR Dhan 201	LS
3946	28674	RP 6353-26-13-39-5	MTU 1010 / ST 6 // ST 12 /// MTU 1010	LS
3947	28675	RP 5624-413-B-12-1	Sahbhagidhan / KMR -3	LB
3948	28676	RP 5977-MS-M-42-1-9-4-2-3-8-6	BPT 5204 Mutant	MB
3949	28677	CR 3856-44-22-2-1-3-2-2	IR 73963-86-1-5-2-2 / CR 2324-1-1	LS
3950	28678	CRR 808-1	IR 09L272 / IR 10L165	LS
3951	28679	RP 6322-RAF-253-GSR-IR1-DQ136-Y3-Y2	GSR IR 1-8-S6-S3-Y2 / GSR IR 1-5-D7-Y3-S1	LS
3952	28680	RP 6329-165-7-2-B	MTU 1081 / Sinnasivappu	MS
3953	28681	IR 73933-8-2-2-3-3 CR 3852-1-1	IR 65629-157-3-2-3-2-1 / IR 68763-46-1-2-5-2	LS
3954	28682	NVSR 2574	NAUR 1 / Danteshwari	LS
3955	PA 6129 (HC)			
3956	28683	IR 71700-247-5-3-2 CR 3727-2-2-1-1	IR 66159-164-5-3-5 / IR 64	LS
3957	28684	RP Bio 5477-NH 787	N22 Mutant	SB
3958	28685	CR 4073-1339-3-5-1-1-3	IET 22296 / RR 2-6	LS
3959	28686	RP 6355-RAF-261-GSR-IR1-DQ186-Y2-D1	GSR IR1-12-D10-S1-D1 / GSR IR1-5-Y3-Y1-D1	LS
3960	28687	CR 4043-2-1-1-2-1-1	IR 79643-39-2-2 / CR Dhan 305	
3961	28688	RP 6112-MS-M-3-1-2-3-4-6-8	BPT 5204 Mutant	MS
3962	28689	MSN 103-RP 5755-MSN 5-1	Swarna / IRGC 17390 // MTU 1081	MS
3963	28690	RP 6112-MS-M-26-6-5-8-1-3-4	BPT 5204 Mutant	MS
3964	Local Check			

Table 8.8: Grain yield (Kg/ha) of entries of IVT AEROB, Kharif 2019

Entry No.	IET No.	Zone II						Zone III		
		PU		HA (1)		Zone II (1)		BI		
		@LDN		KUL		Mean		BKG		PSA
3901	28631	3414		3950	#	3950	# 23%	6212	7	4633
3902	28632			4150	#	4150	# 30%	4848		4196
3903	28633			2250		2250		4949		5507
3904	28634	4119	7	2750		2750		4495		4545
3905	28635	3421		2250		2250		5505		6469
3906	28636	3727	10	2350		2350		6414	6	7517
3907	28637	3819	8	5250	2 #	5250	2 # 8% 64%	6061	9	5944
3908	28638	3011		4350	#	4350	#	6616	4	6731
3909	28639	1430						4848		4283
3910	28640	2033		5150	3 #	5150	3 # 61%	5303		6906
3911	28641	2704		2800		2800		6061	8	5157
3912	28642	1420		1900		1900		7273	1*	5420
3913	28643	686		2600		2600		3232		3322
3914	28644	2614		5050	4 #	5050	4 # 58%	4242		5507
3915	28645	1764		3550		3550		6566	5	4808
3916	CR Dhan 201 (NC)	4707	2	4850	5 #	4850	5 # 52%	4899		3584
3917	28646	3486		2000		2000		4343		2710
3918	28647									
3919	28648	2314		2300		2300		7071	2 *	6119
3920	28649	1469						2727		1923
3921	28650	2839		3900		3900	, 22%	6010		6818
3922	28651							3182		4196
3923	28652	2400						4949		5245
3924	28653	2050						5404		5944
3925	28654	2714		2250		2250		5253		6643
3926	28655	1919		3300		3300		6061	9	4895
3927	28656	3231		3200		3200		3283		2098
3928	28657	3019		1900		1900		4394		5594
3929	28658	4420	3	5350	1 #	5350	1 # 10% 67%	5556		5420
3930	28659	3311		3400		3400		4242		4371
3931	28660			2750		2750		4040		4108
3932	28661	2371		2050		2050		5202		3759
3933	28662	1321		1850		1850		3687		4371
3934	Zonal Check (ZC)	3236		2450		2450		5455		6294
3935	28663	2621		2650		2650		3889		5070
3936	28664	2676		3600		3600	, 13%	5051		6294
3937	28665	3793	9	2450		2450		4091		5682
3938	28666	2136						5556		6294
3939	28667	2386		4000	#	4000	# 25%	4444		6294
3940	28668	2611		4800	6 #	4800	6 # 50%	5657		6469
3941	28669	2199						5606		6993
3942	28670	3257		3500		3500	, 9%	5505		5507
3943	28671	2236						5354		5245
3944	28672	2771		1850		1850		5505		6119
3945	28673	2407		4300	#	4300	# 34%	4596		4283
3946	28674	2893		1750		1750		5303		4983
3947	28675	1550		2900		2900		5556		5245
3948	28676							4545		4720
3949	28677	2207		4500	8 #	4500	8 # 41%	5101		4371
3950	28678	3557		4800	6 #	4800	6 # 50%	5404		5594
3951	28679	4314	5	2900		2900		5909		5857
3952	28680	1930						3788		3671
3953	28681	2211						5152		5594
3954	28682	2631		2700		2700		3283		5157
3955	PA 6129 (HC)	4367	4	3200		3200		7071	2	5944
3956	28683	2066		2600		2600		5404		6556
3957	28684	2174						3889		2010
3958	28685									
3959	28686	4229	6	2300		2300		6061	9	6381
3960	28687	2029		3500		3500	, 9%	4545		5769
3961	28688							4141		4808
3962	28689							4949		4633
3963	28690	1450						5051		3846
3964	Local Check	4943	1 13%	4500	8 #	4500	8 # 41%	4848		3934
Exp. Mean		2738		3249		3249		5059		5135
CD		799.47		710.82		710.82		1493.5		892.63
CV%		14.56		10.86		10.86		14.76		8.69
D/S		7/5/2019		6/27/2019				7/16/2019		7/5/2019
Local Check Name		PR 126		HKR-48				Sabour Ardhjal		R. Nilam

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 8.8 contd.: Grain yield (Kg/ha) of entries of IVT AEROB, Kharif 2019

Entry No.	IET No.	Zone III					
		BI		BI (3)		JH	Zone III (3)
		PTN		Mean		@RCI	Mean
3901	28631	4280	*	5042	, 7%	1396	5042 , 7%
3902	28632	4320	10 *	4455		133	4455
3903	28633	2880		4445		1064	4445
3904	28634	2300		3780		2128 10	3780
3905	28635	4246	*	5407	7* 14%	1330	5407 7 * 14%
3906	28636	3130		5687	4* 20%	2460 5	5687 4* 20%
3907	28637	3750		5252	8 11%	2726 4	5252 8 11%
3908	28638	3810		5719	3* 21%	2327 7	5719 3* 21%
3909	28639	3750		4294		997	4294
3910	28640	1329		4513		1263	4513
3911	28641	4360	9 *	5193	, 10%	1862	5193 , 10%
3912	28642	1348		4680		1330	4680
3913	28643	2630		3061		1263	3061
3914	28644	3900	*	4550		2327 6	4550
3915	28645	3650		5008	, 6%	3324 1	5008 , 6%
3916	CR Dhan 201 (NC)	3090		3858		1130	3858
3917	28646	1381		2811		1928	2811
3918	28647						
3919	28648	1813		5001	, 6%	1662	5001 , 6%
3920	28649	1072		1907		931	1907
3921	28650	5430	3* #	6086	1* 29% 9%	1529	6086 1* 29%
3922	28651	3470		3616			3616
3923	28652	1415		3870		2194 9	3870
3924	28653	3930	*	5093	, 8%	931	5093 , 8%
3925	28654	2430		4775		997	4775
3926	28655	3090		4682		665	4682
3927	28656	2240		2540		2061	2540
3928	28657	3930	*	4639		1197	4639
3929	28658	4230		5068	, 7%	997	5068 , 7%
3930	28659	3670		4094		1463	4094
3931	28660	2660		3603		864	3603
3932	28661	4550	7* #	4504		399	4504
3933	28662	2680		3579		1862	3579
3934	Zonal Check (ZC)	2440		4729		598	4729
3935	28663	1638		3532		1396	3532
3936	28664	3050		4798		1130	4798
3937	28665	1473		3749		465	3749
3938	28666	2820		4890		1064	4890
3939	28667	1820		4186		1529	4186
3940	28668	3180		5102	, 8%	1729	5102
3941	28669	4830	4* #	5810	2* 23%	2261 8	5810 2* 23%
3942	28670	2670		4561		1330	4561
3943	28671	4080		4893		1263	4893
3944	28672	4120		5248	, 11%	1463	5248 , 11%
3945	28673	4560	6* #	4480		1662	4480
3946	28674	2147		4144		1862	4144
3947	28675	5530	2* #	5443	6* 15%	1396	5443 6* 15%
3948	28676	2720		3995		1197	3995
3949	28677	4380	*	4617		1463	4617
3950	28678	4630	5*	5209	10 10%	1064	5209 10 10%
3951	28679	2166		4644		997	4644
3952	28680	3470		3643		1662	3643
3953	28681	3860		4869		931	4869
3954	28682	1593		3344		2128 10	3344
3955	PA 6129 (HC)	3800		5605	5 * 19%	3059 2	5605 5 * 19%
3956	28683	1423		4461		1057	4461
3957	28684	1243		2381		2992 3	2381
3958	28685						
3959	28686	2065		4836		731	4836
3960	28687	4310	*	4875		1197	4875
3961	28688	4130	*	4360		399	4360
3962	28689	5630	1*	5071	, 7%		5071
3963	28690			4448		1130	4448
3964	Local Check	3280		4021		1862	4021
Exp. Mean		3177		4464		1463	4464
CD		594.53		605.96		581.02	605.96
CV%		9.35		6.79		19.85	6.79
D/S		7/1/2019				7/15/2019	
Local Check Name		Rajendra Bhagwati				BD-201	

Table 8.8 contd.: Grain yield (Kg/ha) of entries of IVT AEROB, Kharif 2019

Entry No.	IET No.	Zone IV		Zone V									
		MAN		MP		CH				CH (2)		Zone V (2)	
		@WBL		@REW		RPR		JDP		Mean		Mean	
3901	28631	667		2151		5190		6908	5	6049	7 8%	6049	7 8%
3902	28632	867		213		3279		5547		4413		4413	
3903	28633	733		2276		3599		4310		3954		3954	
3904	28634	1000		3001	8	4943		7272	1	6108	6 9%	6108	6 9%
3905	28635	1500	8	544		4335		6413		5374		5374	
3906	28636	1167		627		5119		6009		5564		5564	
3907	28637	1000		4007	1	6097	3*	5846		5972	8 6%	5972	8 6%
3908	28638	733		2368		4799		4733		4766		4766	
3909	28639	600		1973		2625		6771	8	4698		4698	
3910	28640	333		2440		4289		5599		4944		4944	
3911	28641	667		3718	2	4781		6758	9	5769	10	5769	10
3912	28642	733		472		5690	5	6882	6	6286	4 12%	6286	4 12%
3913	28643	833		2444		2180		3665		2923		2923	
3914	28644	1500	8	2399		5289		6237		5763		5763	
3915	28645	2000	4	2623		5423	7	6934	3	6178	5 10%	6178	5 10%
3916	CR Dhan 201 (NC)	500		2729		4349		6608		5478		5478	
3917	28646	600		2638		3490		5449		4470		4470	
3918	28647	833		2729				4023		4023		4023	
3919	28648	667		2864		5504	6	5260		5382		5382	
3920	28649	333		2443		2910		3770		3340		3340	
3921	28650	167		1408		5993	4	6699		6346	3 13%	6346	3 13%
3922	28651	333		955		1828		4115		2971		2971	
3923	28652	667		3291	6	4573		5566		5070		5070	
3924	28653	500		553		5344	9	5872		5608		5608	
3925	28654	1000		760		3120		7103	2	5112		5112	
3926	28655	433		1860		3671		6465		5068		5068	
3927	28656	333		1350		3743		5957		4850		4850	
3928	28657	1000		2873	10	2511		4961		3736		3736	
3929	28658	1000		3628	4	4370		6608		5489		5489	
3930	28659	667		3714	3	4219		5573		4896		4896	
3931	28660	167		1151		1553		6602		4077		4077	
3932	28661	533		1401		2305		4818		3561		3561	
3933	28662	167		2725		2934		3822		3378		3378	
3934	Zonal Check (ZC)	1167		2609		3999		5801		4900		4900	
3935	28663	2500	1	2125		3732		4408		4070		4070	
3936	28664	667		3592	5	4002		5846		4924		4924	
3937	28665	1600	6	2183		3044		3223		3133		3133	
3938	28666	1000		1368		3819		6654		5236		5236	
3939	28667	333		3069	7	4184		6172		5178		5178	
3940	28668	500		2682		4474		6523		5499		5499	
3941	28669	733		682		4979		6302		5641		5641	
3942	28670	1500	8	696		4217		6146		5181		5181	
3943	28671	167		1280		4100		5208		4654		4654	
3944	28672	1167		457		4231		5736		4983		4983	
3945	28673	667		2356		6231	2*	6667		6449	2 15%	6449	2 15%
3946	28674	1533	7	2411		4874		6914	4	5894	9 5%	5894	9 5%
3947	28675	667		2845		3574		4108		3841		3841	
3948	28676	1867		1941		2002		6745	10	4373		4373	
3949	28677	2500	1	2890	9	4625		5254		4939		4939	
3950	28678	333		1961		5074		5827		5450		5450	
3951	28679	833		1736		5376	8	4440		4908		4908	
3952	28680	500		1255		3853		4668		4261		4261	
3953	28681	800		2081		4486		5807		5147		5147	
3954	28682	467		2803		3763		5345		4554		4554	
3955	PA 6129 (HC)	1333		2861		6870	1*	6836	7	6853	1 * 22%	6853	1 * 22%
3956	28683	167		2390		4271		4759		4515		4515	
3957	28684	2333	3	1663		3578		4993		4286		4286	
3958	28685	667						3216		3216		3216	
3959	28686	733		2125		5060		5313		5186		5186	
3960	28687	667		1464		4904		3294		4099		4099	
3961	28688	1000		306		3592		4512		4052		4052	
3962	28689	333		80		2823		5931		4377		4377	
3963	28690	333				3161		3190		3176		3176	
3964	Local Check	1167		1410		5173		4564		4868		4868	
Exp. Mean		851		2027		4163		5524		4835		4835	
CD				726.85		829.96		2617.8		1345.2		1345.2	
CV%				17.93		9.96		23.71		13.92		13.92	
D/S			8/5/2019	7/13/2019		7/4/2019		7/8/2019					
Local Check Name			SANA			Indira Aerobic 1		Indira Aerobic 1					

Table 8.8 contd.: Grain yield (Kg/ha) of entries of IVT AEROB, Kharif 2019

Entry No.	IET No.	Zone VI									
		MA		GU				GU (2)		Zone VI (2)	
		@PBN	NVS	@DRL	VVR	Mean		Mean		Mean	
3901	28631	2556	5969	1876	3667	4818		4818			
3902	28632	2258	3931		3167	3549		3549			
3903	28633	1993	6101	9	903	4273		4273			
3904	28634	2147	6096	10	2218	4409		4409			
3905	28635	2440	5961		1315	5369	6	5369	6	12%	6
3906	28636	2171	5095		2832	4492		4492			
3907	28637	2458	5510		2452	4783		4783			
3908	28638	2756	5438		2665	4997	9	4997			
3909	28639	3136	8	4039		4055		4047			
3910	28640	2909		6036		4167		5101	10	6%	5101
3911	28641	3358	3	4863		3611		4237			
3912	28642	2696		5921		3667		4794			
3913	28643	2287		2999		642		2333			
3914	28644	2311		5618		2911	2	3000			
3915	28645	2647		4712		2526	8	3500			
3916	CR Dhan 201 (NC)	2596		3511		3106	1	4223			
3917	28646	2151		3526		1835		2055			
3918	28647	2084				833		833			
3919	28648	2504		6765	1*	1868		4723	7	5744	1 * 20%
3920	28649	1980		4557		1655		2389		3473	
3921	28650	3193	7	5580		1314		4278		4929	
3922	28651	2084		4023				4833	4	4428	
3923	28652	2040		6240	4	1041		2723		4481	
3924	28653	2691		5229		548		4444		4836	
3925	28654	2913		6235	5	264		5000	3	5617	2
3926	28655	2867		6220	6	1186		4556	8	5388	4
3927	28656	2371		4962		1826		2612		3787	
3928	28657	2951		4568		496		3778		4173	
3929	28658	2536		5251		2392		4112		4681	
3930	28659	3000		6319	2	2770	4	2778		4548	
3931	28660	3236	5	3083		240		2667		2875	
3932	28661	3487	2	2796		1074		3223		3009	
3933	28662	2662		1982		489		3222		2602	
3934	Zonal Check (ZC)	2244		1913		2407		667		1290	
3935	28663	2967		2782		1432		2112		2447	
3936	28664	2231		4345		1971		3278		3811	
3937	28665	2449		3730		1693		5612	1*	4671	
3938	28666	3089		4302		753		4278		4290	
3939	28667	2062		4635		1276		3667		4151	
3940	28668	2340		5457		2043		2945		4201	
3941	28669	2124		5269		418		4000		4635	
3942	28670	2307		4682		2454	9	1889		3286	
3943	28671	2496		5964		1220		4333		5149	8
3944	28672	2260		6162	8	1693		3556		4859	
3945	28673	2547		5993		1741		4778	5	5386	5
3946	28674	2927		5440		2059		3723		4581	
3947	28675	2149		5671		651		4223		4947	
3948	28676	2713		5748				3056		4402	
3949	28677	3120		6063		905		4167		5115	9
3950	28678	2458		5686		1705		3500		4593	
3951	28679	3662	1	6207	7	1778		3611		4909	
3952	28680	3133	10	4687		465		3055		3871	
3953	28681	3136	8	5833		1542		4500		5167	7
3954	28682	2469		5357		1664		2223		3790	
3955	PA 6129 (HC)	1978		5521		2711	5	5611	2 *	5566	3
3956	28683	2338		6246	3	1171		3888		5067	, 6%
3957	28684	3224	6	4805		1503		1833		3319	
3958	28685	2787									
3959	28686	2971		5101		2609	7	4112		4606	
3960	28687	3351	4	5224		1169		3223		4223	
3961	28688	3111		4131				2667		3399	
3962	28689	2136		5507				4111		4809	
3963	28690	2107		2798						2798	
3964	Local Check	2844		5256		1440		4333		4795	
Exp. Mean		2612		4994		1576		3532		4225	
CD		245.12		1296		610.96		1187.4		835.13	
CV%		4.69		12.97		19.3		16.81		9.89	
D/S		7/12/2019		7/9/2019		7/9/2019		7/2/2019			
Local Check Name		PBNR 03-2		NAUR-1		GR 9		NAUR-1			

Table 8.8 contd.: Grain yield (Kg/ha) of entries of IVT AEROB, Kharif 2019

Entry No.	IET No.	Zone VII														Overall (10)							
		TE			TE (1)			TA (1)		KA	Zone VII (2)												
		@RDR	WGL		Mean			CBT		@MND	Mean				Mean								
3901	28631	3608	10	7853	3	7853	3	7%	22%	3984	#	90%	2997	7	5918	4	#	11%	39%	5264	4	*	14%
3902	28632	3283		6581	7	6581	7	6%		3885	#	85%	2016		5233			23%		4390			
3903	28633	3483		6004		6004				1688	1		1860		3846					3973			
3904	28634	2908		6325		6325				3865	#	84%	2261		5095			19%		4531			
3905	28635	3500		5897		5897				3760	#	79%	1776		4829			13%		4961			7%
3906	28636	4267	3	5780		5780				4906	3	#	134%	2578	5343	#		25%		5021			9%
3907	28637	2908		5951		5951				2307		10%	1621		4129					5077	8	*	10%
3908	28638	2883		5908		5908				4724	#	125%	2778		5316			25%		5166	6	*	12%
3909	28639	2550		3750		3750				4609	#	120%	2158		4180					4303			
3910	28640	3483		5470		5470				4917	2	#	134%	2371	5193			22%		4917			6%
3911	28641	3592		6186		6186				4961	1	#	136%	2519	5573	7	#	5%	31%	4954			7%
3912	28642	2783		6303		6303				1836			2739		4070					4624			
3913	28643	3583		5823		5823				3271		56%	1143		4547			7%		3206			
3914	28644	3192		5096		5096				4547	#	117%	2364		4822			13%		4849			5%
3915	28645	4383	2	6368		6368				4885	4	#	133%	2513	5626	6	#	6%	32%	5039	8		9%
3916	CR Dhan 201	3525		5395		5395				4792	9	#	128%	2319	5093			19%		4530			
3917	28646	2767		5513		5513				3406		62%	2494		4460			5%		3387			
3918	28647									2568		22%			2568					2475			
3919	28648	3367		6154		6154				4766	#	127%	3198	6	5460	10	#	28%		5047	9	*	9%
3920	28649	3150		3515		3515				2703		269%	2203		3109					2841			
3921	28650	3533		5075		5075				4745	#	126%	1893		4910			15%		5453	1	*	18%
3922	28651	3400		6378	9	6378	9			4646	#	121%	1466		5512	8	#	29%		4075			
3923	28652	2917		6257		6257				3005		43%	2390		4631			9%		4442			
3924	28653	3592		5043		5043				4120		96%	1828		4581			7%		5037			* 9%
3925	28654	2967		7981	2	7981	2	9%	24%	3938	#	88%	1266		5959	3	#	12%	40%	4995			8%
3926	28655	4200	4	6934	6	6934	6			4833	8	#	130%	1453	5884	5	#	11%	38%	5002			8%
3927	28656	3608		5449		5449				3615		72%	1822		4532			6%		3716			
3928	28657	3142		5449		5449				4745	#	126%	2558		5097			19%		4183			
3929	28658	2700		4818		4818				4682	#	123%	2726		4750			11%		5040	10	*	9%
3930	28659	3925	6	5502		5502				4708	#	124%	2222		5105			20%		4478			
3931	28660	3158		5075		5075				2797		33%	1647		3936					3533			
3932	28661	3467		5673		5673				3458		65%	1182		4566			7%		3783			
3933	28662	3208		4316		4316				4620	#	120%	2416		4468			5%, 25%		3348			
3934	Zonal Check (ZC)	2517		7340	5	7340	5			3281		56%	2209		5310					3964			
3935	28663	2958		4829		4829				1979			2300		3404					3309			
3936	28664	3117		7778	4	7778	4	6%	21%	4862	5	#	132%	2390	6320	2	#	19%	48%	4810			
3937	28665	3733	8	4936		4936				4776	10	#	128%	1589	4856			14%		3902			
3938	28666	3142		4263		4263				4839	7	#	131%	1841	4551			7%		4758			
3939	28667	2625		5075		5075				3047		45%	3450	4	4061					4334			
3940	28668	3350		4690		4690				3594		71%	2552		4142					4779			
3941	28669			5513		5513				4641	#	121%	1990		5077			19%		5348	2	*	16%
3942	28670	2775		4872		4872				4490	#	114%	1854		4681			10%		4348			
3943	28671	3358		4915		4915				4552	#	117%	730		4733			11%		4861			5%
3944	28672	3517		4466		4466				2344		12%	2009		3405					4409			
3945	28673	2992		6335		6335				4294		105%	4005	2	5315			25%		5204	5	*	12%
3946	28674	3592		5374		5374				2958		41%	2035		4166					4347			
3947	28675	3300		6143		6143				3076		47%	2494		4609			8%		4602			
3948	28676	2758		5331		5331				4844	6	#	131%	2855	9	5087			19%	4412			
3949	28677	3083		5673		5673				4758	#	127%	2377		5215			22%		4889			6%
3950	28678	3408		6303		6303				4682	#	123%	2196		5493	9	#	29%		5150	7*		11%
3951	28679	3942	5	5962		5962				3635		73%	2151		4798			13%		4606			
3952	28680	3042		5021		5021				3068		46%	1486		4045					3920			
3953	28681	3367		5812		5812				3865	#	84%	2778		4838			13%		4990			8%
3954	28682	3417		6175		6175				4573	#	118%	2823	10	5374	#		26%		4017			
3955	PA 6129 (HC)	5258	1	6432	8	6432	8			2099			4373	1	4265					5338	3	*	15%
3956	28683	3575		5705		5705				4260	#	103%	2190		4983			17%		4511			
3957	28684	2892								2599		24%	1809		2599					3119			
3958	28685									1089					1089					2152			
3959	28686	3167		6165		6165				4438	#	111%	2377		5301			24%		4699			
3960	28687	3708	9	5192		5192				2487		18%	3262	5	3840					4245			
3961	28688	3525		8013	1*	8013	1*	9%	25%	4776	#	128%	3708	3	6394	1*	#	20%	50%	4530			
3962	28689	3208		6261		6261				4393	#	109%	782		5327			25%		4915			6%
3963	28690	3008		5652		5652				3349		60%	1415		4500			6%		3864			
3964	Local Check	3758	7	6197		6197				4177		99%	2868	8	5187			22%		4626			
Exp. Mean		3330		5742		5742				3846			2253		4708					4416			
CD				1596.8		1596.8				1557.9			627.54		1071.7					384.08			
CV%				13.9		13.9				20.27			13.93		11.39					4.352			
D/S		7/19/2019		7/10/2019						7/15/2019			8/5/2019										
Local Check Name		MTU 1010		KNM-118						Anna (R) 4			KMP-175										

Table 8.9: Days to 50% flowering of entries of IVT AEROB, Kharif 2019

Entry No.	IET No.	Zone II			Zone III					
		PU	HA (1)	Zone II (1)	BI			BI (3)	JH	Zone III (3)
		@LDN	KUL	Mean	BKG	PSA	PTN	Mean	@RCI	Mean
3901	28631	81	92	92	104	77	87	89	91	89
3902	28632		93	93	104	102	115	107	110	107
3903	28633		98	98	71	78	88	79	94	79
3904	28634	76	99	99	72	74	81	76	95	76
3905	28635	90	88	88	81	82	96	86	107	86
3906	28636	81	89	89	76	75	86	79	90	79
3907	28637	80	91	91	78	75	89	81	94	81
3908	28638	81	81	81	81	79	95	85	96	85
3909	28639	87			82	90	103	92	96	92
3910	28640	80	98	98	76	75	95	82	95	82
3911	28641	86	99	99	74	82	93	83	96	83
3912	28642	91	98	98	76	89	96	87	96	87
3913	28643	83	98	98	75	81	105	87	90	87
3914	28644	77	88	88	71	74	80	75	95	75
3915	28645	87	91	91	76	79	95	83	90	83
3916	CR Dhan 201 (NC)	80	90	90	76	77	90	81	90	81
3917	28646	73	89	89	69	70	80	73	84	73
3918	28647									
3919	28648	87	94	94	77	82	95	85	103	85
3920	28649	65			69	70	84	74	87	74
3921	28650	87	88	88	76	90	93	86	96	86
3922	28651				97	101	113	104	112	104
3923	28652	82			75	78	97	83	90	83
3924	28653	84			81	85	95	87	104	87
3925	28654	97	91	91	91	91	108	96	108	96
3926	28655	90	88	88	76	82	96	84	100	84
3927	28656	71	78	78	64	66	72	67	83	67
3928	28657	86	88	88	76	87	99	87	97	87
3929	28658	80	81	81	76	76	91	81	95	81
3930	28659	76	90	90	72	74	91	79	90	79
3931	28660		93	93	75	84	106	88	104	88
3932	28661	82	97	97	71	82	95	83	108	83
3933	28662	89	99	99	88	100	105	98	104	98
3934	Zonal Check (ZC)	79	92	92	76	76	82	78	90	78
3935	28663	69	80	80	62	64	79	68	82	68
3936	28664	88	97	97	76	90	99	88	105	88
3937	28665	73	81	81	71	70	86	75	87	75
3938	28666	76			76	75	92	81	94	81
3939	28667	94	83	83	81	90	100	90	104	90
3940	28668	81	87	87	74	79	92	82	90	82
3941	28669	97			75	91	99	88	107	88
3942	28670	76	89	89	72	72	82	75	86	75
3943	28671	86			81	90	92	88	109	88
3944	28672	82	87	87	74	75	83	77	89	77
3945	28673	80	90	90	81	84	89	84	94	84
3946	28674	79	93	93	72	75	93	80	90	80
3947	28675	86	93	93	96	82	110	96	94	96
3948	28676				98	101	121	107	110	107
3949	28677	85	98	98	82	79	87	83	106	83
3950	28678	84	94	94	73	78	87	79	96	79
3951	28679	78	88	88	71	75	84	77	94	77
3952	28680	85			74	80	97	84	90	84
3953	28681	85			76	84	93	84	98	84
3954	28682	70	77	77	67	70	78	72	87	72
3955	PA 6129 (HC)	82	89	89	76	74	90	80	95	80
3956	28683	87	99	99	77	90	96	87	108	87
3957	28684	65			71	69	80	73	97	73
3958	28685									
3959	28686	76	92	92	74	70	87	77	89	77
3960	28687	91	93	93	81	82	98	87	91	87
3961	28688				96	100	111	102	104	102
3962	28689				98	101	109	103	111	103
3963	28690	84			76	83		80	111	80
3964	Local Check	81	88	88	76	78	84	79	96	79
Exp. Mean		82	91	91	78	81	93	84	96	84

Table 8.9 contd.: Days to 50% flowering of entries of IVT AEROB, Kharif 2019

Entry No.	IET No.	Zone IV	Zone V				
		MAN	MP	CH		CH (2)	Zone V (2)
		@WBL	@REW	RPR	JDP	Mean	Mean
3901	28631	76	97	80	82	81	81
3902	28632	100	96	73	97	85	85
3903	28633	88	101	83	81	82	82
3904	28634	81	96	78	77	78	78
3905	28635	104	112	74	88	81	81
3906	28636	87	102	82	79	80	80
3907	28637	113	96	79	81	80	80
3908	28638	88	104	87	83	85	85
3909	28639	105	108	74	81	77	77
3910	28640	76	99	88	83	85	85
3911	28641	85	97	85	86	85	85
3912	28642	97	108	88	90	89	89
3913	28643	81	99	74	86	80	80
3914	28644	80	96	76	78	77	77
3915	28645	90	102	83	83	83	83
3916	CR Dhan 201 (NC)	83	94	79	81	80	80
3917	28646	76	89	74	72	73	73
3918	28647	76	107		81	81	81
3919	28648	94	98	88	88	88	88
3920	28649	76	95	77	79	78	78
3921	28650	96	104	84	83	83	83
3922	28651	75	113	80	104	92	92
3923	28652	88	99	87	84	85	85
3924	28653	100	100	62	91	76	76
3925	28654	89	114	69	97	83	83
3926	28655	88	95	63	88	75	75
3927	28656	76	91	72	75	73	73
3928	28657	76	101	61	92	76	76
3929	28658	85	97	84	85	84	84
3930	28659	83	97	83	79	81	81
3931	28660	92	111	64	85	75	75
3932	28661	104	110	73	92	82	82
3933	28662	93	98	65	94	79	79
3934	Zonal Check (ZC)	76	92	81	81	81	81
3935	28663	76	103	73	78	75	75
3936	28664	95	103	61	84	72	72
3937	28665	81	94	84	75	79	79
3938	28666	92	110	87	82	84	84
3939	28667	65	101	88	89	88	88
3940	28668	91	96	85	82	83	83
3941	28669	103	113	60	94	77	77
3942	28670	83	103	79	78	78	78
3943	28671	81	103	74	95	84	84
3944	28672	84	100	82	82	82	82
3945	28673	87	98	81	81	81	81
3946	28674	94	102	79	80	79	79
3947	28675	87	104	69	95	82	82
3948	28676	100	114	74	93	83	83
3949	28677	91	105	86	88	87	87
3950	28678	91	101	82	84	83	83
3951	28679	88	100	80	82	81	81
3952	28680	88	106	86	82	84	84
3953	28681	85	100	60	93	76	76
3954	28682	83	86	74	75	74	74
3955	PA 6129 (HC)	90	100	82	82	82	82
3956	28683	100	109	74	94	84	84
3957	28684	76	86	75	78	76	76
3958	28685	83			88	88	88
3959	28686	100	100	80	78	79	79
3960	28687	96	106	73	96	84	84
3961	28688	93	108	78	96	87	87
3962	28689	91	115	76	102	89	89
3963	28690	98		74	88	81	81
3964	Local Check	88	101	78	85	81	81
Exp. Mean		88	101	77	85	81	81

Table 8.9 contd.: Days to 50% flowering of entries of IVT AEROB, Kharif 2019

Entry No.	IET No.	Zone VI					
		MA	GU			GU (2)	Zone VI (2)
		@PBN	NVS	@DRL	VYR	Mean	Mean
3901	28631	85	76	87	81	78	78
3902	28632	103	109		99	104	104
3903	28633	99	79	95	102	90	90
3904	28634	91	72	85	82	77	77
3905	28635	100	89	98	89	89	89
3906	28636	97	79	85	89	84	84
3907	28637	93	77	81	89	83	83
3908	28638	96	80	92	87	83	83
3909	28639	100	77	98	104	90	90
3910	28640	102	77	99	78	77	77
3911	28641	95	93	92	84	89	89
3912	28642	102	95	96	71	83	83
3913	28643	90	96	95	104	100	100
3914	28644	88	72	79	81	77	77
3915	28645	95	76	98	79	77	77
3916	CR Dhan 201 (NC)	86	93	83	79	86	86
3917	28646	90	68	72	77	72	72
3918	28647	85			83	83	83
3919	28648	101	86	88	101	94	94
3920	28649	100	69	80	80	74	74
3921	28650	96	79	93	84	81	81
3922	28651	108	101		101	101	101
3923	28652	97	77	96	84	80	80
3924	28653	101	77	99	88	82	82
3925	28654	103	97	98	105	101	101
3926	28655	104	97	98	91	94	94
3927	28656	99	65	74	82	73	73
3928	28657	98	91	100	82	86	86
3929	28658	95	79	86	81	80	80
3930	28659	101	79	83	77	78	78
3931	28660	98	97	101	105	101	101
3932	28661	98	101	94	105	103	103
3933	28662	102	87	101	91	89	89
3934	Zonal Check (ZC)	70	66	69	70	68	68
3935	28663	89	69	77	78	73	73
3936	28664	99	88	98	105	97	97
3937	28665	99	95	87	81	88	88
3938	28666	104	68	99	87	77	77
3939	28667	103	100	99	91	95	95
3940	28668	99	80	96	84	82	82
3941	28669	107	98	103	111	104	104
3942	28670	97	72	80	86	79	79
3943	28671	102	82	97	80	81	81
3944	28672	97	72	87	85	78	78
3945	28673	94	81	94	87	84	84
3946	28674	96	73	85	85	79	79
3947	28675	102	94	100	91	93	93
3948	28676	103	101		82	91	91
3949	28677	102	90	97	91	90	90
3950	28678	98	79	84	101	90	90
3951	28679	104	76	86	90	83	83
3952	28680	100	77	99	89	83	83
3953	28681	104	99		89	94	94
3954	28682	90	68	81	77	72	72
3955	PA 6129 (HC)	98	72	85	81	76	76
3956	28683	111	99	86	103	101	101
3957	28684	96	69	83	77	73	73
3958	28685	87					
3959	28686	99	67	85	81	74	74
3960	28687	109	94	97	106	100	100
3961	28688	104	99		111	105	105
3962	28689	98	105		106	105	105
3963	28690	101	100			100	100
3964	Local Check	44	77	65	89	83	83
Exp. Mean		97	83	90	89	86	86

Table 8.9 contd.: Days to 50% flowering of entries of IVT AEROB, Kharif 2019

Entry No.	IET No.	Zone VII						Overall (10)
		TE		TE (1)	TA (1)	KA	Zone VII (2)	
		@RDR	WGL	Mean	CBT	@MND	Mean	
3901	28631	94	83	83	94	89	88	85
3902	28632	82	107	107	108	107	107	100
3903	28633	92	82	82	92	91	87	85
3904	28634	84	77	77	91	89	84	80
3905	28635	103	91	91	104	102	97	88
3906	28636	96	84	84	98	98	91	83
3907	28637	88	79	79	93	92	86	83
3908	28638	93	83	83	95	88	89	85
3909	28639	102	85	85	95	92	90	88
3910	28640	97	80	80	96	98	88	84
3911	28641	93	87	87	91	82	89	87
3912	28642	104	90	90	103	92	96	89
3913	28643	91	89	89	91	79	90	90
3914	28644	86	77	77	89	87	83	78
3915	28645	96	82	82	91	98	86	83
3916	CR Dhan 201 (NC)	104	80	80	92	97	86	83
3917	28646	82	72	72	86	83	79	75
3918	28647				94		94	86
3919	28648	97	92	92	100	97	96	90
3920	28649	90	74	74	86	87	80	76
3921	28650	89	83	83	93	88	88	85
3922	28651	81	107	107	84	111	95	98
3923	28652	96	83	83	91	87	87	84
3924	28653	103	79	79	86	101	82	82
3925	28654	106	82	82	108	107	95	94
3926	28655	101	92	92	101	108	96	87
3927	28656	79	73	73	85	80	79	73
3928	28657	102	87	87	96	92	91	86
3929	28658	91	80	80	94	88	87	82
3930	28659	94	79	79	90	98	85	81
3931	28660	101	87	87	98	102	92	89
3932	28661	99	91	91	103	113	97	91
3933	28662	94	86	86	89	88	88	90
3934	Zonal Check (ZC)	85	72	72	85	87	79	78
3935	28663	84	72	72	87	87	79	74
3936	28664	99	87	87	98	106	93	88
3937	28665	91	80	80	107	95	93	83
3938	28666	99	82	82	98	102	90	83
3939	28667	85	90	90	106	94	98	92
3940	28668	95	81	81	93	92	87	84
3941	28669		92	92	103	105	97	91
3942	28670	94	75	75	93	95	84	80
3943	28671	101	88	88	95	105	91	86
3944	28672	94	81	81	92	83	86	81
3945	28673	91	83	83	92	92	87	85
3946	28674	95	78	78	92	85	85	82
3947	28675	98	91	91	98	98	95	92
3948	28676	104	71	71	102	97	86	94
3949	28677	95	88	88	99	98	94	89
3950	28678	91	82	82	96	95	89	85
3951	28679	94	78	78	97	98	87	82
3952	28680	100	87	87	99	98	93	85
3953	28681	99	92	92	101	107	97	87
3954	28682	83	74	74	86	107	80	74
3955	PA 6129 (HC)	96	83	83	96	93	89	82
3956	28683	100	97	97	103	98	100	93
3957	28684	88			86	88	86	75
3958	28685				98		98	93
3959	28686	96	77	77	92	94	84	80
3960	28687	98	97	97	108	105	103	93
3961	28688	104	98	98	99	107	98	98
3962	28689	110	106	106	103	104	105	100
3963	28690	98	93	93	104	104	98	88
3964	Local Check	90	80	80	90	86	85	82
Exp. Mean		94	84	84	95	95	90	86

Table. 8.10: Plant Height (cm) of entries of IVT AEROB, Kharif 2019

Entry No.	IET No.	Zone II			Zone III					
		PU	HA (1)	Zone II (1)	BI			BI (3)	JH	Zone III (3)
		@LDN	KUL	Mean	BKG	PSA	PTN	Mean	@RCI	Mean
3901	28631	108	105	105	124	121	110	118	84	118
3902	28632		81	81	101	112	93	102	71	102
3903	28633		84	84	113	122	99	111	97	111
3904	28634	98	58	58	117	105	99	107	87	107
3905	28635	104	87	87	119	120	109	116	91	116
3906	28636	98	75	75	112	108	92	104	85	104
3907	28637	103	96	96	119	125	102	115	80	115
3908	28638	117	98	98	128	132	116	125	101	125
3909	28639	122			130	128	120	126	91	126
3910	28640	111	90	90	117	112	109	113	91	113
3911	28641	118	94	94	132	119	114	122	88	122
3912	28642	90	82	82	115	106	229	150	69	150
3913	28643	99	90	90	122	114	103	113	87	113
3914	28644	93	92	92	102	101	100	101	86	101
3915	28645	101	93	93	107	112	107	109	89	109
3916	CR Dhan 201 (NC)	113	96	96	110	121	113	115	88	115
3917	28646	124	90	90	127	153	96	125	96	125
3918	28647									
3919	28648	104	87	87	122	112	108	114	80	114
3920	28649	90			99	111	74	95	69	95
3921	28650	102	94	94	116	116	105	112	89	112
3922	28651				100	94	83	92		92
3923	28652	98			111	100	103	105	92	105
3924	28653	93			111	103	101	105	72	105
3925	28654	107	76	76	117	116	94	109	83	109
3926	28655	125	103	103	146	130	126	134	103	134
3927	28656	127	114	114	121	119	114	118	96	118
3928	28657	97	84	84	102	109	99	103	82	103
3929	28658	114	94	94	115	124	103	114	85	114
3930	28659	96	90	90	117	110	106	111	77	111
3931	28660		98	98	133	127	116	125	91	125
3932	28661	90	89	89	124	114	98	112	69	112
3933	28662	121	105	105	152	130	98	127	91	127
3934	Zonal Check (ZC)	113	103	103	134	114	108	119	88	119
3935	28663	91	84	84	99	114	103	105	74	105
3936	28664	118	101	101	144	132	117	131	95	131
3937	28665	105	91	91	108	112	84	101	68	101
3938	28666	103			113	127	100	113	85	113
3939	28667	107	103	103	125	132	111	123	93	123
3940	28668	104	106	106	126	121	105	117	83	117
3941	28669	104			126	119	118	121	85	121
3942	28670	95	82	82	106	99	86	97	74	97
3943	28671	101			113	111	106	110	76	110
3944	28672	106	92	92	118	117	110	115	85	115
3945	28673	109	95	95	121	117	108	115	90	115
3946	28674	95	95	95	116	114	84	105	87	105
3947	28675	117	103	103	126	123	118	122	100	122
3948	28676				149	148	118	138	94	138
3949	28677	125	119	119	144	119	127	130	116	130
3950	28678	110	103	103	125	103	116	115	87	115
3951	28679	94	77	77	99	94	84	92	70	92
3952	28680	105			124	117	112	118	92	118
3953	28681	97			119	109	106	111	85	111
3954	28682	95	79	79	106	117	204	142	83	142
3955	PA 6129 (HC)	98	78	78	124	126	93	114	81	114
3956	28683	101	96	96	125	115	114	118	72	118
3957	28684	86			106	100	73	93	88	93
3958	28685									
3959	28686	99	77	77	114	110	73	99	70	99
3960	28687	94	93	93	122	122	109	118	92	118
3961	28688				154	145	125	141	102	141
3962	28689				114	118	120	117		117
3963	28690	110			112	100		106	87	106
3964	Local Check	91	78	78	111	109	112	111	85	111
Exp. Mean		104	91	91	119	117	108	115	86	115

Table 8.10 contd.: Plant Height (cm) of entries of IVT AEROB, Kharif 2019

Entry No.	IET No.	Zone IV	Zone V				
		MAN	MP	CH		CH (2)	Zone V (2)
		@WBL	@REW	RPR	JDP	Mean	Mean
3901	28631	80	95	113	108	111	111
3902	28632	64	98	100	111	105	105
3903	28633	82	90	104	104	104	104
3904	28634	84	89	93	104	99	99
3905	28635	87	112	108	110	109	109
3906	28636	87	62	95	98	97	97
3907	28637	76	104	94	103	99	99
3908	28638	93	109	107	118	112	112
3909	28639	100	97	114	115	114	114
3910	28640	72	93	103	102	103	103
3911	28641	84	99	116	132	124	124
3912	28642	65	98	92	99	96	96
3913	28643	72	91	101	105	103	103
3914	28644	77	95	93	101	97	97
3915	28645	75	87	99	112	106	106
3916	CR Dhan 201 (NC)	91	108	113	115	114	114
3917	28646	93	109	112	120	116	116
3918	28647	73	72		58	58	58
3919	28648	64	80	108	103	106	106
3920	28649	65	85	94	98	96	96
3921	28650	88	93	106	113	109	109
3922	28651	62	86	99	101	100	100
3923	28652	78	84	106	102	104	104
3924	28653	64	95	97	101	99	99
3925	28654	88	93	97	113	105	105
3926	28655	98	118	115	127	121	121
3927	28656	94	84	113	117	115	115
3928	28657	65	86	86	109	98	98
3929	28658	87	90	105	109	107	107
3930	28659	72	95	105	95	100	100
3931	28660	90	110	97	107	102	102
3932	28661	75	85	100	111	106	106
3933	28662	83	111	118	121	120	120
3934	Zonal Check (ZC)	73	86	103	118	110	110
3935	28663	72	98	77	90	83	83
3936	28664	100	86	118	120	119	119
3937	28665	86	99	98	90	94	94
3938	28666	73	83	196	100	148	148
3939	28667	80	92	110	111	110	110
3940	28668	75	105	113	103	108	108
3941	28669	75	104	108	102	105	105
3942	28670	91	108	87	94	90	90
3943	28671	72	92	105	100	103	103
3944	28672	89	97	107	109	108	108
3945	28673	85	93	106	104	105	105
3946	28674	86	105	96	112	104	104
3947	28675	92	56	135	127	131	131
3948	28676	90	89	146	139	143	143
3949	28677	98	103	150	135	142	142
3950	28678	62	79	115	103	109	109
3951	28679	72	39	98	85	92	92
3952	28680	80	94	123	109	116	116
3953	28681	78	91	118	105	111	111
3954	28682	52	88	102	93	97	97
3955	PA 6129 (HC)	71	88	201	102	152	152
3956	28683	62	97	115	193	154	154
3957	28684	63	79	93	86	90	90
3958	28685	68			92	92	92
3959	28686	68	77	96	94	95	95
3960	28687	93	91	116	115	115	115
3961	28688	105	98	133	141	137	137
3962	28689	75	99	116	124	120	120
3963	28690	78		118	111	114	114
3964	Local Check	75	94	111	103	107	107
Exp. Mean		79	92	110	109	109	109

Table 8.10 contd.: Plant Height (cm) of entries of IVT AEROB, Kharif 2019

Entry No.	IET No.	Zone VI					
		MA	GU		GU (2)	Zone VI (2)	
		@PBN	NVS	@DRL	VYR	Mean	Mean
3901	28631	65	100	98	121	110	110
3902	28632	35	92		121	107	107
3903	28633	60	90	88	110	100	100
3904	28634	45	83	83	124	104	104
3905	28635	41	80	78	128	104	104
3906	28636	55	115	94	94	104	104
3907	28637	48	76	91	109	93	93
3908	28638	48	81	101	147	114	114
3909	28639	36	118	103	128	123	123
3910	28640	65	113	87	122	117	117
3911	28641	45	84	93	132	108	108
3912	28642	48	111	85	102	107	107
3913	28643	38	86	92	137	112	112
3914	28644	64	97	94	115	106	106
3915	28645	91	85	90	114	99	99
3916	CR Dhan 201 (NC)	65	117	117	131	124	124
3917	28646	51	111	116	118	115	115
3918	28647	43			113	113	113
3919	28648	35	87	98	122	104	104
3920	28649	41	74	71	99	86	86
3921	28650	37	116	87	120	118	118
3922	28651	40	114		111	112	112
3923	28652	65	77	81	100	89	89
3924	28653	70	91	78	102	96	96
3925	28654	45	119	92	123	121	121
3926	28655	39	118	85	134	126	126
3927	28656	68	115	104	112	113	113
3928	28657	59	106	77	112	109	109
3929	28658	52	92	102	121	107	107
3930	28659	70	86	82	96	91	91
3931	28660	73	121	81	130	125	125
3932	28661	63	122	82	93	107	107
3933	28662	60	116	87	130	123	123
3934	Zonal Check (ZC)	67	120	128	115	118	118
3935	28663	33	91	83	109	100	100
3936	28664	61	115	102	128	121	121
3937	28665	47	84	87	116	100	100
3938	28666	41	91	89	114	103	103
3939	28667	50	116	87	122	119	119
3940	28668	46	86	95	112	99	99
3941	28669	45	115	94	106	110	110
3942	28670	33	75	82	95	85	85
3943	28671	65	106	89	112	109	109
3944	28672	45	88	89	109	99	99
3945	28673	52	96	89	116	106	106
3946	28674	37	87	87	107	97	97
3947	28675	66	112	92	134	123	123
3948	28676	87	123		137	130	130
3949	28677	60	118	110	147	133	133
3950	28678	50	92	100	107	99	99
3951	28679	40	72	70	100	86	86
3952	28680	35	115	82	126	121	121
3953	28681	39	91	87	130	111	111
3954	28682	72	74	82	101	88	88
3955	PA 6129 (HC)	48	86	79	115	101	101
3956	28683	55	88	94	116	102	102
3957	28684	47	79	69	103	91	91
3958	28685	52					
3959	28686	49	71	92	119	95	95
3960	28687	55	104	82	112	108	108
3961	28688	65	121		138	130	130
3962	28689	61	81		134	107	107
3963	28690	50	106			106	106
3964	Local Check	76	90	105	125	107	107
Exp. Mean		53	98	90	117	108	108

Table 8.10 contd.: Plant Height (cm) of entries of IVT AEROB, Kharif 2019

Entry No.	IET No.	Zone VII						Overall (10)
		TE		TE (1)	TA (1)	KA	Zone VII (2)	
		@RDR	WGL	Mean	CBT	@MND	Mean	
3901	28631	91	117	117	93	77	105	111
3902	28632	87	107	107	93	70	100	101
3903	28633	83	110	110	85	74	97	102
3904	28634	84	93	93	72	73	83	95
3905	28635	90	102	102	114	71	108	108
3906	28636	95	107	107	81	69	94	98
3907	28637	84	104	104	66	62	85	100
3908	28638	90	112	112	98	80	105	114
3909	28639	94	120	120	95	86	107	119
3910	28640	94	108	108	98	73	103	107
3911	28641	87	123	123	99	81	111	115
3912	28642	84	73	73	79	64	76	109
3913	28643	80	107	107	87	72	97	105
3914	28644	76	97	97	75	68	86	97
3915	28645	79	95	95	91	67	93	101
3916	CR Dhan 201 (NC)	107	104	104	87	69	96	111
3917	28646	98	129	129	93	82	111	115
3918	28647				86		86	86
3919	28648	86	98	98	83	62	91	103
3920	28649	59	76	76	70	74	73	88
3921	28650	89	106	106	90	71	98	108
3922	28651	77	106	106	94	60	100	100
3923	28652	90	109	109	76	71	93	98
3924	28653	87	94	94	84	65	89	98
3925	28654	86	112	112	98	72	105	106
3926	28655	118	135	135	104	82	119	124
3927	28656	104	142	142	90	75	116	116
3928	28657	84	94	94	95	74	94	100
3929	28658	81	111	111	91	72	101	106
3930	28659	87	94	94	84	66	89	98
3931	28660	86	115	115	81	75	98	112
3932	28661	87	89	89	82	78	85	102
3933	28662	95	119	119	95	76	107	118
3934	Zonal Check (ZC)	79	84	84	81	74	82	108
3935	28663	77	86	86	65	66	75	92
3936	28664	97	111	111	95	81	103	118
3937	28665	80	95	95	100	70	98	98
3938	28666	74	96	96	92	66	94	115
3939	28667	89	103	103	89	78	96	112
3940	28668	95	119	119	86	72	102	108
3941	28669		122	122	85	64	103	111
3942	28670	70	98	98	70	57	84	89
3943	28671	95	96	96	87	76	92	104
3944	28672	78	121	121	79	76	100	105
3945	28673	96	110	110	90	86	100	106
3946	28674	70	93	93	94	78	94	100
3947	28675	110	128	128	102	79	115	121
3948	28676	125	148	148	128	90	138	137
3949	28677	100	130	130	117	103	123	131
3950	28678	91	109	109	93	79	101	106
3951	28679	91	97	97	76	76	87	88
3952	28680	87	106	106	93	80	100	114
3953	28681	105	107	107	111	74	109	111
3954	28682	84	101	101	70	63	86	105
3955	PA 6129 (HC)	75	89	89	90	63	89	110
3956	28683	88	103	103	86	67	95	115
3957	28684	67			79	63	79	90
3958	28685				89		89	91
3959	28686	84	100	100	72	72	86	93
3960	28687	99	118	118	86	74	102	110
3961	28688	107	145	145	107	85	126	134
3962	28689	91	122	122	115	73	118	116
3963	28690	98	119	119	103	75	111	110
3964	Local Check	67	113	113	86	80	100	104
Exp. Mean		88	108	108	89	73	98	107

Table 8.11: Panicles/m2 of entries of IVT AEROB, Kharif 2019

Entry No.	IET No.	Zone II			Zone III					
		PU	HA (1)	Zone II (1)	BI			BI (3)	JH	Zone III (3)
		@LDN	KUL	Mean	BKG	PSA	PTN	Mean	@RCI	Mean
3901	28631	515	258	258	360	322	266	316	268	316
3902	28632		279	279	453	370	203	342	140	342
3903	28633		217	217	308	228	226	254	208	254
3904	28634	460	241	241	288	282	169	246	215	246
3905	28635	420	269	269	318	263	173	251	242	251
3906	28636	425	350	350	288	178	232	232	288	232
3907	28637	365	263	263	378	335	209	307	198	307
3908	28638	410	313	313	315	410	181	302	253	302
3909	28639	340			415	278	195	296	225	296
3910	28640	365	271	271	320	284	127	244	275	244
3911	28641	390	210	210	453	236	210	300	230	300
3912	28642	335	241	241	348	336	207	297	195	297
3913	28643	305	278	278	358	348	160	288	280	288
3914	28644	350	270	270	278	418	228	308	275	308
3915	28645	315	261	261	388	395	181	321	248	321
3916	CR Dhan 201 (NC)	440	261	261	318	393	207	306	243	306
3917	28646	385	242	242	467	304	175	315	205	315
3918	28647									
3919	28648	380	283	283	428	262	226	305	213	305
3920	28649	340			318	244	129	230	218	230
3921	28650	335	249	249	273	408	195	292	213	292
3922	28651				253	153	262	223		223
3923	28652	405			318	308	129	251	260	251
3924	28653	370			389	294	235	306	213	306
3925	28654	405	232	232	280	384	139	268	218	268
3926	28655	330	269	269	320	282	183	262	248	262
3927	28656	330	187	187	315	235	231	260	179	260
3928	28657	250	300	300	528	320	217	355	225	355
3929	28658	310	244	244	358	328	175	287	235	287
3930	28659	395	191	191	413	308	213	311	203	311
3931	28660		240	240	458	287	247	330	255	330
3932	28661	405	288	288	253	320	232	268	185	268
3933	28662	350	202	202	389	368	178	311	240	311
3934	Zonal Check (ZC)	360	231	231	320	340	213	291	158	291
3935	28663	405	220	220	378	322	183	294	230	294
3936	28664	335	250	250	286	410	177	291	255	291
3937	28665	355	217	217	313	338	133	261	200	261
3938	28666	345			320	341	137	266	210	266
3939	28667	375	308	308	453	334	265	350	250	350
3940	28668	285	259	259	278	415	255	316	288	316
3941	28669	445			348	367	270	328	223	328
3942	28670	335	241	241	313	338	182	277	218	277
3943	28671	255			359	301	241	300	215	300
3944	28672	405	238	238	418	368	243	343	268	343
3945	28673	450	290	290	460	337	214	337	278	337
3946	28674	335	267	267	315	281	124	240	213	240
3947	28675	405	248	248	286	332	212	276	245	276
3948	28676				321	289	147	252	210	252
3949	28677	315	313	313	350	204	248	267	238	267
3950	28678	345	272	272	353	214	245	270	298	270
3951	28679	355	256	256	344	321	224	296	218	296
3952	28680	380			596	272	221	363	243	363
3953	28681	390			452	325	247	341	215	341
3954	28682	340	250	250	318	235	195	249	315	249
3955	PA 6129 (HC)	295	229	229	276	368	264	302	205	302
3956	28683	390	251	251	425	388	266	359	250	359
3957	28684	350			283	286	135	234	330	234
3958	28685									
3959	28686	335	228	228	494	343	186	341	200	341
3960	28687	375	259	259	425	247	227	300	253	300
3961	28688				209	368	182	253	230	253
3962	28689				428	225	207	287		287
3963	28690	320			321	199		260	110	260
3964	Local Check	475	265	265	388	374	254	339	198	339
Exp. Mean		367	255	255	357	312	204	291	231	291

Table 8.11 contd.: Panicles/m² of entries of IVT AEROB, Kharif 2019

Entry No.	IET No.	Zone IV	Zone V				
		MAN	MP	CH		CH (2)	Zone V (2)
		@WBL	@REW	RPR	JDP	Mean	Mean
3901	28631	214	200	241	329	285	285
3902	28632	256	237	257	210	234	234
3903	28633	205	213	255	340	297	297
3904	28634	184	209	225	283	254	254
3905	28635	306	224	229	188	209	209
3906	28636	309	220	218	339	278	278
3907	28637	273	309	264	328	296	296
3908	28638	250	287	238	233	235	235
3909	28639	254	199	287	395	341	341
3910	28640	168	184	285	226	255	255
3911	28641	315	242	260	215	238	238
3912	28642	224	249	259	246	252	252
3913	28643	250	180	327	180	253	253
3914	28644	410	202	254	186	220	220
3915	28645	287	280	280	231	255	255
3916	CR Dhan 201 (NC)	320	238	299	295	297	297
3917	28646	264	171	268	217	242	242
3918	28647	294	213		193	193	193
3919	28648	265	249	277	248	263	263
3920	28649	392	254	207	220	213	213
3921	28650	345	214	265	295	280	280
3922	28651	201	245	281	270	275	275
3923	28652	179	124	246	186	216	216
3924	28653	276	199	280	221	251	251
3925	28654	310	228	229	264	246	246
3926	28655	355	250	279	220	249	249
3927	28656	359	259	224	286	255	255
3928	28657	220	166	255	298	276	276
3929	28658	310	257	290	326	308	308
3930	28659	448	225	323	326	325	325
3931	28660	242	285	264	275	269	269
3932	28661	202	260	278	225	251	251
3933	28662	214	202	303	385	344	344
3934	Zonal Check (ZC)	392	189	212	265	238	238
3935	28663	370	184	231	322	277	277
3936	28664	305	159	253	249	251	251
3937	28665	248	251	245	271	258	258
3938	28666	298	238	234	232	233	233
3939	28667	307	187	262	277	270	270
3940	28668	321	233	281	345	313	313
3941	28669	438	190	239	366	302	302
3942	28670	265	165	229	241	235	235
3943	28671	189	200	300	230	265	265
3944	28672	411	231	270	337	304	304
3945	28673	240	256	276	254	265	265
3946	28674	371	157	248	245	247	247
3947	28675	353	238	287	208	247	247
3948	28676	206	217	268	235	252	252
3949	28677	340	226	301	275	288	288
3950	28678	191	278	253	238	245	245
3951	28679	290	215	281	250	265	265
3952	28680	222	161	266	256	261	261
3953	28681	319	171	318	369	344	344
3954	28682	180	273	240	230	235	235
3955	PA 6129 (HC)	242	285	251	256	253	253
3956	28683	230	246	346	251	298	298
3957	28684	475	154	231	281	256	256
3958	28685	298			202	202	202
3959	28686	298	256	241	286	263	263
3960	28687	235	207	233	175	204	204
3961	28688	226	209	242	192	217	217
3962	28689	193	295	311	105	208	208
3963	28690	155		293	100	196	196
3964	Local Check	257	248	333	448	390	390
Exp. Mean		281	222	265	260	261	261

Table 8.11 contd.: Panicles/m² of entries of IVT AEROB, Kharif 2019

Entry No.	IET No.	Zone VI					
		MA	GU			GU (2)	Zone VI (2)
		@PBN	NVS	@DRL	VYR	Mean	Mean
3901	28631	240	213	49	302	257	257
3902	28632	286	190		215	202	202
3903	28633	191	196	57	176	186	186
3904	28634	207	182	58	220	201	201
3905	28635	200	188	43	301	244	244
3906	28636	225	203	72	238	220	220
3907	28637	223	186	47	297	242	242
3908	28638	187	203	52	257	230	230
3909	28639	286	192	52	216	204	204
3910	28640	230	210	27	272	241	241
3911	28641	182	202	52	236	219	219
3912	28642	215	193	49	254	223	223
3913	28643	170	203	36	181	192	192
3914	28644	188	184	53	222	203	203
3915	28645	204	205	38	311	258	258
3916	CR Dhan 201 (NC)	178	192	62	344	268	268
3917	28646	169	182	39	200	191	191
3918	28647	188			127	127	127
3919	28648	201	236	52	190	213	213
3920	28649	174	197	53	281	239	239
3921	28650	202	192	40	225	208	208
3922	28651	230	199		212	205	205
3923	28652	169	209	53	182	195	195
3924	28653	217	196	34	227	211	211
3925	28654	182	201	53	189	195	195
3926	28655	220	187	32	174	180	180
3927	28656	190	183	50	259	221	221
3928	28657	238	200	64	250	225	225
3929	28658	177	205	69	322	263	263
3930	28659	247	182	51	319	250	250
3931	28660	186	189	68	244	216	216
3932	28661	181	216	71	275	246	246
3933	28662	264	193	53	286	239	239
3934	Zonal Check (ZC)	200	174	49	152	163	163
3935	28663	206	222	59	236	229	229
3936	28664	250	186	57	235	210	210
3937	28665	252	180	50	254	217	217
3938	28666	278	206	47	221	214	214
3939	28667	206	203	63	241	222	222
3940	28668	236	173	38	189	181	181
3941	28669	210	196	36	233	215	215
3942	28670	262	227	54	193	210	210
3943	28671	272	236	46	259	247	247
3944	28672	277	226	55	221	223	223
3945	28673	201	191	50	291	241	241
3946	28674	179	209	58	231	220	220
3947	28675	178	192	37	196	194	194
3948	28676	198	198		199	198	198
3949	28677	261	202	48	222	212	212
3950	28678	231	214	46	248	231	231
3951	28679	190	223	52	232	227	227
3952	28680	260	238	58	201	219	219
3953	28681	253	190	62	250	220	220
3954	28682	260	247	46	201	224	224
3955	PA 6129 (HC)	189	220	42	286	253	253
3956	28683	259	195	55	299	247	247
3957	28684	248	192	62	247	219	219
3958	28685	178					
3959	28686	291	209	51	157	183	183
3960	28687	270	210	49	209	209	209
3961	28688	262	196		198	197	197
3962	28689	237	235		153	194	194
3963	28690	190	194			194	194
3964	Local Check	280	206	31	282	244	244
Exp. Mean		220	201	50	234	217	217

Table 8.11 contd.: Panicles/m² of entries of IVT AEROB, Kharif 2019

Entry No.	IET No.	Zone VII						Overall (10)
		TE		TE (1)	TA (1)	KA	Zone VII (2)	
		@RDR	WGL	Mean	CBT	@MND	Mean	
3901	28631	281	391	391	355	371	373	304
3902	28632	275	333	333	343	343	338	285
3903	28633	281	373	373	343	347	358	266
3904	28634	257	371	371	310	432	341	257
3905	28635	341	361	361	333	381	347	262
3906	28636	278	373	373	425	333	399	284
3907	28637	233	419	419	318	299	368	299
3908	28638	228	378	378	403	394	390	293
3909	28639	234	389	389	335	456	362	300
3910	28640	233	380	380	355	401	367	273
3911	28641	291	391	391	330	333	361	274
3912	28642	267	381	381	355	272	368	282
3913	28643	270	375	375	418	333	396	282
3914	28644	256	373	373	328	313	350	274
3915	28645	314	368	368	403	333	385	302
3916	CR Dhan 201 (NC)	299	427	427	315	354	371	305
3917	28646	257	347	347	328	347	337	273
3918	28647				440		440	253
3919	28648	297	381	381	378	496	379	291
3920	28649	281	419	419	350	360	385	263
3921	28650	284	371	371	350	469	361	282
3922	28651	342	373	373	330	401	351	259
3923	28652	212	363	363	355	347	359	255
3924	28653	291	375	375	373	347	374	287
3925	28654	275	370	370	370	340	370	266
3926	28655	302	348	348	448	408	398	271
3927	28656	291	380	380	330	367	355	263
3928	28657	252	388	388	360	306	374	311
3929	28658	264	403	403	330	388	366	298
3930	28659	342	371	371	320	354	346	296
3931	28660	247	399	399	360	286	380	296
3932	28661	346	393	393	435	394	414	291
3933	28662	254	384	384	415	374	400	310
3934	Zonal Check (ZC)	248	454	454	350	422	402	271
3935	28663	238	386	386	343	442	364	284
3936	28664	269	365	365	430	340	397	284
3937	28665	275	384	384	285	333	335	262
3938	28666	287	328	328	345	374	337	263
3939	28667	280	383	383	363	456	373	309
3940	28668	221	403	403	335	469	369	293
3941	28669		355	355	414	367	384	310
3942	28670	286	396	396	368	360	382	272
3943	28671	268	378	378	310	347	344	290
3944	28672	252	406	406	340	445	373	306
3945	28673	314	373	373	360	343	366	304
3946	28674	223	381	381	373	286	377	267
3947	28675	344	376	376	295	350	336	263
3948	28676	275	350	350	445	333	397	272
3949	28677	247	360	360	429	224	394	290
3950	28678	327	383	383	368	388	375	278
3951	28679	301	381	381	373	360	377	288
3952	28680	284	391	391	334	357	362	308
3953	28681	334	371	371	446	374	409	330
3954	28682	285	383	383	360	401	371	266
3955	PA 6129 (HC)	316	389	389	303	367	346	284
3956	28683	278	386	386	406	408	396	321
3957	28684	272			345	292	345	250
3958	28685				420		420	311
3959	28686	229	378	378	375	374	376	290
3960	28687	308	358	358	375	408	367	272
3961	28688	299	351	351	301	364	326	249
3962	28689	270	337	337	384	306	360	265
3963	28690	255	380	380	330	275	355	259
3964	Local Check	341	393	393	423	371	408	336
Exp. Mean		279	379	379	363	365	372	284

INITIAL VARIETY TRIAL – BIOFORTIFICATION (IVT-BIOFORT)

Locations: 30

Test Entries: 38

Checks: BPT 5204 (Yield), IR 64 (Yield), DRR Dhan 45 (Yield and Micronutrient) and Chittimuthyalu (Micronutrient). **Table: 9.1**

IVT-Biofort trial was conducted with 38 entries including two yield checks (BPT 5204 and IR 64), Chittimuthyalu as micronutrient check and DRR Dhan 45 as both yield and micronutrient check. IET 27179 and IET 27984 were in 3rd and 2nd year of testing respectively. The biofortification trial was sent to 30 locations across five zones (II, III, V, VI and VII) and data was received from 25 locations. Data from Ludhiana, Cuttack, Jeypore, Mugad, and Sirsi were not considered for analysis due to low/high CV and low experimental yield. Overall, experimental yield ranged from 713.47 kg/ha (Sirsi) to 7744.26 kg/ha (Gangavati). The mean yield of entries had a range of 3671 kg/ha (Chittimuthyalu) to 5748 g/ha (IET 28717) whereas, plant height had a wide range of 85.62 cm (IET 28710) to 125.48 (IET 27179). Highest number of panicles were observed in IET 28710 (331) while, IET 28692 had only 245. IET 28716 flowered in 86 days and IET 28715 flowered at 106 days. The data pertaining to yield, days to 50% flowering, plant height, panicles/m² and quality are presented in tables 9.2, 9.3, 9.4, 9.5 and 9.6 respectively.

The content of micronutrients (Iron and Zinc) in polished rice samples of the test entries was estimated by X-ray fluorescence spectrophotometer (XRF) at IIRR, Hyderabad while protein content was analysed at NRRI, Cuttack utilizing the seed samples received from test locations. The data on Iron, Zinc and proteins were furnished in tables 9.7, 9.8 and 9.9. As the XRF values of Zn analysed at IIRR are 4 ppm lesser than ICP values of zinc, 4 ppm is added uniformly to the Zn content for each of the test entries. Based on the criteria set during 48th ARGM, the entries possessing ≥ 24 ppm Zinc; ≥ 10 ppm protein and ≥ 10 ppm iron in polished rice; and yield on par or more than the best yielding check are eligible for promotion to the next tier of testing. The yield performance of entries with ≤ 100 days flowering duration are compared with DRR Dhan 45 whereas entries with ≥ 100 days are compared with Samba Mahsuri for identification of best entries. The superior entries on overall mean and zonal basis are discussed below.

Performance of entries during Kharif 2019

Performance of entries based on overall mean

On the basis of overall mean, IET 27179 and IET 27984 in 3rd and 2nd year of testing respectively did not show any yield advantage. Further, six entries (IET 28695, IET 28705, IET 28706, IET 28707, IET 28710 and IET 28714) with >100 days of flowering showed yield advantage (range of 5.5% to 26.1%) over BPT 5204. Another four entries (IET 28701, IET 28702, IET 28713 and IET 28717) with <100 days of flowering exhibited yield superiority ranging from 5.1% to 8.0% over IR 64. ***Since the Fe and Zinc content data is not***

available on overall basis these entries are promoted to 2nd year of testing based on yield only, but they will be re-considered once the data is available and final promotion will be based on yield superiority and Zinc content (>24.0 ppm) as per the AICRIP proceedings.

Zone II

In zone II, the trial was conducted at 2 locations (Ludhiana and Kaul). But the data from Ludhiana was not considered due to low experimental mean (2353.7 kg/ha). Four entries namely IET Nos. 28705, 28706, 28707, and 28713 with flowering duration above 100 days showed yield superiority over BPT 5204, the yield superiority ranged from 6.1% to 28.1%. No entry with flowering duration below 100 days showed yield superiority. ***Since the zinc content data is not available these entries are promoted to IInd year of testing based on yield only, but they will be re-considered once the zinc data is available and final promotion will be based on yield superiority and zinc content (>24.0 ppm) as per the AICRIP proceedings.***

Zone III

In zone III, the trial was conducted at 5 locations across Uttar Pradesh and Odisha (Cuttack Jeypore, Sabour, Masodha and Varanasi). Cuttack and Jeypore data was not considered due to low experimental mean (3942.77 kg/ha) and low CV (4.54%) respectively. Three entries (IET 28695, IET 28706, and 28710) with flowering duration above 100 days showed yield superiority over BPT 5204, the yield superiority ranged from 6.1% to 11.0%. Additionally, nine entries (IET 28694, IET 28696, IET 28701, IET 28702, IET 28703, IET 28705, IET 28713, IET 28714 and IET 28717) with flowering duration below 100 days showed yield superiority over IR 64. ***Based on the zinc content data available from three locations (Cuttack, Jeypore and Varanasi), none of the entries exhibited >24.0 ppm zinc content hence none are promoted. But zinc content data is not available from Sabour and Masodha therefore, entries will be re-considered once the zinc data is available from these centers and final promotion will be based on yield superiority and zinc content (>24.0 ppm) as per the AICRIP proceedings.***

Zone V

The trial was conducted at 4 locations across (Waraseoni Raipur Sakoli and Sindewahi). Three entries (IET 28705, IET 28707 and 28710) with flowering duration above 100 days showed yield superiority over BPT 5204, the yield superiority ranged from 7.0% to 43.7%. Further nine entries (IET 27179, IET 28698, IET 28702, IET 28704, IET 28713, IET 28714, IET 28717, IET 28718 and IET 28719) with flowering duration below 100 days exhibited yield superiority over IR 64. The yield superiority ranged from 6.3% to 15.1%. ***Based on the zinc content data available from two locations (Sakoli and Raipur), none of the entries exhibited >24.0 ppm zinc content hence none are promoted. But, zinc content data is not available from other locations therefore the entries will be re-considered once the zinc data is available from these centers and final promotion will be based on yield superiority and zinc content (>24.0 ppm) as per the AICRIP proceedings.***

Zone VI

The trial was conducted at 4 locations across (Karjat, Shirgoan, Navsari and Nawagam). Based on yield, three entries (IET 28705, IET 28714 and 28715) with flowering duration above 100 days had yield superiority over BPT 5204 and the yield superiority ranged from 6.0% to 39.1%. Another three entries (IET 28701, IET 28702, and IET 28713) with flowering duration below 100 days showed yield advantage over IR 64. The yield superiority ranged from 5.6% to 9.0%. ***IET 28713 (24.4 ppm zinc) is promoted to 2nd year of testing based on yield (5.6% yield superiority) and zinc content (24.4 ppm). IET 27984 a 2nd year entry had 25.3 ppm zinc content and exhibited on par yield with the check (IR 64), hence promoted to 3rd year testing. Also, IET 28717 had 24.6 ppm zinc content and showed on par yield with IR 64, hence promoted to 2nd year of testing. But zinc content data is not available from some locations therefore the entries will be re-considered once the zinc data is available from these centers and final promotion will be based on yield superiority and zinc content (>24.0 ppm) as per the AICRIP proceedings.***

Zone VII

The trial was conducted at 10 locations across Andhra Pradesh, Telangana, Karnataka, Kerala and Tamil Nadu. The data from Mugad and Sirsi was not considered owing to high CV (22.63%) and low experimental mean (713.47 kg/ha) respectively. Four entries (IET 28695, IET 28705, IET 28707 and 28714) with >100 days flowering duration had yield superiority over BPT 5204; the yield superiority ranged from 7.4% to 19.5%. Further five entries (IET 28691, IET 28696, IET 28701, IET 28717, and IET 28718) with less than 100 days flowering duration had yield advantage over IR 64. The yield superiority ranged from 6.5% to 12.3%. The zinc content data is available only from Mugad. ***The entries showing yield advantage did not show the required zinc content (>24.0 ppm) hence none are promoted.*** Though ***IET 28712*** had 24.8 ppm zinc content, its yield was not even at on par with the check hence not promoted. ***But zinc content data is not available from several locations therefore the entries will be re-considered once the zinc data is available from these centers and final promotion will be based on yield superiority and zinc content (>24.0 ppm) as per the AICRIP proceedings.***

Three year performance of entries

IET 27179 (CR 2826-1-1-2-4B-2-1), a product of Swarna and ARC 10075 was the only entry in third year of testing. It exhibited a yield superiority of 8.0% over IR 64 in Zone V only. Since its days to 50% flowering was 92 it was compared with IR 64 for yield performance. IET 27179 was 131.19 cm tall and it had 249 panicles per plant in Zone V. Despite having a yield advantage over the better check, its zinc content was only 17.5 ppm in Zone V, hence not discussed further. ***But zinc content data is not available from some locations therefore the IET 27179 will be re-considered once the zinc data is available from these centers and final decision will be based on yield superiority and zinc content (>24.0 ppm) as per the AICRIP proceedings.***

Performance of entries based on grain protein content

On overall basis, **IET 28692** had a protein content of 10.5%. IET 28692 was the only entry with a grain protein content >10.0% but its yield (4415 kg/ha) was not on par with the check (IR 64; 5323 kg/ha) **therefore, it is not promoted.**

Zone III

In Zone III, four entries (IET 28692 – 13.25%; IET 28699 – 10.06%; IET 28709 – 11.01% and IET 28714 – 10.05%) exhibited a grain protein content >10.0%. Among these four entries, IET 28714 (5398 kg/ha) showed a 18.9% yield superiority over the better check, IR 64 (4540 kg/ha) whereas IET 28699 (4561 kg/ha) exhibited on par yield with IR 64 (4540 kg/ha). **Therefore, IET 28714 and IET 28699 are promoted to 2nd year of testing based on grain protein content and yield.**

In **Zone VII**, IET 28692 despite having 10.39% grain protein content it did not exhibit any yield advantage or on par yield with IR 64 (BVC), **hence not promoted.**

Table 9.1: Composition of entries in Initial Variety Trial – Biofortification (IVT-Biofort), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
2nd year of testing				
4001	27984	HURS 17-6-IR 82475-110-2-2-1-2	IR 68144-2B-2-2-3-1-120 / IR64	LS
3rd year of testing				
4002	27179	CR 2826-1-1-2-4B-2-1	Swarna / ARC 10075	SB
1st year of testing				
4003	28005 (R)	RP 6315-IR 14M 102	BRRI Dhan 29 / IR 68144-2B-2-2-3-1-166 // IR 69428-6-1-1-3-3 /// IR 64 / 4 / IR 70114-5-3-3-3	MS
4004	28691	OR (CZ) 84-IR 128773-4-3-2-4-B	IR 84842-131-1-2-1-1-3 / MTU 1010	MS
4005	28692	BPT 2848 (RP 5727)	RP Bio 226*1 / IRGC 48493	MS
4006	28693	CSR HZR 17-4	IR 68144-2B-2-2-3-1-166 / Joryeongbyeo // BR802-118-4-2 (BRRI Dhan 29) /// Basmati 370 (ACC.6426) /4/ IR 72967-12-2-3 /5/ IR 05A193 / IR 75862-206-2-8-3-B // IR 69428-6-1-1-3-3 /// IR 05A199 / Joryeongbyeo // IR 69428-6-1-1-3-3 /4/ IR 00A117 /6/ IRO7F289 / 2* IR 69428-6-1-1-3-3 // IR 09	LS
4007	28694	GNV 1906	Selection from IR 99290-11-2-2	LS
4008	28695	RP Bio 4920-BC 4-88B	BPT 5204 / O. rufipogon	MS
4009	28696	RP 6364-IR93337:50-B-20-19-13-1RGA-2RGA-1-B (GID: 4432127)	IRRI 123 / Sanhuangzhan NO 2 // IR 77298-14-1-2-10/ IRO7F287 /// NSIC RC 158 / IR4630-22-2-5-1-3 // Fedearroz 50 / IR 45427-2B-2-2B-1-1	MS

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Entry No.	IET No.	Designation	Cross combination	Grain Type
4010	BPT 5204 (Yield Check)			
4011	28697	BRR 0140 (IR 15 M1537)	IRRI 123*2 / Joryeongbyeon	LS
4012	28698	CRAC 3994-2-5	Doubled haploid of CR Dhan 701	LS
4013	28699	NVSR 2756	IR 28 / Lalkada	LS
4014	28700	HURS 19-8-IR 95133:1-B-16-14-10-GBS-P5-1-3	Fedearroz 50 / Sanhuangzhan No 2 // IR 45427-2B-2-2B-1-1 / IR 07F287 /// IRRI 123 / IR 77298-14-1-2-10 // NSIC RC158 / IR 4630-22-2-5-1-3 /4/ Fedearroz 50 / IR 07F287 // IRRI 123 / IR 45427-2B-2-2B-1-1 /// Sanhuangzhan No 2 / NSIC RC 158 // IR 77298-14-1-2-10 / IR 4630-22-2-5-1-3 /5/ Fedearroz 50	LS
4015	28701	GNV 1905	Selection from IR 95097:3-B-16-11-4-GBS	LS
4016	28702	OR (CZ) 85-IR 99642-57-1-1-1-B	IR 91152-AC 438 / BR 29 /// IR 69428-6-1-1-3-3 / IR 06A147 // IR 75862-206-2-8-3-B-B-B / IR06A147	LS
4017	28703	RP 6362-IR15M1298 (GID:4289666)	IR 91145-AC 26 / IRRI 123 // OM 4498 /// IR 58 /4/ IR 69428-6-1-1-3-3 / IR 69807-13-2-1 // IR 58	LS
4018	IR 64 (Yield Check)			
4019	28704	R-RHZ-MI-93	MTU 1010 / IR 94033	LS
4020	28705	CR 2830-PLS-79-1	Swarna / ARC 10075	MS
4021	28706	RP Bio 4920- BC 4-83B	BPT 5204 / O. rufipogon	SB
4022	28707	OR (CZ)-75-3-1	PB-1 Mutant	LS
4023	28708	RP 6195-MC/RIL-SM1	MTU 1010 / Chittimuthyalu	LS
4024	28709	BPT 3136 (RP 5727)	RP Bio 226*1 / IRGC 48493	LS
4025	28710	SKL RR 1	Selection from PKV HMT	SS
4026	DRR Dhan 45 (Yield & Micro Nutrient Check)			
4027	28711	CR 2829-PLN-56-1	Naveen / ARC10075	MS
4028	28712	RP 6363-IR14M117 (GID: 4150550)	IR 68144-2B-2-2-3-1-166 / IR05N496 // IR 75862-206-2-8-3-B-B-B / IR 05N496 /// IR 83317-AC 15 / IR 68144-2B-2-2-3-1-166 // IR 83317-AC 71 / IR 68144-2B-2-2-3-1-166	MS
4029	28713	CSR HZR 17-41	PR 114 / BR 29 / 4/ IR 05A 193 /2* IR 69428-6-1-1-3-3 // BR 802 – 118-4-2 (BRRI Dhan 29) /// IR 65450-173-2-1-1-3-3 /5/ IR 09F 164 / MTU 1064 /4/ IR 05A193 / 2* IR 69428-6-1-1-3-3 // BR 802-118-4-2 (BRRI Dhan 29) /// IR65450-173-2-1-1-3-3	MS
4030	28714	NVSR 6158	Jaya / IR 71829-3R-82-1-1	LB
4031	28715	RP Bio 4920- BC 4-61-1B	BPT 5204 / O. rufipogon	MS
4032	28716	CSR HZR 17-1	IR 91145-AC 26 / IRRI 123 // OM 4498 /// IR 58 /4/ IR 69428-6-1-1-3-3 / IR 69807-13-2-1 // IR 58	LS
4033	28717	CR 2819-1-3-B-2-B-12-3B-1	IR64 / ARC 10075	MS
4034	28718	HURS 19-9-IR 128773-4-3-1-4-B	IR 84842-131-1-2-1-1-3 / MTU 1010	
4035	28719	BRR 0141 (IR 128788-5-1-1-1-B)	IR 84842-35-3-1-1-2-2 / Lalat	LS
4036	Chittimuthyalu (Micro Nutrient Check)			
4037	28720	R-RHZ-MI-94	Swarna / Danteshwari	
4038	28721	RP 6195-MC/RIL-SM5	MTU 1010 / Chittimuthyalu	LS

Table 9.2: Grain Yield (Kg/ha) of entries in IVT Biofort Kharif 2019

Entry No	IET No	ZONE II				ZONE II (1)		ZONE III					
		PU		HA				OD			BI		
		@LDN		KRL		mean		@CTK		@JYP		SBR	
4001	27984	3493	4	4590		4590		4815	4	5198		3738	
4002	27179	2630		4340		4340		4778	6	7941	1	4184	
4003	28005	1858		4550		4550		3144		3875		4195	
4004	28691	3225	5	5780	2	5780	2	4454		5476		4216	
4005	28692	657		2790		2790		4549	9	3895		4052	
4006	28693	2655		5140		5140		3088		5198		3435	
4007	28694	2489		5764	3	5764	3	2843		5572	8	4565	
4008	28695	2019		3990		3990		2730		4155		4732	8
4009	28696	2117		5560	8	5560	8	4850	3	6719	3	4450	
4010	BPT 5204 (YC)	1895		4270		4270		4023		5458		3470	
4011	28697	3613	1	4830		4830		3543		3241		3696	
4012	28698	1687		4450		4450		4545	10	4055		4216	
4013	28699	2132		3150		3150		3942		2925		3998	
4014	28700	1853		4310		4310		3429		4004		4175	
4015	28701	2862	10	5650	6	5650	6	4279		6637	4	5060	3 7%
4016	28702	3577	3	5730	4	5730	4	3663		5482	10	4990	4 6%
4017	28703	2986	8	5230		5230		4214		4516		4929	6
4018	IR 64 (YC)	2935	9	5830	1	5830	1	3001		4598		4091	
4019	28704	2443		5330	10	5330	10	4496		5195		5902	1 * 25%
4020	28705			5110		5110		4874	2	7391	2	3872	
4021	28706	2806		4530		4530		3812		5378		4261	
4022	28707	1765		5270		5270		3970		3268		4667	10
4023	28708	3157	6 *	2421		2421		3857		2733		4828	7
4024	28709	1511		4037		4037		2858		4019		3610	
4025	28710	947		3610		3610		3319		3926		3405	
4026	DRR Dhan 45 (YC & MNC)	1454		5730	4	5730	4	4659	8	5137		4727	9
4027	28711	2029		4660		4660		4782	5	5639	7	4514	
4028	28712	2484		4220		4220		3761		3972		3215	
4029	28713	3022	7	5470	9	5470	9	4707	7	3550		5193	2 * 10%
4030	28714	2060		4260		4260		4160		4112		4240	
4031	28715	1341		4080		4080		3479		5522	9	4190	
4032	28716	3613	1	5250		5250		3796		5177		3705	
4033	28717	1941		5610	7	5610	7	4233		5696	6	4155	
4034	28718	2428						4943	1	3715		4975	5 * 5%
4035	28719	2313		4790		4790		3785		3959		3519	
4036	Chittimuthyalu (MNC)			1898		1898		4160		5709	5	3482	
4037	28720	2795		4620		4620		3719		2283		4616	
4038	28721	1941		2370		2370		2567		3953		3305	
Exp. Mean		2354		4574		4574		3943		4718		4226	
CD		756.55		922.96		922.96		708.67		433.79		874.92	
CV%		15.83		9.95		9.95		8.87		4.54		10.22	
D/S		7/1/2019		7/12/2019				7/12/2019		7/2/2019		7/3/2019	
D/P		7/26/2019		8/1/2019				8/19/2019		7/24/2019		7/24/2019	

Table 9.2 contd.: Grain Yield (Kg/ha) of entries in IVT Biofort Kharif 2019

Entry No	IET No	Zone III						ZONE III (3)		
		UP			UP (2)					
		MSD		VRN		mean		mean		
4001	27984	4455		4350		4403		4181		
4002	27179	4122		5590		4856		4632		
4003	28005	4488		3580		4034		4088		
4004	28691	4189		3590		3890		3998		
4005	28692	3856		4880		4368		4263		
4006	28693	4920		5110		5015		4488		
4007	28694	5319	6	4830		5075		4905	6%	
4008	28695	5120	9	5520		5320	7	5124	7 *	11%
4009	28696	5652	4	5920	7	5786	4 * 11%	5341	3 *	16%
4010	BPT 5204 (YC)	4654		5730		5192	10	4618		
4011	28697	3790		3410		3600		3632		
4012	28698	4056		4300		4178		4191		
4013	28699	5386	5	4300		4843		4561		
4014	28700	4721		4280		4501		4392		
4015	28701	4521		5790	10	5156		5124	7 *	11%
4016	28702	3923		5960	6	4942		4958	9	7%
4017	28703	4887		5700		5294	8	5172	5 *	12%
4018	IR 64 (YC)	5718	2	3810		4764		4540		
4019	28704	4521		3360		3941		4594		
4020	28705	4521		7290	2 *	5906	3 * 14%	5228	4 *	13%
4021	28706	4156		6290	3	5223	9	4902	6%	
4022	28707	3790		5890	8	4840		4782		
4023	28708	5053	10	3430		4242		4437		
4024	28709	3657		4790		4224		4019		
4025	28710	5186	8	6210	4	5698	6 10%	4934	10	7%
4026	DRR Dhan 45 (YC & MNC)	3657		4420		4039		4268		
4027	28711	4588		3750		4169		4284		
4028	28712	5253	7	3300		4277		3923		
4029	28713	5718	2	5820	9	5769	5 11%	5577	1 *	21%
4030	28714	4654		7300	1 *	5977	2 * 15%	5398	2 *	17%
4031	28715	4388		4920		4654		4499		
4032	28716	4388		4990		4689		4361		
4033	28717			6120	5	6120	1 * 18%	5138	6 *	11%
4034	28718	4721		3730		4226		4475		
4035	28719	4721		3850		4286		4030		
4036	Chittimuthyalu (MNC)	4122		3500		3811		3701		
4037	28720	5818	1	3550		4684		4661		
4038	28721	4787		2000		3394		3364		
Exp. Mean		4634		4767		4720		4547		
CD		589.66		1003.81		580.62		503.17		
CV%		6.27		10.39		6.07		5.46		
D/S		7/6/2019		7/2/2019						
D/P		8/5/2019		21-07-2019						

Table 9.2 contd.: Grain Yield (Kg/ha) of entries in IVT Biofort Kharif 2019

Entry No	IET No	ZONE V										ZONE V (4)	
		MP		CH		MA 1		MA 1(2)					
		WRS		RPR		SKL		SND		mean		mean	
4001	27984	6425		4025		4009		3973		3991		4608	
4002	27179	7684	4 4.86%	4463		5033	8	4837	8	4935	9 * 22%	5504	6 8%
4003	28005	6007		4200		3856		4901	6	4379	8%	4741	
4004	28691	5516		4720	9	4774		2698		3736		4427	
4005	28692	5473		4090		3032		3676		3354		4068	
4006	28693	5719		3870		4295		4178		4237	4.85%	4516	
4007	28694	6689		3865		4202		4157		4180		4728	
4008	28695	4496		4259		3863		2507		3185		3781	
4009	28696	4834		4583		4435		4228		4332	7%	4520	
4010	BPT 5204 (YC)	3882		4521		3338		4518		3928		4065	
4011	28697	4109		4114		3471		3102		3287		3699	
4012	28698	6923		4539		4987	10	5276	3	5132	5 * 27%	5431	8 7%
4013	28699	5332		4341		2719		4547		3633		4235	
4014	28700	4846		3786		4056		3187		3622		3969	
4015	28701	7267	9	4292		4561		3654		4108		4944	
4016	28702	6229		5174	3	5479	2	4830	9	5155	4 * 28%	5428	9 7%
4017	28703	4079		5603	1 * 13%	4501		3470		3986		4413	
4018	IR 64 (YC)	7328	8	4967	6	4448		3633		4041		5094	
4019	28704	7365	7	4571		4668		5050	4	4859	10 * 20%	5414	10 6%
4020	28705	8016	2 * 9%	5207	2 4.83%	5306	4	4830	9	5068	6 * 25%	5840	2 * 15%
4021	28706	4957		4474		3324		3888		3606		4161	
4022	28707	5885		3370		4455		3683		4069		4348	
4023	28708	3655		3645		4302		4632		4467	11%	4059	
4024	28709	6296		3956		2493		3895		3194		4160	
4025	28710	6566		4220		4787		4724		4756	* 18%	5074	
4026	DRR Dhan 45	5915		2931		4574		3229		3902		4162	
4027	28711	5872		4209		5020	9	4143		4582	13%	4811	
4028	28712	5762		3703		3684		3612		3648		4190	
4029	28713	7383	6	4731	8	5459	3	4915	5	5187	3 * 28%	5622	5 * 10%
4030	28714	7580	5	4355		5080	6	5552	2 *	5316	2 * 32%	5642	4 * 11%
4031	28715	5104		3902		2859		4178		3519		4011	
4032	28716	4988		4708	10	3637		4405		4021		4435	
4033	28717	8593	1 * 17%	4080		5060	7	5715	1 *	5388	1 * 33%	5862	1 * 15%
4034	28718	7887	3 * 8%	4987	5	5512	1	4511		5012	8 * 24%	5724	3 * 12%
4035	28719	7131	10	4756	7	5266	5	4844	7	5055	7 * 25%	5499	7 8%
4036	Chittimuthyalu (MNC)	3077		3649		2699		3492		3096		3229	
4037	28720	4982		5173	4	4827		3548		4188		4633	
4038	28721	5528		2608		4249		3881		4065		4067	
Exp. Mean		5931.07		4280.18		4271.59		4160.58		4216.09		4660.86	
CD		890.57		529.19		1055.17		862.19		662.47		412.23	
CV%		7.41		6.1		12.19		10.23		7.75		4.37	
D/S		7/4/2019		6/28/2019		7/3/2019		7/5/2019					
D/P		7/31/2019		7/25/2019		7/22/2019		7/31/2019					

Table 9.2 contd.: Grain Yield (Kg/ha) of entries in IVT Biofort Kharif 2019

Entry No	IET No	ZONE VI															
		MA 2				MA 2 (2)				MA (4)				GU		GU (2)	
		KJT		SHR		Mean		Mean		NVS		NWG		mean			
4001	27984	5240	5 *	6759	2 *	6000	1 *	21%	4995	4	11%	4019		5040		4530	
4002	27179	4554		3681		4118			4526			4877	8	6699	1	5788	1 10%
4003	28005	4704		4803		4754			4566			3594		5061		4328	
4004	28691	4531		2431		3481			3609			3960		5788	6	4874	
4005	28692	4808	10	4514		4661			4008			5455	4	5112		5284	6
4006	28693	4263		5394	9	4829			4533			3934		5392		4663	
4007	28694	5042	7	5069		5056	10		4618			4408		5266		4837	
4008	28695	4397		3819		4108			3647			4472		4996		4734	
4009	28696	5429	2 *	3044		4237			4284			4219		5966	4	5093	9
4010	BPT 5204 (YC)	3019		2593		2806			3367			3847		5395		4621	
4011	28697	4018		4109		4064			3675			4006		5122		4564	
4012	28698	4073		2975		3524			4328			3935		3671		3803	
4013	28699	4566		2801		3684			3658			2989		4515		3752	
4014	28700	4362		5660	7	5011			4316			4182		5671	9	4927	
4015	28701	4894	9	6586	3 *	5740	3 *	16%	4924	5	9%	5117	6	5673	8	5395	4
4016	28702	4526		6968	1 *	5747	2 *	16%	5451	1	21%	5491	3	5177		5334	5
4017	28703	5625	1 *	4780		5203	7	4.71%	4594			4215		5179		4697	
4018	IR 64 (YC)	4614		5324		4969			4505			4799	10	5688	7	5244	7
4019	28704	4446		4780		4613			4736	10	5%	4337		5882	5	5110	8
4020	28705	4112		5243		4678			4873	8	8%	5139	5	6174	3	5657	2 8%
4021	28706	4547		5231		4889			4248			3137		4952		4045	
4022	28707	4029		5359		4694			4382			4348		5379		4864	
4023	28708	4387		2604		3496			3981			3779		3713		3746	
4024	28709	4704		5370	10	5037			4116			3925		4422		4174	
4025	28710	4020		3171		3596			4176			2905		4461		3683	
4026	DRR Dhan 45	4588		4919		4754			4328			5493	2	3992		4743	
4027	28711	5407	3 *	4988		5198	8	4.61%	4890	6	9%	3766		5452		4609	
4028	28712	4985	8	5949	6	5467	4	10%	4558			3727		4033		3880	
4029	28713	4244		6296	4 *	5270	6	6%	5229	3		5602	1	5417		5510	3 * 5%
4030	28714	3723		4977		4350			4833	9		3545		6474	2	5010	10
4031	28715	4057		3900		3979			3749			3595		4194		3895	
4032	28716	5253	4	4653		4953			4487			4464		3954		4209	
4033	28717	4643		6285	5 *	5464	5	10%	5426	2	20%	4077		5641	10	4859	
4034	28718	4025		5498	8	4762			4887	7	8%	4851	9	4958		4905	
4035	28719	4127		3958		4043			4549			5078	7	4934		5006	
4036	Chittimuthyalu (MNC)	3231		2708		2970			3033			3450		4455		3953	
4037	28720	5111	6	5266		5189	9		4688			4188		3215		3702	
4038	28721	3714		3588		3651			3858			3506		3561		3534	
Exp. Mean		4474		4633		4554			4385			4222		5018		4620	
CD		735.98		839		575.91						971.48		1403.62		864.63	
CV%		8.12		8.94		6.24						11.36		13.81		9.24	
D/S		7/4/2019		7/1/2019								7/4/2019		7/7/2019			
D/P		8/5/2019		7/18/2019								8/5/2019		8/20/2019			

Table 9.2 contd.: Grain Yield (Kg/ha) of entries in IVT Biofort Kharif 2019

Entry No	IET No	ZONE VI (4)		ZONE VII							
				AP		TE		TA		TA (2)	
		mean		MTU		RNR		ADT		CBT	
4001	27984	5265	4	5491	2 * 30%	4580		4556		4783	
4002	27179	4953	10	4783	3 13%	4622		4722		6178	
4003	28005	4541		3635		4461		5056	9	6909	1
4004	28691	4178		3770		5144		4722		6645	8
4005	28692	4972	8	3777		3581		3833		6764	5
4006	28693	4746		3811		4851		4722		6870	2
4007	28694	4946		4398	5	4795		4444		6207	
4008	28695	4421		4090		5333	9	5833	3 *	6083	
4009	28696	4665		3948		5109		6000	2 *	6721	6
4010	BPT 5204 (YC)	3714		4227	10	5276	10	5111	7	4384	
4011	28697	4314		3873		3976		4250		4413	
4012	28698	3664		4093		4435		4111		6772	4
4013	28699	3718		3780		3717		3722		4165	
4014	28700	4969	9	3545		3670		4056		5116	
4015	28701	5568	1 9%	3708		5818	3 10%	6222	1 *	6525	
4016	28702	5541	2 9%	4348	6	5785	4 10%	5194	6	6688	7
4017	28703	4950		4072		4116		5556	4	4178	
4018	IR 64 (YC)	5106	7	3872		4277		4250		6846	3
4019	28704	4861		4680	4 11%	4554		5056	9	6243	
4020	28705	5167	5	5622	1 * 33%	5878	1 11%	4611		4167	
4021	28706	4467		4223		5857	2 11%	5111	7	5851	
4022	28707	4779		4196		5267		4444		5873	
4023	28708	3621		3560		2449		3611		2777	
4024	28709	4605		3880		4682		3944		4909	
4025	28710	3639		3652		3928		4444		5594	
4026	DRR Dhan 45 (YC & MNC)	4748		3854		4865		4556		6290	
4027	28711	4903		3929		4994		4722		5533	
4028	28712	4674		4045		4611		4722		5848	
4029	28713	5390	3 6%	4314	8	5615	8 6%	5250	5	5757	
4030	28714	4680		3836		5778	5 10%	4611		4261	
4031	28715	3937		4073		5754	6 9%	4167		4754	
4032	28716	4581		4331	7	4655		4333		6639	9
4033	28717	5162	6	3733		5706	7 8%	4917		5678	
4034	28718	4833		4277	9	5178		4944		6498	
4035	28719	4524		4007		5236		4722		6554	10
4036	Chittimuthyalu (MNC)	3461		3568		4202		4000		3525	
4037	28720	4445		3770		1774		3944		4913	
4038	28721	3592		4153		3134		4167		3464	
Exp. Mean		4587		4077		4675		4648		5563	
CD		501.88		858.87		884.58		713.06		1397.9	
CV%		5.4		10.4		9.34		7.57		12.4	
D/S				7/8/2019		6/26/2019		9/2/2019		8/13/2019	
D/P				8/9/2019		7/17/2019		10/3/2019		9/20/2019	

Table 9.2 contd.: Grain Yield (Kg/ha) of entries in IVT Biofort Kharif 2019

Entry No	IET No							ZONE VII							
		KE			KE (2)			KA							
		MNC		PTB		mean		MND		@MGD		@SRS		GNV	
4001	27984	5476		6053		5765		4929		2712		659		8603	10
4002	27179	3902		6182		5042		5778	2	2196		1050	2	8141	
4003	28005	4215		4257		4236		4623		2488		695		7923	
4004	28691	5529	9	8529	10	7029	6	5687	5	4654		659		9737	2 *
4005	28692	4127		4368		4248		3992		3489		581		6115	
4006	28693	4330		4849		4590		5333	7	5504	8	768		8256	
4007	28694	5388		6280		5834		5278	9	4999		693		9391	5 *
4008	28695	4480		8580	8	6530		3873		4869		473		7814	
4009	28696	5851	4	11092	1 *	8472	1 * 17%	5270	10	4989		861		7923	
4010	BPT 5204 (YC)	4233		6607		5420		4397		5249		448		6199	
4011	28697	3175		8928	6	6052		3651		3773		393		7212	
4012	28698	6358	2	4315		5337		4687		4352		698		8679	8
4013	28699	4590		6145		5368		4012		4705		655		7192	
4014	28700	4466		8554	9	6510		3651		5334		541		6115	
4015	28701	6966	1 *	6436		6701	10	5734	3	4704		1000	3	8949	7
4016	28702	4577		6715		5646		5718	4	4704		1177	1	8417	
4017	28703	5485	10	4346		4916		2833		6231	4	613		7744	
4018	IR 64 (YC)	4991		9466	5	7229	2	4413		5704	7	972	5	8090	
4019	28704	4096		6310		5203		5067		5450	10	875	10	8615	9
4020	28705	4735		8713	7	6724	9	5024		7521	1	977	4	9558	4 *
4021	28706	5035		6472		5754		4036		4427		636		7603	
4022	28707	5802	5	7872		6837	7	3619		5213		755		8436	
4023	28708	2412		10487	2	6450		3365		2625		698		5212	
4024	28709	5626	8	6270		5948		3889		5321		719		6788	
4025	28710	5101		8410		6756	8	4571		5929	6	765		5641	
4026	DRR Dhan 45 (YC & MNC)	4431		9785	3	7108	4	4798		5446		528		7372	
4027	28711	3818		8413		6116		5687	5	6241	3	945	7	9808	1 *
4028	28712	4330		6687		5509		4087		4098		278		7192	
4029	28713	5935	3	6634		6285		4294		4054		970	6	9333	6
4030	28714	4303		8147		6225		3905		4893		918	8	8596	
4031	28715	4259		6345		5302		3925		3768		874		7096	
4032	28716	4894		6521		5708		4381		4821		430		6814	
4033	28717	4749		9650	4	7200	3	5155		7518	2	893	9	9647	3 *
4034	28718	5635	7	8498		7067	5	6063	1 *	5482	9	724		8538	
4035	28719	4436		6885		5661		5317	8	5946	5	793		8372	
4036	Chittimuthyalu (MNC)	3721		6238		4980		2734		4625		597		5673	
4037	28720	5679	6	6396		6038		4869		4625		354		5622	
4038	28721	2884		6676		4780		3579		3741		453		5865	
Exp. Mean		4737		7187		5962		4532		4800		713		7744	
CD		1571.57		1241.72		1083.09		1104.98		2201.45		253.97		1286.68	
CV%		16.37		8.53		8.97		12.03		22.63		17.57		8.2	
D/S		9/23/2019		7/5/2019				8/7/2019		6/17/2019		6/29/2019		8/7/2019	
D/P		10/10/2019		7/24/2019				8/28/2019				8/1/2019		9/1/2019	

Table 9.2 contd.: Grain Yield (Kg/ha) of entries in IVT Biofort Kharif 2019

Entry No	IET No						
		KA (2)		ZONE VII (8)		Overall (20)	
		mean		mean		mean	
4001	27984	6766	8%	5559		5055	
4002	27179	6960	9 11%	5539		5219	
4003	28005	6273		5135		4751	
4004	28691	7712	2 * 23%	6220	3 * 8%	5098	
4005	28692	5054		4570		4415	
4006	28693	6795	9%	5378		4934	
4007	28694	7335	5 * 17%	5773		5268	9
4008	28695	5844		5761		4913	
4009	28696	6597	6%	6489	1 * 12%	5512	7
4010	BPT 5204 (YC)	5298		5054		4484	
4011	28697	5432		4935		4363	
4012	28698	6683	7%	5431		4843	
4013	28699	5602		4665		4298	
4014	28700	4883		4897		4620	
4015	28701	7342	4 * 17%	6295	2 * 9%	5671	2 * 7%
4016	28702	7068	8 13%	5930	7	5596	5 * 5%
4017	28703	5289		4791		4826	
4018	IR 64 (YC)	6252		5776	10	5323	8
4019	28704	6841	9%	5578		5242	
4020	28705	7291	7 * 17%	6039	6	5656	4 * 6%
4021	28706	5820		5524		4897	
4022	28707	6028		5689		5082	
4023	28708	4289		4234		4016	
4024	28709	5339		4999		4557	
4025	28710	5106		5168		4730	
4026	DRR Dhan 45 (YC & M)	6085		5744		5006	
4027	28711	7748	1 * 24%	5863	9	5164	
4028	28712	5640		5190		4648	
4029	28713	6814	9%	5892	8	5669	3 * 7%
4030	28714	6251		5430		5259	10
4031	28715	5511		5047		4487	
4032	28716	5598		5321		4848	
4033	28717	7401	3 * 18%	6154	5 * 7%	5748	1 * 8%
4034	28718	7301	6 * 17%	6204	4 * 7%	5541	6
4035	28719	6845	10 9%	5691		5125	
4036	Chittimuthyalu (MNC)	4204		4208		3671	
4037	28720	5246		4621		4594	
4038	28721	4722		4240		3851	
Exp. Mean		6138		5396		4921	
CD		912.41		446.64		256.28	
CV%		7.34		4.09		2.57	
D/S							
D/P							

Table 9.3: Days to 50% Flowering of entries in IVT Biofort Kharif 2019

Entry No	IET No	ZONE II		ZONE II (1)	ZONE III						ZONE III (3)
		PU	HA (1)		OD		BI (1)	UP		UP (2)	
		@LDN	KRL	Mean	@CTK	@JYP	SBR	MSD	VRN	Mean	Mean
4001	27984	96	96	96	108	105	88	97	89	93	91
4002	27179	96	89	89	106	109	93	72	92	82	86
4003	28005	95	87	87	104	99	81	101	90	96	91
4004	28691	90	90	90	102	107	83	96	84	90	88
4005	28692	95	95	95	108	103	84	99	90	94	91
4006	28693	95	89	89	104	92	80	103	96	99	93
4007	28694	95	94	94	103	103	90	105	87	96	94
4008	28695	108	106	106	109	108	110	103	111	107	108
4009	28696	95	93	93	105	96	86	98	85	92	90
4010	BPT 5204 (YC)	116	111	111	116	125	106	97	110	103	104
4011	28697	86	83	83	97	91	82	99	76	87	85
4012	28698	88	93	93	104	94	87	95	83	89	88
4013	28699	83	82	82	94	95	84	98	76	87	86
4014	28700	100	95	95	103	94	93	98	96	97	96
4015	28701	98	94	94	105	117	94	103	98	100	98
4016	28702	92	91	91	103	98	86	109	80	94	92
4017	28703	88	88	88	108	105	94	97	90	94	94
4018	IR 64 (YC)	86	83	83	101	95	82	95	76	85	84
4019	28704	86	85	85	99	94	106	103	78	90	96
4020	28705		117	117	113	96	81	97	100	99	93
4021	28706	108	110	110	108	112	110	103	104	103	105
4022	28707	109	106	106	113	115	99	104	98	101	100
4023	28708	88	92	92	97	92	81	97	75	86	84
4024	28709	103	112	112	112	112	94	103	102	102	99
4025	28710	109	119	119	110	117	116	110	108	109	111
4026	DRR Dhan 45 (YC & MNC)	95	95	95	108	108	88	111	84	98	94
4027	28711	88	93	93	99	98	82	95	80	88	86
4028	28712	83	82	82	100	99	83	97	78	87	86
4029	28713	106	103	103	103	106	92	102	94	98	96
4030	28714	110	117	117	111	118	87	96	105	100	96
4031	28715	115	121	121	115	120	116	112	111	111	113
4032	28716	112	75	75	100	93	78	91	77	84	82
4033	28717	95	95	95	112	115	83		106	106	94
4034	28718	86			104	96	95	97	80	88	91
4035	28719	88	91	91	103	97	91	96	78	87	88
4036	Chittimuthyalu (MNC)		122	122	117	110	90	98	117	108	102
4037	28720	86	86	86	100	92	84	97	88	92	89
4038	28721	89	95	95	104	101	92	93	80	86	88
Exp. Mean		96	96	96	105	103	91	99	91	95	93

Table 9.3 contd.: Days to 50% Flowering of entries in IVT Biofort Kharif 2019

Entry No	IET No	ZONE V					ZONE V (4)
		MP (1)	CH (1)	MA 1		MA 1 (2)	
		WRS	RPR	SKL	SND	Mean	
4001	27984	92	90	82	93	87	89
4002	27179	95	95	84	95	89	92
4003	28005	93	90	83	94	88	90
4004	28691	93	88	82	90	86	88
4005	28692	95	91	83	92	87	90
4006	28693	95	90	82	91	87	89
4007	28694	90	88	81	92	86	88
4008	28695	102	105	92	104	98	100
4009	28696	96	96	83	92	88	92
4010	BPT 5204 (YC)	112	106	104	107	105	107
4011	28697	90	82	80	87	83	84
4012	28698	96	90	83	89	86	89
4013	28699	92	86	75	88	81	85
4014	28700	95	90	82	90	86	89
4015	28701	96	98	86	95	90	94
4016	28702	94	96	82	92	87	91
4017	28703	100	96	90	102	96	97
4018	IR 64 (YC)	91	86	80	88	84	86
4019	28704	90	86	80	89	84	86
4020	28705	112	111	101	112	106	109
4021	28706	96	104	100	94	97	98
4022	28707	104	103	99	107	103	103
4023	28708	86	87	79	87	83	85
4024	28709	98	98	92	98	95	96
4025	28710	104	109	100	110	105	105
4026	DRR Dhan 45 (YC & MNC)	94	94	82	94	88	91
4027	28711	101	89	80	88	84	89
4028	28712	100	87	80	89	84	89
4029	28713	107	92	85	93	89	94
4030	28714	96	102	94	102	98	98
4031	28715	106	110	102	106	104	106
4032	28716	88	89	77	89	83	85
4033	28717	96	100	86	100	93	95
4034	28718	91	88	81	91	86	87
4035	28719	92	86	82	90	86	87
4036	Chittimuthyalu (MNC)	109	110	105	111	108	108
4037	28720	88	85	80	90	85	85
4038	28721	111	89	83	92	87	94
Exp. Mean		97	94	86	95	90	93

Table 9.3 contd.: Days to 50% Flowering of entries in IVT Biofort Kharif 2019

Entry No	IET No	ZONE VI							ZONE VI (4)
		MA 2		MA 2 (2)	MA (4)	GU		GU (2)	
		KJT	SHR	Mean	Mean	NVS	NWG	Mean	
4001	27984	89	89	89	88	93	91	92	90
4002	27179	95	88	92	90	94	95	94	93
4003	28005	93	89	91	90	89	95	92	91
4004	28691	93	88	90	88	89	91	90	90
4005	28692	93	90	91	89	94	99	96	94
4006	28693	96	85	90	88	84	100	92	91
4007	28694	90	86	88	87	87	95	91	89
4008	28695	96	97	96	97	103	104	103	100
4009	28696	96	93	95	91	88	99	93	94
4010	BPT 5204 (YC)	105	93	99	102	105	109	107	103
4011	28697	90	86	88	85	83	90	86	87
4012	28698	90	88	89	87	86	92	89	89
4013	28699	83	89	86	84	77	92	84	85
4014	28700	93	89	91	88	89	97	93	92
4015	28701	91	93	92	91	95	98	96	94
4016	28702	95	87	91	89	93	92	92	91
4017	28703	96	97	96	96	94	99	96	96
4018	IR 64 (YC)	90	79	84	84	81	92	86	85
4019	28704	87	88	87	86	85	90	87	87
4020	28705	104	109	106	106	107	109	108	107
4021	28706	96	98	97	97	99	110	104	100
4022	28707	101	98	99	101	97	102	99	99
4023	28708	86	83	85	84	85	99	92	88
4024	28709	95	97	96	95	96	103	99	97
4025	28710	102	101	101	103	104	94	99	100
4026	DRR Dhan 45 (YC & MNC)	91	86	88	88	94	94	94	91
4027	28711	90	80	85	84	87	97	92	88
4028	28712	87	87	87	86	89	95	92	89
4029	28713	96	101	99	94	98	98	98	98
4030	28714	102	98	100	99	104	102	103	101
4031	28715	98	95	97	100	110	110	110	103
4032	28716	85	87	86	84	80	94	87	86
4033	28717	92	97	94	93	95	104	99	97
4034	28718	87	87	87	86	88	91	89	88
4035	28719	86	86	86	86	87	94	90	88
4036	Chittimuthyalu (MNC)	101	113	107	107	104	103	103	105
4037	28720	86	83	84	84	81	88	84	84
4038	28721	89	90	89	88	91	87	89	89
Exp. Mean		93	91	92	91	92	97	94	93

Table 9.3 contd.: Days to 50% Flowering of entries in IVT Biofort Kharif 2019

Entry No	IET No	ZONE VII							
		AP (1)	TE (1)	TA		TA (2)	KE		KE (2)
		MTU	RNR	ADT	CBT	Mean	MNC	PTB	Mean
4001	27984	91	115	87	96	91	83	98	90
4002	27179	91	112	95	99	97	91	98	94
4003	28005	90	115	94	98	96	81	99	90
4004	28691	89	111	82	89	86	81	93	87
4005	28692	92	119	86	98	92	86	98	92
4006	28693	91	116	84	93	88	81	99	90
4007	28694	96	117	88	93	91	85	95	90
4008	28695	100	115	97	106	102	96	98	97
4009	28696	93	120	95	97	96	87	96	91
4010	BPT 5204 (YC)	94	123	79	109	94	94	95	95
4011	28697	87	111	77	89	83	78	96	87
4012	28698	89	111	86	92	89	82	96	89
4013	28699	90	111	95	81	88	79	92	85
4014	28700	92	111	89	94	91	82	95	88
4015	28701	96	116	91	100	95	85	97	91
4016	28702	90	115	77	95	86	85	97	91
4017	28703	93	114	94	109	102	92	96	94
4018	IR 64 (YC)	88	111	82	90	86	91	97	94
4019	28704	87	111	82	89	86	78	98	88
4020	28705	102	125	98	113	105	94	98	96
4021	28706	99	113	94	105	100	90	90	90
4022	28707	96	122	95	109	102	88	94	91
4023	28708	89	111	77	88	82	76	97	86
4024	28709	96	122	93	94	93	89	95	92
4025	28710	93	111	84	89	86	86	98	92
4026	DRR Dhan 45 (YC & MNC)	93	115	94	99	96	85	91	88
4027	28711	89	112	83	92	87	88	97	92
4028	28712	87	116	86	90	88	88	95	91
4029	28713	96	116	88	95	92	89	91	90
4030	28714	105	115	96	108	102	86	94	90
4031	28715	103	115	96	110	103	96	93	94
4032	28716	90	112	79	93	86	79	93	86
4033	28717	99	115	93	104	99	81	98	89
4034	28718	87	109	86	89	87	93	99	96
4035	28719	88	111	84	90	87	80	92	86
4036	Chittimuthyalu (MNC)	90	107	83	87	85	77	92	84
4037	28720	85	110	74	89	82	81	87	84
4038	28721	90	115	81	91	86	80	86	83
Exp. Mean		92	114	87	96	92	85	95	90

Table 9.3 contd.: Days to 50% Flowering of entries in IVT Biofort Kharif 2019

Entry No	IET No	ZONE VII					ZONE VII (8)	Overall (20)
		KA				KA (2)		
		MND	@MGD	@SRS	GNV	Mean		
4001	27984	97	129	109	96	97	95	92
4002	27179	91	138	117	108	100	98	93
4003	28005	89	129	109	96	92	95	92
4004	28691	89	129	105	96	93	91	90
4005	28692	90	129	106	100	95	96	93
4006	28693	86	126	105	95	91	93	92
4007	28694	86	123	107	95	91	94	92
4008	28695	102	136	117	110	106	103	103
4009	28696	91	127	107	100	95	97	94
4010	BPT 5204 (YC)	106	139	117	109	107	101	103
4011	28697	86	121	102	90	88	89	87
4012	28698	91	128	113	92	91	92	90
4013	28699	86	121	106	90	88	90	87
4014	28700	85	120	102	90	88	92	92
4015	28701	90	126	111	100	95	97	96
4016	28702	91	125	112	93	92	93	92
4017	28703	108	128	117	87	98	99	97
4018	IR 64 (YC)	84	118	103	92	88	92	88
4019	28704	86	120	105	90	88	90	89
4020	28705	96	139	117	112	104	105	105
4021	28706	101	131	117	102	101	99	101
4022	28707	100	131	119	107	103	101	101
4023	28708	83	118	98	94	89	89	87
4024	28709	92	127	113	102	97	98	98
4025	28710	94	137	117	97	95	94	101
4026	DRR Dhan 45 (YC & MNC)	92	126	111	94	93	95	93
4027	28711	90	121	105	97	93	93	90
4028	28712	89	121	103	94	92	93	90
4029	28713	88	121	105	96	92	95	96
4030	28714	104	130	117	113	108	102	101
4031	28715	108	137	102	109	108	104	106
4032	28716	83	121	130	90	87	90	86
4033	28717	100	137	105	111	105	100	97
4034	28718	88	116	117	89	88	92	90
4035	28719	93	126	105	97	95	92	89
4036	Chittimuthyalu (MNC)	85	131	115	90	87	89	99
4037	28720	87	124	99	91	89	88	87
4038	28721	90	126	107	93	92	91	91
Exp. Mean		92	127	110	97	95	95	94

Table 9.4: Plant Height of entries in IVT Biofort Kharif 2019

Entry No	IET No	ZONE II		ZONE II (1)	ZONE III						ZONE III (3)
		PU	HA (1)		OD		BI (1)	UP		UP (2)	
		@LDN	KRL	Mean	@CTK	@JYP	SBR	MSD	VRN	Mean	Mean
4001	27984	88	103	103	102	81	101	102	101	102	101
4002	27179	115	134	134	109	137	118	120	126	123	121
4003	28005	97	105	105	93	106	109	85	94	89	96
4004	28691	99	109	109	105	105	109	102	102	102	104
4005	28692	109	125	125	121	103	109	104	121	113	111
4006	28693	113	126	126	103	113	131	122	130	126	128
4007	28694	110	122	122	97	101	122	112	122	117	118
4008	28695	86	84	84	82	75	95	115	90	103	100
4009	28696	118	126	126	103	109	123	95	131	113	116
4010	BPT 5204 (YC)	81	80	80	93	76	98	102	90	96	96
4011	28697	105	101	101	97	79	103	95	97	96	98
4012	28698	117	123	123	111	97	124	103	121	112	116
4013	28699	99	99	99	90	90	112	104	101	102	106
4014	28700	99	101	101	99	88	121	102	108	105	110
4015	28701	94	114	114	109	107	120	120	119	119	120
4016	28702	120	127	127	110	113	124	85	128	107	112
4017	28703	91	104	104	94	92	101	106	101	104	103
4018	IR 64 (YC)	110	108	108	97	100	104	91	109	100	101
4019	28704	95	106	106	95	84	104	92	98	95	98
4020	28705		76	76	93	97	99	95	100	98	98
4021	28706	81	85	85	87	78	93	82	92	87	89
4022	28707	112	121	121	123	115	122	95	131	113	116
4023	28708	130	143	143	122	104	107	104	127	116	113
4024	28709	89	99	99	91	83	105	115	102	109	107
4025	28710	82	80	80	89	76	99	24	92	58	72
4026	DRR Dhan 45 (YC & MNC)	103	115	115	102	104	114	84	122	103	107
4027	28711	113	133	133	102	104	114	92	113	102	106
4028	28712	109	110	110	97	88	110	105	106	105	107
4029	28713	102	109	109	102	105	114	110	113	111	112
4030	28714	85	85	85	92	93	115	82	92	87	96
4031	28715	78	73	73	89	79	92	70	93	81	85
4032	28716	108	113	113	97	89	109	113	110	112	111
4033	28717	116	122	122	115	122	95		129	129	112
4034	28718	104			97	97	100	104	100	102	101
4035	28719	106	123	123	100	99	112	92	104	98	103
4036	Chittimuthyalu (MNC)		85	85	91	93	105	100	94	97	100
4037	28720	89	102	102	92	67	101	103	94	99	99
4038	28721	103	101	101	92	90	106	220	94	157	140
Exp. Mean		101	107	107	100	96	109	101	108	105	106

Table 9.4 contd.: Plant Height of entries in IVT Biofort Kharif 2019

Entry No	IET No	ZONE V					ZONE V (4)
		MP (1)	CH (1)	MA 1		MA 1 (2)	
		WRS	RPR	SKL	SND	Mean	
4001	27984	112	96	100	89	95	99
4002	27179	134	135	145	111	128	131
4003	28005	106	96	99	92	96	98
4004	28691	113	105	110	99	104	107
4005	28692	124	123	115	113	114	119
4006	28693	122	124	120	106	113	118
4007	28694	123	110	119	98	109	112
4008	28695	97	87	96	85	90	91
4009	28696	116	121	119	104	112	115
4010	BPT 5204 (YC)	95	88	96	83	89	91
4011	28697	102	94	97	94	95	97
4012	28698	125	126	118	116	117	121
4013	28699	106	112	101	80	90	100
4014	28700	116	109	96	93	94	103
4015	28701	124	122	120	99	109	116
4016	28702	128	143	124	113	118	127
4017	28703	106	97	97	91	94	98
4018	IR 64 (YC)	118	113	116	88	102	109
4019	28704	112	97	113	80	97	101
4020	28705	98	96	97	98	97	97
4021	28706	98	88	86	82	84	89
4022	28707	134	127	105	114	109	120
4023	28708	124	124	143	115	129	127
4024	28709	103	94	94	84	89	94
4025	28710	107	89	97	85	91	95
4026	DRR Dhan 45 (YC & MNC)	114	114	109	96	102	108
4027	28711	124	119	117	96	106	114
4028	28712	111	107	106	93	100	104
4029	28713	107	109	116	100	108	108
4030	28714	120	81	89	93	91	96
4031	28715	98	90	84	81	82	88
4032	28716	114	121	104	96	100	109
4033	28717	117	125	127	116	121	121
4034	28718	116	88	118	97	108	105
4035	28719	115	110	119	91	105	109
4036	Chittimuthyalu (MNC)	125	95	93	88	91	100
4037	28720	108	90	98	75	87	93
4038	28721	103	98	110	81	96	98
Exp. Mean		114	107	108	95	102	106

Table 9.4 contd.: Plant Height of entries in IVT Biofort Kharif 2019

Entry No	IET No	ZONE VI							ZONE VI (4)
		MA 2		MA 2 (2)	MA (4)	GU		GU (2)	
		KJT	SHR	Mean	Mean	NVS	NWG	Mean	Mean
4001	27984	108	95	101	98	89	108	98	100
4002	27179	137	135	136	132	117	134	125	131
4003	28005	104	112	108	102	88	107	97	103
4004	28691	105	117	111	107	104	106	105	108
4005	28692	117	106	111	113	117	119	118	115
4006	28693	131	140	135	124	119	142	130	133
4007	28694	121	121	121	115	107	113	110	115
4008	28695	93	97	95	92	93	96	94	95
4009	28696	127	137	132	122	109	121	115	123
4010	BPT 5204 (YC)	98	100	99	94	107	96	102	100
4011	28697	98	108	103	99	105	97	101	102
4012	28698	121	125	123	120	114	112	113	118
4013	28699	104	99	102	96	103	109	106	104
4014	28700	106	111	108	101	106	104	105	107
4015	28701	107	118	112	111	100	101	101	106
4016	28702	115	131	123	120	117	124	121	122
4017	28703	107	104	105	100	95	103	99	102
4018	IR 64 (YC)	101	111	106	104	107	103	105	106
4019	28704	102	104	103	100	100	100	100	101
4020	28705	108	110	109	103	104	101	102	106
4021	28706	93	101	97	90	95	81	88	92
4022	28707	131	124	127	118	123	117	120	124
4023	28708	125	136	130	130	125	122	123	127
4024	28709	101	99	100	94	110	107	109	104
4025	28710	97	101	99	95	105	71	88	94
4026	DRR Dhan 45 (YC & MNC)	117	132	125	113	111	101	106	115
4027	28711	113	117	115	111	124	121	122	119
4028	28712	115	107	111	105	114	105	110	110
4029	28713	116	106	111	109	119	117	118	114
4030	28714	97	93	95	93	97	86	92	93
4031	28715	93	90	91	87	97	72	84	88
4032	28716	103	117	110	105	113	92	102	106
4033	28717	119	123	121	121	116	111	113	117
4034	28718	101	116	108	108	112	102	107	108
4035	28719	109	114	111	108	118	106	112	112
4036	Chittimuthyalu (MNC)	101	112	106	98	117	112	114	110
4037	28720	100	101	101	94	93	84	88	94
4038	28721	101	108	105	100	85	96	90	97
Exp. Mean		109	113	111	106	107	105	106	108

Table 9.4 contd.: Plant Height of entries in IVT Biofort Kharif 2019

Entry No	IET No	ZONE VII							
		AP (1)	TE (1)	TA		TA (2)	KE		KE (2)
		MTU	RNR	ADT	CBT	Mean	MNC	PTB	Mean
4001	27984	92	94	103	101	102	95	95	95
4002	27179	91	99	136	134	135	121	130	126
4003	28005	89	78	113	104	108	89	100	95
4004	28691	89	88	106	103	105	91	99	95
4005	28692	92	101	119	111	115	120	130	125
4006	28693	92	94	137	117	127	114	115	114
4007	28694	95	88	131	119	125	109	80	94
4008	28695	99	80	91	90	91	89	105	97
4009	28696	94	110	131	129	130	132	131	132
4010	BPT 5204 (YC)	94	86	95	89	92	88	94	91
4011	28697	87	93	92	106	99	83	109	96
4012	28698	90	92	120	119	120	114	100	107
4013	28699	90	90	103	91	97	98	89	93
4014	28700	92	89	103	94	98	101	106	104
4015	28701	97	100	121	123	122	104	109	106
4016	28702	89	106	118	123	120	110	124	117
4017	28703	94	86	103	98	101	100	96	98
4018	IR 64 (YC)	88	92	102	94	98	109	109	109
4019	28704	86	85	110	91	100	87	98	92
4020	28705	101	82	107	115	111	88	113	101
4021	28706	99	75	100	83	92	87	98	93
4022	28707	96	99	129	126	127	130	133	132
4023	28708	90	88	122	116	119	100	125	112
4024	28709	95	93	103	103	103	98	96	97
4025	28710	94	70	84	79	82	86	91	89
4026	DRR Dhan 45 (YC & MNC)	94	101	119	103	111	94	120	107
4027	28711	88	94	110	113	112	101	102	101
4028	28712	88	95	111	96	104	113	113	113
4029	28713	95	89	107	100	104	113	113	113
4030	28714	106	88	93	88	91	111	112	111
4031	28715	103	88	80	86	83	89	87	88
4032	28716	90	91	105	105	105	103	102	103
4033	28717	99	95	120	132	126	99	126	112
4034	28718	88	95	108	101	104	109	105	107
4035	28719	88	93	111	100	105	93	102	97
4036	Chittimuthyalu (MNC)	90	82	93	83	88	82	90	86
4037	28720	86	86	90	84	87	93	84	88
4038	28721	90	80	96	91	93	80	100	90
Exp. Mean		92	90	109	104	106	101	106	103

Table 9.4 contd.: Plant Height of entries in IVT Biofort Kharif 2019

Entry No	IET No	ZONE VII					ZONE VII (8)	Overall (20)
		KA				KA (2)		
		MND	@MGD	@SRS	GNV	Mean		
4001	27984	98	95	78	114	106	99	100
4002	27179	120	95	102	134	127	121	125
4003	28005	89	89	86	108	99	96	98
4004	28691	88	79	82	116	102	97	103
4005	28692	107	95	85	114	110	112	114
4006	28693	98	100	92	124	111	111	120
4007	28694	97	97	89	122	110	105	112
4008	28695	78	83	73	93	85	91	93
4009	28696	111	86	94	127	119	121	120
4010	BPT 5204 (YC)	80	82	69	91	85	90	92
4011	28697	95	85	77	100	97	96	98
4012	28698	105	88	96	126	116	108	115
4013	28699	81	81	77	109	95	94	99
4014	28700	87	87	76	99	93	96	102
4015	28701	94	82	88	128	111	110	112
4016	28702	95	91	100	122	109	111	117
4017	28703	83	88	88	106	95	96	99
4018	IR 64 (YC)	93	77	82	116	105	100	104
4019	28704	85	79	77	110	97	94	98
4020	28705	88	79	80	100	94	99	99
4021	28706	73	74	71	87	80	88	89
4022	28707	105	110	99	124	115	118	119
4023	28708	112	95	93	134	123	111	119
4024	28709	84	83	76	99	91	96	99
4025	28710	75	81	65	86	81	83	86
4026	DRR Dhan 45 (YC & MNC)	102	102	85	121	111	107	109
4027	28711	104	94	87	135	120	106	111
4028	28712	93	81	81	115	104	103	106
4029	28713	98	96	82	106	102	103	108
4030	28714	83	72	71	113	98	99	96
4031	28715	101	70	82	82	92	90	87
4032	28716	98	89	70	105	101	100	105
4033	28717	103	103	81	133	118	113	116
4034	28718	90	92	96	112	101	101	103
4035	28719	106	91	82	125	115	102	106
4036	Chittimuthyalu (MNC)	80	84	73	84	82	86	96
4037	28720	92	78	74	84	88	87	92
4038	28721	95	76	80	102	98	92	102

Table 9.5: Panicle/m2 of entries in IVT Biofort Kharif 2019

Entry No	IET No	ZONE II		ZONE II (1)	ZONE III						ZONE III (3)
		PU	HA (1)		OD		BI (1)	UP		UP (2)	
		@LDN	KRL		@CTK	@JYP	SBR	MSD	VRN	Mean	Mean
4001	27984	254	225	225	377	383	230	238	262	250	243
4002	27179	287	250	250	374	560	234	310	176	243	240
4003	28005	264	300	300	368	379	281	250	216	233	249
4004	28691	281	275	275	350	425	243	291	203	247	245
4005	28692	234	133	133	258	253	288	250	183	216	240
4006	28693	251	208	208	224	573	229	300	203	252	244
4007	28694	254	375	375	311	436	273	358	181	269	270
4008	28695	297	350	350	339	463	283	320	240	280	281
4009	28696	284	292	292	352	393	272	315	234	274	274
4010	BPT 5204 (YC)	267	358	358	300	370	283	241	256	248	260
4011	28697	261	250	250	286	433	269	270	216	243	252
4012	28698	238	342	342	383	256	305	240	154	197	233
4013	28699	244	319	319	347	243	229	300	221	260	250
4014	28700	244	300	300	357	340	280	353	218	285	284
4015	28701	277	475	475	409	330	287	305	198	252	263
4016	28702	244	367	367	401	293	293	210	196	203	233
4017	28703	234	275	275	392	236	208	300	120	210	209
4018	IR 64 (YC)	287	275	275	333	420	287	315	250	282	284
4019	28704	290	392	392	378	393	280	250	254	252	261
4020	28705		433	433	428	353	264	281	250	265	265
4021	28706	307	442	442	243	419	263	270	315	292	282
4022	28707	327	392	392	298	376	319	250	228	239	265
4023	28708	261	367	367	231	249	263	305	195	250	254
4024	28709	238	308	308	311	340	244	250	181	215	225
4025	28710	327	325	325	336	486	260	350	226	288	279
4026	DRR Dhan 45 (YC & MNC)	261	392	392	338	396	252	198	184	191	211
4027	28711	257	292	292	408	423	289	245	221	233	252
4028	28712	257	400	400	300	470	244	333	189	261	255
4029	28713	294	442	442	322	503	260	325	212	269	266
4030	28714	287	350	350	279	496	312	310	225	267	282
4031	28715	340	342	342	308	493	298	230	263	246	263
4032	28716	297	233	233	296	357	283	290	168	229	247
4033	28717	271	375	375	355	529	272		215	215	243
4034	28718	284			397	359	243	310	185	248	246
4035	28719	267	442	442	266	440	208	270	248	259	242
4036	Chittimuthyalu (MNC)		333	333	275	456	255	255	316	285	275
4037	28720	287	442	442	308	243	275	332	179	255	262
4038	28721	343	367	367	299	330	291	228	219	223	246
Exp. Mean		275	336	336	330	392	267	282	215	248	254

Table 9.5 contd.: Panicle/m2 of entries in IVT Biofort Kharif 2019

Entry No	IET No	ZONE V					ZONE V (4)
		MP (1)	CH (1)	MA 1		MA 1 (2)	
		WRS	RPR	SKL	SND	Mean	
4001	27984	286	248	177	277	227	247
4002	27179	230	250	213	301	257	249
4003	28005	273	228	223	330	276	263
4004	28691	267	261	253	237	245	254
4005	28692	211	232	146	238	192	207
4006	28693	239	235	223	320	272	254
4007	28694	327	249	225	215	220	254
4008	28695	339	256	130	215	173	235
4009	28696	281	249	207	218	213	239
4010	BPT 5204 (YC)	324	288	203	352	277	292
4011	28697	195	247	220	301	260	241
4012	28698	233	261	172	227	199	223
4013	28699	300	275	135	289	212	250
4014	28700	236	242	221	215	218	228
4015	28701	346	291	244	202	223	271
4016	28702	261	256	210	188	199	229
4017	28703	338	235	163	192	177	232
4018	IR 64 (YC)	341	254	243	232	237	267
4019	28704	282	215	225	319	272	260
4020	28705	290	274	158	309	233	258
4021	28706	271	247	239	314	276	268
4022	28707	318	264	174	221	197	244
4023	28708	220	226	207	275	241	232
4024	28709	159	259	200	219	209	209
4025	28710	299	256	254	317	285	281
4026	DRR Dhan 45 (YC & MNC)	253	254	196	255	225	239
4027	28711	238	266	214	253	234	243
4028	28712	299	232	238	248	243	254
4029	28713	298	264	216	294	255	268
4030	28714	315	245	213	246	229	254
4031	28715	297	317	160	388	274	290
4032	28716	291	232	180	190	185	223
4033	28717	288	243	188	305	246	256
4034	28718	291	248	212	314	263	266
4035	28719	303	233	251	272	262	265
4036	Chittimuthyalu (MNC)	222	246	158	336	247	240
4037	28720	316	231	253	200	226	250
4038	28721	306	229	269	334	301	284
Exp. Mean		278	251	205	267	236	250

Table 9.5 contd.: Panicle/m² of entries in IVT Biofort Kharif 2019

Entry No	IET No	ZONE VI							ZONE VI (4)
		MA 2		MA 2 (2)	MA (4)	GU		GU (2)	
		KJT	SHR	Mean	Mean	NVS	NWG	Mean	
4001	27984	248	263	255	241	283	245	264	259
4002	27179	213	180	196	227	292	250	271	234
4003	28005	188	253	221	248	282	235	259	240
4004	28691	181	232	206	225	287	254	271	238
4005	28692	221	223	222	207	281	226	254	238
4006	28693	224	238	231	251	286	250	268	249
4007	28694	184	200	192	206	285	233	259	225
4008	28695	248	152	200	186	283	256	269	234
4009	28696	221	191	206	209	290	233	261	234
4010	BPT 5204 (YC)	247	167	207	242	286	246	266	236
4011	28697	214	203	209	234	333	304	318	263
4012	28698	143	126	134	167	275	250	262	198
4013	28699	228	182	205	209	279	239	259	232
4014	28700	205	215	210	214	287	264	275	242
4015	28701	259	295	277	250	288	255	271	274
4016	28702	251	282	266	233	284	280	282	274
4017	28703	224	197	211	194	283	255	269	240
4018	IR 64 (YC)	207	210	208	223	286	255	270	239
4019	28704	222	214	218	245	287	266	276	247
4020	28705	229	247	238	235	288	253	271	254
4021	28706	217	253	235	256	282	271	276	255
4022	28707	206	211	208	203	284	241	262	235
4023	28708	174	122	148	194	274	234	254	201
4024	28709	249	204	227	218	280	254	267	247
4025	28710	222	182	202	244	280	254	267	234
4026	DRR Dhan 45 (YC & MNC)	210	304	257	241	276	252	264	260
4027	28711	251	162	207	220	285	252	268	237
4028	28712	216	273	244	243	276	249	262	253
4029	28713	192	296	244	249	284	243	263	254
4030	28714	244	213	229	229	292	282	287	258
4031	28715	187	158	173	223	277	293	285	229
4032	28716	229	194	211	198	275	256	265	238
4033	28717	207	251	229	238	286	256	271	250
4034	28718	165	273	219	241	282	280	281	250
4035	28719	202	170	186	224	282	253	267	226
4036	Chittimuthyalu (MNC)	261	188	225	236	281	277	279	252
4037	28720	231	196	214	220	270	229	250	232
4038	28721	220	181	200	251	274	260	267	233
Exp. Mean		217	213	215	226	284	255	269	242

Table 9.5 contd.: Panicle/m² of entries in IVT Biofort Kharif 2019

Entry No	IET No	ZONE VII							
		AP (1)	TE (1)	TA		TA (2)	KE		KE (2)
		MTU	RNR	ADT	CBT	Mean	MNC	PTB	Mean
4001	27984	317	328	569	448	508	368	345	356
4002	27179	311	333	455	394	424	336	376	356
4003	28005	494	288	493	390	441	243	285	264
4004	28691	344	249	428	338	383	482	348	415
4005	28692	283	157	415	286	350	269	234	251
4006	28693	372	290	460	375	418	243	258	250
4007	28694	300	243	440	342	391	405	334	369
4008	28695	450	253	513	383	448	483	346	414
4009	28696	328	370	483	426	454	487	352	419
4010	BPT 5204 (YC)	428	261	508	384	446	382	299	340
4011	28697	311	205	480	343	411	506	448	477
4012	28698	350	270	470	370	420	225	251	238
4013	28699	317	280	445	363	404	465	407	436
4014	28700	372	188	453	320	386	461	422	442
4015	28701	333	308	443	375	409	321	286	304
4016	28702	317	243	453	348	400	341	302	321
4017	28703	294	320	473	396	434	258	302	280
4018	IR 64 (YC)	422	305	470	388	429	515	364	439
4019	28704	333	225	510	368	439	346	385	365
4020	28705	383	213	463	338	400	478	379	428
4021	28706	411	253	475	364	419	389	303	346
4022	28707	361	245	493	369	431	362	291	326
4023	28708	356	208	415	311	363	487	430	458
4024	28709	344	290	395	343	369	344	282	313
4025	28710	456	338	460	399	429	487	447	467
4026	DRR Dhan 45 (YC & MNC)	317	228	485	357	421	490	343	416
4027	28711	311	289	430	359	395	483	441	462
4028	28712	378	291	458	374	416	383	361	372
4029	28713	294	261	435	348	391	355	274	315
4030	28714	450	285	478	381	429	413	353	383
4031	28715	372	308	563	435	499	323	255	289
4032	28716	311	326	470	398	434	332	304	318
4033	28717	389	263	460	362	411	510	398	454
4034	28718	344	278	485	382	433	414	332	373
4035	28719	317	287	460	373	417	394	395	395
4036	Chittimuthyalu (MNC)	422	275	450	362	406	345	379	362
4037	28720	433	266	418	342	380	398	329	363
4038	28721	428	275	440	357	399	314	353	333
Exp. Mean		362	271	465	368	417	390	342	366

Table 9.5 contd.: Panicle/m² of entries in IVT Biofort Kharif 2019

Entry No	IET No	ZONE VII					ZONE VII (8)	Overall (20)
		KA				KA (2)		
		MND	@MGD	@SRS	GNV	Mean		
4001	27984	241	297	405	415	328	379	300
4002	27179	227	243	403	439	333	359	288
4003	28005	281	252	397	441	361	364	299
4004	28691	275	267	304	392	333	357	292
4005	28692	269	228	327	366	317	285	245
4006	28693	269	294	512	509	389	347	286
4007	28694	299	276	390	430	364	349	295
4008	28695	340	297	305	393	366	395	311
4009	28696	316	276	399	420	368	398	309
4010	BPT 5204 (YC)	290	282	479	489	390	380	314
4011	28697	310	291	361	408	359	376	302
4012	28698	260	249	316	368	314	320	264
4013	28699	278	300	394	410	344	370	298
4014	28700	353	255	401	431	392	375	302
4015	28701	302	309	315	395	349	345	310
4016	28702	300	249	398	427	363	341	290
4017	28703	338	270	411	406	372	348	279
4018	IR 64 (YC)	342	309	477	488	415	412	322
4019	28704	317	315	402	426	371	364	306
4020	28705	359	357	486	478	418	386	318
4021	28706	331	336	405	453	392	372	318
4022	28707	280	312	491	450	365	356	298
4023	28708	288	276	403	416	352	364	289
4024	28709	263	279	298	369	316	329	272
4025	28710	343	354	395	477	410	426	331
4026	DRR Dhan 45 (YC & MNC)	319	324	331	390	355	366	298
4027	28711	332	330	351	390	361	379	300
4028	28712	289	327	252	346	317	360	304
4029	28713	330	255	399	435	382	341	303
4030	28714	389	339	398	434	411	398	321
4031	28715	294	294	505	495	394	380	313
4032	28716	270	294	357	413	341	353	282
4033	28717	331	324	401	438	385	394	318
4034	28718	322	351	336	383	352	367	302
4035	28719	333	285	417	426	379	373	306
4036	Chittimuthyalu (MNC)	362	312	393	459	410	382	309
4037	28720	323	294	290	387	355	362	302
4038	28721	395	303	315	385	390	368	306
Exp. Mean		309	295	384	423	366	366	300

Table No. 9.7: Iron content in ppm for polished rice samples of entries in IVT-Biofortification analyzed at ICAR-IIRR, Hyderabad, Kharif 2019

Entry No.	IET No.	JYP	CTK	VRN	Zone-III	SKL	RPR	Zone-V	SHR	NVS	Zone-VI	MGD	Over all
		III	III	III	Mean	V	V	Mean	VI	VI	Mean	VII	Mean
4001	27984	3.1	3.15	2.75	3.0	2.85	2.95	2.9	3.95	4.45	4.2	4.4	3.5
4002	27179	2.5	2.55	2.65	2.6	2.9	3.5	3.2	3.05	2.9	3.0	3.45	2.9
4003	28005	3.5	2.15	3.3	3.0	2.5	4.25	3.4	3.6	3.55	3.6	3.6	3.3
4004	28691	2.8	2.2	3.1	2.7	2.45	2.25	2.4	3.75	3.85	3.8	3.2	3.0
4005	28692	3.35	3.05	2.5	3.0	2.4	3.55	3.0	3.65	2.5	3.1	2.9	3.0
4006	28693	3.35	2.5	3	3.0	2.35	2.35	2.4	4.4	2.45	3.4	2.65	2.9
4007	28694	3.2	3.15	2.35	2.9	3	1.85	2.4	3.1	2.4	2.8	2.7	2.7
4008	28695	3.05	3.6	2.6	3.1	3.85	2.25	3.1	3.4	3.15	3.3	3.65	3.2
4009	28696	2.65	2.8	2.4	2.6	2.2	2.35	2.3	3.1	3.3	3.2	3.05	2.7
4010	BPT 5204	3.7	2.9	3.3	3.3	2.9	2.45	2.7	3.4	3.25	3.3	3.95	3.2
4011	28697	3.8	2.95	2.6	3.1	2.6	3.2	2.9	4.8	4.65	4.7	3.9	3.6
4012	28698	2.85	2.1	2.4	2.5	2.2	2.75	2.5	3.75	2.8	3.3	3.65	2.8
4013	28699	3.25		3.3	3.3	2.6	2.9	2.8	3.9	3.6	3.8	4.1	3.4
4014	28700	4.6		3.6	4.1	3.5	3.3	3.4	4.35	3.85	4.1	3.7	3.8
4015	28701	2.15	2.4	3	2.5	2.8	2.35	2.6	3.55	2.8	3.2	3.05	2.8
4016	28702	2.7	2.5	4.25	3.2	3.05	2.45	2.8	3.25	3.5	3.4	3.65	3.2
4017	28703	2.95	3.15	4.25	3.5	3.65	3.25	3.5	4.45	5.3	4.9	3.45	3.8
4018	IR 64	2.25	2.7	3.1	2.7	2.3	2.35	2.3	3.3	4	3.7	3.25	2.9
4019	28704	2.4	2.5	2.95	2.6	2.6	3.65	3.1	2.95	3.6	3.3	3.8	3.1
4020	28705	2.65	2.45	3.1	2.7	2.85	2.05	2.5	3.25	2.85	3.1	5.05	3.0
4021	28706	3.45	3.9	3.35	3.6	3.4	2.5	3.0	4.9	4.7	4.8	5.6	4.0
4022	28707	2.5	2.85	2.4	2.6	2.65	1.75	2.2	2.6	2.4	2.5	3.65	2.6
4023	28708	2.45	1.75	3.15	2.5	1.9	3.8	2.9	3.15	2.4	2.8	3.75	2.8
4024	28709	4.05	2.8	2.65	3.2	3.95	2.95	3.5	4.7	2.15	3.4	3.4	3.3
4025	28710	3.85	2.95	2.25	3.0	3.35	3.2	3.3	4.3	3.5	3.9	5.15	3.6
4026	DRR Dhan 45	2.65	2.6	3.15	2.8	2.6	2.9	2.8	4.35	3.5	3.9	3.8	3.2
4027	28711	3.25	2.6	3.35	3.1	3.7	2.95	3.3	3.85	3.6	3.7	3.2	3.3
4028	28712	3.15	3.05	3.35	3.2	3.15	4.45	3.8	4.1	3.75	3.9	4.8	3.7
4029	28713	3.15	3.05	3	3.1	2.5	2.9	2.7	3.1	3.6	3.4	4.4	3.2
4030	28714	2.2	2.05	1.8	2.0	1.8	3.1	2.5	2.4	2.25	2.3	2.9	2.3
4031	28715	3.4	4.45	3	3.6	3.2	2.95	3.1	4.05	3.6	3.8	4.8	3.7
4032	28716	3.05	2.5	2.8	2.8	2.6	2.7	2.7	4.5	4.35	4.4	3.55	3.3
4033	28717	2.85	2.95	2.5	2.8	2.45	1.65	2.1	4.7	2.55	3.6	5.2	3.1
4034	28718	3.7	2.4	3.3	3.1	2.85	2.15	2.5	4.5	3.5	4.0	3.2	3.2
4035	28719	3.4	2.1	2.65	2.7	2.75	2.1	2.4	4.05	3.1	3.6	3.7	3.0
4036	Chittimuthyalu	3.15	3.75	4.45	3.8	3.6	3.25	3.4	4.6	4.2	4.4	4.4	3.9
4037	28720	3.45	2.65	2.3	2.8	3.2	3.05	3.1	4.35	3.75	4.1	2.85	3.2
4038	28721	2.4	2.95	2.95	2.8	2.75	2.7	2.7	5.6	4.3	5.0	2.85	3.3
	Mean	3.08	2.78	2.97	2.96	2.84	2.82	2.83	3.86	3.42	3.64	3.75	3.19

Table No. 9.8: Zinc content in ppm for polished rice samples of entries in IVT-Biofortification analyzed at ICAR-IIRR, Hyderabad, Kharif 2019

Entry No.	IET No.	JYP	CTK	VRN	Zone-III	SKL	RPR	Zone-V	SHR	NVS	Zone-VI	MGD	Overall Mean
		III	III	III	Mean	V	V	Mean	VI	VI	Mean	VII	
4001	27984	17.75	22.85	25.5	22.03	20.2	21.25	20.73	27.2	23.45	25.33	18.75	22.12
4002	27179	15.15	19	21.15	18.43	15.7	19.3	17.50	22.35	19.8	21.08	19.6	19.01
4003	28005	16.15	20.65	25.5	20.77	21.2	21.05	21.13	25.75	22	23.88	22.85	21.89
4004	28691	11.45	16.7	17.7	15.28	15.55	14.6	15.08	18.4	19.4	18.90	17.05	16.36
4005	28692	11.75	14.05	14.85	13.55	12.4	16.05	14.23	21.35	16.75	19.05	18.9	15.76
4006	28693	20.2	21.65	22.7	21.52	19.55	15.15	17.35	25.1	23.9	24.50	18.1	20.79
4007	28694	16.05	22.9	22.3	20.42	19.1	19.8	19.45	25.1	25.1	25.10	18.9	21.16
4008	28695	14.65	22	18.15	18.27	17.75	15.85	16.80	25.75	21.2	23.48	20	19.42
4009	28696	17.65	19.75	19.15	18.85	16.2	17.6	16.90	25.35	20.3	22.83	20.8	19.60
4010	BPT 5204	15.25	16.6	16.5	16.12	18	16.9	17.45	29.65	17.4	23.53	19.1	18.68
4011	28697	20.2	20.6	20.75	20.52	19.2	20.55	19.88	23.5	24.65	24.08	19.15	21.08
4012	28698	14.25	19.45	18.3	17.33	16.7	19.25	17.98	30.85	19.65	25.25	15.55	19.25
4013	28699	13.7		22.75	18.23	15.8	17.55	16.68	24.8	20.15	22.48	19.45	19.17
4014	28700	16.55		23.8	20.18	22.9	23.5	23.20	24.25	25.6	24.93	19.5	22.30
4015	28701	15.4	18.4	21.35	18.38	19	20.9	19.95	24.95	20.85	22.90	22.05	20.36
4016	28702	14.05	17.5	22.6	18.05	15.05	16.15	15.60	19.85	19.05	19.45	19.15	17.93
4017	28703	14.55	18.65	24.05	19.08	22.45	20.8	21.63	31.5	22.05	26.78	21.15	21.90
4018	IR 64	15.85	18.6	21.55	18.67	16.4	17.85	17.13	21.65	19	20.33	20.05	18.87
4019	28704	15.95	20.05	22.8	19.60	19.85	20.45	20.15	25.8	23.4	24.60	23.85	21.52
4020	28705	14.9	16.8	15.4	15.70	15.25	14.35	14.80	21.2	12.6	16.90	17.3	15.98
4021	28706	14.65	26.95	19.1	20.23	18.65	17.3	17.98	26.25	19.15	22.70	19.5	20.19
4022	28707	14.3	13.75	15.2	14.42	16	15.5	15.75	17	15.1	16.05	15.3	15.27
4023	28708	14.4	19.9	22.05	18.78	15.65	17.3	16.48	22.4	18.8	20.60	16.7	18.40
4024	28709	16.9	21	17.85	18.58	17.75	15.75	16.75	24.55	17.9	21.23	18.1	18.73
4025	28710	16.15	18.5	17.45	17.37	18.85	17.35	18.10	27.75	17.7	22.73	18.75	19.06
4026	DRR Dhan 45	14.5	21.5	22.75	19.58	18.6	16.95	17.78	25	19.8	22.40	19.4	19.81
4027	28711	14.4	16.1	22.55	17.68	19.3	18	18.65	21.95	17.9	19.93	17.9	18.51
4028	28712	18.25	23.8	25	22.35	20.45	20.55	20.50	26.7	24	25.35	24.8	22.94
4029	28713	17	17.05	19.25	17.77	17.05	16.9	16.98	28.55	20.25	24.40	20.75	19.60
4030	28714	16.9	17.75	15.8	16.82	16.05	16.1	16.08	25.6	18.85	22.23	18.35	18.18
4031	28715	16.2	20.5	16.7	17.80	15.15	15.75	15.45	27.8	17.85	22.83	19.7	18.71
4032	28716	17.05	18.55	20.8	18.80	19.25	13.7	16.48	22.4	21.05	21.73	19.8	19.08
4033	28717	12.7	17.5	17.25	15.82	14.55	16.25	15.40	30.7	18.55	24.63	15.8	17.91
4034	28718	13.95	15.6	19.15	16.23	14.55	12.95	13.75	18.15	17.3	17.73	15.3	15.87
4035	28719	15.15	19	18.6	17.58	15.75	14.45	15.10	19.3	18.65	18.98	16.75	17.21
4036	Chittimuthyalu	16.65	21.85	23.2	20.57	17.8	20.85	19.33	32.25	22.8	27.53	20.1	21.94
4037	28720	14.85	21.5	25.2	20.52	23.1	18.5	20.80	27.15	24.65	25.90	23.55	22.31
4038	28721	12.9	23.9	26.75	21.18	19.5	21.65	20.58	27.8	26.2	27.00	19.5	22.28
	Mean	15.48	19.47	20.57	18.50	17.80	17.76	17.78	24.89	20.34	22.61	19.24	19.45

Table No. 9.9: Protein (%) for polished rice samples of entries in IVT -Biofortification analyzed at ICAR-NRRI, Cuttack, Kharif 2019.

Entry No	IET No.	JYP	CTK	SKL	NVS	SRS	ADT	CBT	MNC	MTU	Overall Mean
		III	III	V	VI	VII	VII	VII	VII	VII	
4001	27984	8.47	9.25	6.02	6.72	8.18	8.25	8.42	7.40	8.97	7.96
4002	27179	5.45	6.62	4.24	4.05	5.02	5.38	5.64		6.32	5.34
4003	28005	7.04	9.40	5.88	5.22	6.29	7.17	6.82	5.14		6.62
4004	28691	7.39		7.25	6.02	7.09	6.67	6.57	5.69	5.44	6.51
4005	28692	13.17	13.33	7.17	8.83	10.52	12.28	10.36	9.46	9.34	10.50
4006	28693	6.97	8.30	4.50	5.70	7.09	6.88	6.46	6.34	7.44	6.63
4007	28694	6.49	7.17	6.80	6.38	6.14	6.63	7.47	6.22	9.06	6.93
4008	28695	8.30	7.79	6.21	5.30	6.17	7.06	7.15	6.27	6.75	6.78
4009	28696	7.57	8.57	4.70	6.82	5.83	6.26	5.68	5.77	6.60	6.42
4010	BPT 5204	8.12	7.79	7.45	6.17	6.00	8.36	8.93	7.92	5.47	7.36
4011	28697	8.60	8.60	5.44	7.33	7.70	9.95	7.89	7.14	6.93	7.73
4012	28698	7.06	8.85	5.82	7.53	6.69	8.00	6.75	7.45	7.27	7.27
4013	28699	9.78	10.34	5.70	8.63	8.13	8.55	8.08	8.43	8.36	8.44
4014	28700	9.00	8.14	7.31	7.80	8.83	8.98	9.06	7.78	8.81	8.41
4015	28701	7.66	7.11	5.95	7.11	6.39	6.83	6.18	7.38	5.74	6.71
4016	28702	7.53	7.50	4.44	6.75	5.27	6.31	6.55	6.00	7.81	6.46
4017	28703	8.38	9.58	5.92	7.13	5.98	7.48	8.44	6.35	8.40	7.52
4018	IR 64	7.82	7.78	5.19	6.65	6.00	6.72	6.86		6.32	6.67
4019	28704	8.06	8.44	4.96	8.13	6.47	6.32	8.60	7.48	6.52	7.22
4020	28705	7.84	9.04	4.87	6.85	6.12	7.21	11.48	6.34	10.11	7.76
4021	28706	7.92	9.43	6.30	6.12	5.76	7.72	7.49		7.07	7.23
4022	28707	7.65	6.76	4.73	5.70	5.84	6.44	7.87		6.20	6.40
4023	28708	8.78	7.57	5.21	5.96	5.66	7.53	9.22	6.43	7.18	7.06
4024	28709	10.55	11.47	7.34	8.81	9.69	10.41	9.24	8.02	8.23	9.31
4025	28710	9.32	8.77	7.15	5.73	6.94	8.69	8.21	7.75	7.51	7.79
4026	DRR Dhan 45	7.11	7.94	4.43	5.53	5.44	6.53	6.59	6.22	8.08	6.43
4027	28711	6.60	8.75	5.08	4.52	7.00	7.22	5.91		7.45	6.57
4028	28712	8.57	7.83	5.17	5.89	6.03	7.71	8.13		7.15	7.06
4029	28713	6.45	7.86	4.32	5.93	6.94	7.55	6.27		7.55	6.61
4030	28714	10.82	9.27	6.76	6.35	8.74	8.69	11.38		7.22	8.65
4031	28715		9.06	5.47	6.16	6.37	7.42	8.33	7.43	7.04	7.16
4032	28716	7.14	7.53	6.80	5.02	6.50	6.89	7.15	6.26	5.87	6.57
4033	28717	7.00	6.26	4.51	5.55	6.48	7.02	7.90	6.60	6.70	6.45
4034	28718	6.83	8.62	5.84	5.34	5.65	7.24	6.36	5.16	6.72	6.42
4035	28719	7.00	6.72	6.56	5.56	6.07	7.51	6.06	6.66	6.57	6.52
4036	Chittimuthyalu	7.85	7.88	8.65	7.17	7.62	9.32	9.10	9.52	7.60	8.30
4037	28720	10.08	9.42	7.93	6.50	7.26	8.30	7.79	5.91	7.69	7.88
4038	28721	7.31	8.58	8.11	6.55	7.65	8.41	8.33	8.53	8.12	7.95

MEDIUM SLENDER GRAIN

Medium Slender (MS) trial was constituted for the first time during the 50th ARGM in 2015 to identify promising genotypes with short and medium slender grain type (similar to BPT 5204) culture to replace the existing super fine and good quality varieties. Therefore, two trials were conducted viz., AVT1-MS and IVT-MS. AVT2-MS and AVT1-MS trials were conducted at 39 locations while IVT-MS was at 37 locations.

ADVANCE VARIETY TRIAL 1 – MEDIUM SLENDER (AVT 1 – MS)

Locations: 39

Test Entries: 12

**Checks: National -WGL 14 (NC 1), BPT 5204 (NC 2); Zonal- Table: 10.1
Improved Samba Mahsuri (Eastern and Central),
Ketekejoha (North Eastern), Karjat-6 (Western),
ADT-49 (Southern); Hybrid- JKRH 3333, 27 P 63
and Local Check.**

The ‘Advanced Variety Trial 1 – Medium Slender (AVT 1 – MS)’ was constituted with 12 entries (5 varieties and 7 hybrids) along with two each of national checks (WGL 14 and BPT 5204)/hybrid checks (JKRH-3333 and 27 P 63), one zonal check and a local check. AVT 1 – MS was sent to 39 locations and data was received from 37 centers. The data was not received from Gerua-ICAR and Jabalpur. Further, the data from Kampasagar was not included in analysis. Further, the data was not considered for low experimental mean yield at Pantnagar, Ludhiana, Kaul, Ranchi and Sakoli), low CV (Chinsurah) and high CV (Lembucherra and Mugad). The data pertaining to yield, days to 50% flowering, plant height, number of panicles/m² and quality are presented in tables 10.2, 10.3, 10.4, 10.5 and 10.6. Since the 19 entries were not sent to all the centers so overall assessment of entries is not possible. Therefore, only zone-wise discussion is presented below.

Performance of entries on Zonal basis in AVT 1 – MS during Kharif 2019

Zone III

In Zone III, the mean experimental yield ranged from 3085 kg/ha (Ranchi) to 5644 kg/ha (Masodha) while, the mean CV was 3.1% at Chinsurah and 18.8% at Ranchi. The mean yield ranged from 4214 kg/ha (BPT 5204, NC2) to 5441 kg/ha (IET 27438). Days to 50% flowering exhibited a range of 100 days (ZC) to 116 (IET 27460). The range of plant height was from 89.2 cm (BPT 5204, NC2) to 114.6 cm (IET 27438). ZC had the highest panicles/m² (360) while IET 27438 had the lowest (272).

Performance of entries on Zonal basis during Kharif 2019

Rank	IET No./Designation/Cross Combination	GY (kg/ha)/ DFF/GT	% Yield Advantage over NC/ZC/LC
Zone III			
1	27438	5441	22.9
	MTU 1281	113	29.1
	MTU 1075 / MTU 1081 / MTU 1121	MS	21.9
			7.3
			- 13.3
	WGL 14 (NC1)	4426	
	BPT 5204 (NC2)	4214	
	Zonal Check (ZC)	4463	
	JRRH 3333 (HC1)	5071	
	27P63 (HC2)	5389	
	Local Check (LC)	4802	
Zone IV			
1	27394	6132	42.3
	TMRH 139	92	45.7
		MS	54.2
			37.3
			7.3 22.3
2	25802 (R)	6063	40.7
	ARRH-7576	101	44.1
		MS	52.5
			35.8
			6.1 21.0
	WGL 14 (NC1)	4309	
	BPT 5204 (NC2)	4208	
	Zonal Check (ZC)	3977	
	JRRH 3333 (HC1)	4466	
	27P63 (HC2)	5714	
	Local Check (LC)	5012	
Zone V			
1	27117	5062	9.4
	ORJ 1135	101	27.2
	RR 615 Mutant	MS	60.6
			22.2
			20.4 9.1
2	27118	5012	8.3
	MTU 1263	109	26.0
	CMS 42B / IR 68897B	MS	59.1
			21.0
			19.2 8.0

Rank	IET No./Designation/Cross Combination	GY (kg/ha)/ DFF/GT	% Yield Advantage over NC/ZC/LC
	WGL 14 (NC1)	4628	
	BPT 5204 (NC2)	3979	
	Zonal Check (ZC)	3151	
	JRRH 3333 (HC1)	4142	
	27P63 (HC2)	4203	
	Local Check (LC)	4641	
Zone VII			
1	27438	7204	12.9
	MTU 1281	109	16.9
	MTU 1075 / MTU 1081 / MTU 1121	MS	36.6
			10.4
			7.0
			12.8
2	26549	7127	11.7
	PHI 17108	104	15.6
		MS	35.1
			9.2
			5.8
			11.6
	WGL 14 (NC1)	6382	
	BPT 5204 (NC2)	6163	
	Zonal Check (ZC)	5274	
	JRRH 3333 (HC1)	6524	
	27P63 (HC2)	6734	
	Local Check (LC)	6384	

IET 27438 was the only entry that exhibited a yield advantage of 13.3% over the best variety check (BVC) more than the required ($\geq 5.0\%$). The quality of IET 27438 is: HRR – 59.5%; AC – 25.72%; GC – 37.0 mm and ASV – 4.0. **Despite yield advantage, IET 27438 is not promoted owing to high AC, low GC and ASV** (as per the proceedings of 51st ARGM, 2016 (Pp. 59), if AC is between 25 to 27%, the GC has to be >40 mm and ASV 5 to 7).

Zone IV

In Zone IV (North-Eastern), the trial was sent to Assam (Titabar; Gerua) and Tripura (Lembucherra; Arundhuti Nagar). The experimental mean yield was highest at Titabar (5845 kg/ha) and lowest at Arundhuti Nagar (4202 kg/ha). The CV varied from 9.29% (Arundhuti Nagar) to 20.97% (Lembucherra). Among the entries, the yield ranged from 3997 kg/ha (ZC) to 6132 kg/ha (IET 27394). Days to 50% flowering were 92 in IET 27394 and 108 in BPT 5204 (NC2). The plant height ranged from 87.6 cm (BPT 5204, NC2) to 132.2 cm (ZC). The highest numbers of panicles/m² were in IET 27394 (279) while IET 27397 had the lowest (208).

IET 27394, a hybrid showed yield advantage of 22.3% and 7.3% over the BVC and hybrid check (HC) respectively. The quality of IET 27394 is: HRR – 57.1%; AC – 25.16%; and GC – 57.0 mm. ***Based on yield superiority and quality, IET 27394 is promoted to third year of testing.***

IET 25802 (repeat entry), another hybrid also exhibited yield superiority over the BVC (21.0%) and HC (6.1%). The quality of IET 25802 is: HRR – 59.9%; AC – 24.05%; and GC – 32.0 mm. ***Based on yield superiority and quality, IET 25802 is found promising in Zone IV.***

Zone V

In Zone V, the trial was sent to Chhattisgarh (Raipur) and Maharashtra (Sakoli and Sindewahi). The experimental mean yield ranged from 4009 kg/ha (Sindewahi) to 4946 kg/ha (Raipur). The CV was highest at Sindewahi (17.56%) and lowest at Raipur (10.97%). Among the entries, highest grain yield (5062 kg/ha) was recorded in IET 27117 and lowest (3151 kg/ha) in ZC. Days to 50% flowering varied from 96 days (JKRH 3333 and 27 P 63) to 109 days (IET 27118). The range of plant height was from 90.1 cm (BPT 5204) to 123.1 cm (IET 27118). The panicles/m² varied from 208 (IET 27118) to 283 (BPT 5204).

IET 27117, a third year test entry showed a yield superiority of 9.1% over the BVC. The quality of IET 27117 is: HRR – 61.3%; AC – 23.23%; and GC – 25.0 mm. ***Based on yield superiority and quality, IET 27117 is found promising in Zone V.***

Another third year test entry IET 27118 also exhibited a yield advantage of 8.0% over the BVC. The quality of IET 27118 is: HRR – 57.2%; AC – 23.37%; and GC – 22.0 mm. ***IET 27118 is found promising in Zone V based on its yield superiority and quality.***

Zone VII

The trial was sent across 5 states (Andhra Pradesh, Telangana, Karnataka, Puducherry and Tamil Nadu). The data from Kampasagar was not considered for analysis based on monitoring tour report. Also, data from Mugad was not considered owing to high CV (21.76%). The mean experimental yield ranged from 4235 kg/ha at Maruteru to 8872 kg/ha at Gangavati. The CV varied from 5.4% (Maruteru) to 21.76% (Mugad). IET 27438 was the highest yielder (7204 kg/ha) while, ZC was the lowest yielder (5274 kg/ha). The flowering duration ranged from 95 days (ZC) to 109 days (IET 27438). The range of plant height is between 95.1cm (BPT 5204) to 123.0 (IET 27438) whereas the panicles/m² ranges from 344 (IET 27397) to 378 (BPT 5204).

IET 27438 exhibited a yield superiority of 7.0% over the best variety check (BVC). The quality of IET 27438 is: HRR – 59.5%; AC – 25.72%; GC – 37.0 mm and ASV – 4.0. ***Despite yield advantage, IET 27438 is not promoted owing to high AC, low GC and ASV*** (as per the proceedings of 51st ARGM, 2016 (Pp. 59), if AC is between 25 to 27%, the GC has to be >40 mm and ASV 5 to 7).

IET 26549, a third year entry had a yield advantage of 5.8% over 27 P 63 (HC2) and 11.6% over the BVC. The quality of IET 26549 is: HRR – 52.9%; AC – 22.58%; GC – 48.0 mm and ASV – 5.0. ***Though IET 26549 showed yield advantage over the BVC, the HRR was low hence, not found promising.***

Three year performance of entries

IET 25802 (ARRH – 7576), a repeat hybrid showed a yield advantage of 21.0% over the BVC and 6.1% over the HC in Zone IV during 2019. IET 25802 exhibited yield superiority of 45.0% and 11.0% over the BVC and HC respectively in Tripura during 2019. The DFF, plant height and panicles/m² of IET 26194 were 101 days, 114.5 cm, and 250 respectively. During 2017, it exhibited yield superiority in Zones IV, V and VI. In Zone IV, it showed yield advantage of 20.3% and 55.2% over BVC and HC respectively in Assam. But, in 2016 IET 25802 out-yielded the BVC and HC by 34.7% and 22.5% respectively in Tripura. The quality of IET 25802 is: HRR – 59.9%, AC – 24.05%, and GC – 32.0. ***IET 25802 exhibited yield superiority in Tripura only during 2016 (IVT-MS) and 2019 (AVT 2 MS).***

Another entry, IET 27117 (ORJ 1135) which is a RR 615 mutant exhibited yield advantage of 9.1 over the BVC in Zone V during 2019. It ranked first in Maharashtra with a yield of 4863 kg/ha showing a yield superiority of 9.0% over the BVC. The DFF, plant height and panicles/m² of IET 27117 were 101 days, 108.9 cm, and 262 respectively. During 2018 and 2017, it out-yielded the BVC by 12.2% and 32.1% respectively in Chhattisgarh while, during 2017 it also showed yield advantage of 28.5% over the BVC in Maharashtra. The quality of IET 27117 is: HRR – 61.3%, AC – 23.23%, and GC – 25.0. ***IET 27117 exhibited yield superiority only in Maharashtra in 2017 (IVT-MS) and 2019 (AVT 2 MS).***

Three year zonal performance of entries

S.No	Entry	Years	Zone IV		Zone V		Zone VI	
			Yield	% BVC& HC	Yield	% BVC& HC	Yield	% BVC& HC
1	25802	2016	5600	23,35	5724	7,29	5752	22,11
		2017	6419	20,55	4770	15,28	6098	15,11
		2019	6063	21,6	-	-	-	-
2	27117	2017	-	-	6169	31.0	5437	6.0
		2018	-	-	5109	7.6	-	-
		2019	-	-	5062	9.1	-	-
3	27118	2017	-	-	5609	19.0	-	-
		2018	5442	23.0	5091	7.2	-	-
		2019	-	-	5012	8.0	-	-

IET 27118 (MTU 1263) is a product of cross between CMS 42B and IR 68897B. During 2019, IET 27118 showed a yield superiority of 8.0% over the BVC in Zone V but, it did not show the required yield superiority in any state. The DFF, plant height and panicles/m² of IET 27118 were 109 days, 123.05 cm, and 208 respectively. In 2018 and 2017 also it exhibited yield advantage of 15.6% (in Maharashtra) and 43.1% (Chhattisgarh) respectively. IET 27118 had high HRR (57.2%), intermediate AC (23.37%) and GC of 22. ***Since IET 27118 did not show yield superiority in any state(s) consistently for at least two years (including AVT 2) it is discontinued.***

Entries promoted to AVT 2 – MS:**Zone IV: IET 27394.****Three year performance of entries in different states**

Entry	Year	Zone	Yield (kg/ha)	Yield adv. over BVC/ HC (%)	States	Yield (Kg/ha)	Yield adv. over BVC/ HC (%)	Remarks
25802	2019	Z-IV	6063	21.0/6.0	TR-1	5696	45.0/11.0	Exhibited yield superiority only in Tripura during 2019 (AVT 2 MS) & 2016 (IVT MS)
	2017	Z-IV	6419	20.3/55.2	AS-2	6419	20.3/55.2	
		Z-V	4771	15.3/27.9	MH-5	4659	13.6/42.6	
		Z-VI	6098	15.2/10.5	MH-2	6245	19.3/34.0	
	2016	Z-III	6944	21.6/21.8	UP	6691	21.5/27.2	
					JH	7459	26.8/17.8	
		Z-IV	5600	34.7/22.5	TR	5600	34.7/22.5	
		Z-VI	5752	11.1/21.8	MH	5619	18.0/24.6	
		Z-VII	6613	14.9/6.5	AP	6138	13.4/35.6	
27117	2019	Z-V	5062	9.1	MH-1	4863	9.0	Exhibited yield superiority only in Maharashtra during 2019 (AVT 2 MS & 2017 (IVT MS)
	2018	Z-V	5109	7.5	CH-2	6207	12.2	
	2017	Z-V	6169	31.0	CH-4	6907	32.1	
					MH-5	5431	28.5	
27118	2019	Z-V	5012	8.0	-	-	-	Discontinued due to inconsistent performance.
	2018	Z-V	5091	7.2	MH-5	4862	15.6	
	2017	Z-V	5609	19.0	CH-1	7485	43.1	

INITIAL VARIETY TRIAL – MEDIUM SLENDER GRAIN (IVT-MS)**Locations: 37****Test Entries: 64**

Checks: National -WGL 14 (NC 1), BPT 5204 (NC 2); Zonal- Table: 10.7
Improved Samba Mahsuri (Northern, Eastern and Central), Ketekejoha (North Eastern), Karjat-6 (Western), ADT-49 (Southern) and Local Check.

Initial Variety Trial – Medium Slender grain (IVT-MS) was constituted with 64 entries and four checks. The trial was sent to 37 locations but data was not received from 7 locations including Bhubaneswar, Chiplima, Titabar, Gerua-ICAR, Jabalpur, Dabhoi and Kathalgere. Data received from Ranchi (1843 kg/ha), Arunduthi nagar (3760 kg/ha) and Karjat (2813 kg/ha), was not considered in estimating overall and zonal mean yield due to low experimental mean. It is observed in the data submitted by Varanasi and Sakoli centers the experimental crop experienced drought during critical phases there by yield loss occurred. Further in Aurnadathi nagar center aged seedlings (82 days) are transplanted in the experiment.

Overall mean (23 locations) yield of entries varied from 3413 kg/ha (IET 28741) to 6737 kg/ha (IET 28257), days to 50% flowering from 91 (IET 28762) to 120 days (IET 28753), plant height from 81 cm (IET 28771) to 124 cm (IET 28761) and panicles/m² ranged from 254 (IET 28752) to 330 (IET 28723). The analysis of yield, days to 50% flowering, plant height and panicle/m² is presented in tables 10.8, 10.9, 10.10 and 10.11 respectively.

On over all mean basis three entries IET 28730 with 6270 kg/ha and 50% flowering of 105 days, IET 28732 with 6329 kg/ha and 50% flowering of 117 days and IET 285757 with 6737 kg/ha and 50% flowering of 108 days are found superior and are recommended for promotion to AVT-1.

In Zone IV three entries IET 28750 with 5990 kgs/ha with 50 % flowering of 75 recorded 5% yield improvement. IET 28757 with grain yield of 6261 kg/ha and days to 50 % flowering of 82 recorded 10 yield improvement and IET 28778 with a grain yield of 6061 kg/ha and days to 50% flowering of 76 days recorded 7% yield improvement over better check (LC). Hence the entries are promoted for testing in AVT-1 in Zone IV.

In Zone V two entries IET 28746 with 5574 kgs/ha with 50 % flowering of 101 recorded 14% yield improvement. While entry IET 28757 with grain yield of 5164 kg/ha and days to 50 % flowering of 115 recorded 6 yield improvement over better check (LC). Hence the entries are promoted for testing in AVT-1 in Zone V.

In Zone VI two entries IET 28727 with 5977 kgs/ha with 50 % flowering of 98 recorded 5% yield improvement. While entry IET 28768 with grain yield of 5983 kg/ha and days to 50 % flowering of 103 recorded 5 yield improvement over better check (LC 5673 kg/ha). Hence the entries are promoted for testing in AVT-1 in Zone V.

In Zone VII five entries IET 28730 with 6881 kgs/ha with 50% flowering of 103 recorded 7% yield improvement, IET 28732 with 7113 kgs/ha with 50% flowering of 115 recorded 11% yield improvement, IET 28754 with 6965 kgs/ha with 50% flowering of 110

recorded 9% yield improvement, IET 28757 with 7853 kgs/ha with 50% flowering of 105 recorded 22% yield improvement, While IET 28760 with grain yield of 6749 kg/ha and days to 50 % flowering of 105 recorded 5 yield improvement over better check (LC 6152). Hence the entries are promoted for testing in AVT-1 in Zone V.

Performance of entries in different zones in IVT-MS Trial.

S. No.	IET No./ Designation/ Cross combination	GT	Zone IV		Zone V		Zone VI		Zone VII		Remarks
			GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	
	Zone III: None of the entries are superior to Best check (>5%)										
	Zone IV										
1	IET 28724 OR 2538-5 Gouri / PABRC 68	LS	6315 93	11							Dropped > LS Grain Type
2	IET 28750 AD 16168 AD 07260 / ADT 49	MS	5990 75	5							Promoted
3	IET 28757 MTU 1321 (MTU 2284- 103-1-7) MTU 5249 / IR 72	MS	6261 82	10							Promoted
4	IET 28778 RNR 26121 RNR 17469 / BBM 1	MS	6061 76	7							Promoted
	Zone V										
1	IET 28724 OR 2538-5 Gouri / PABRC 68	LS			5301 115	9					Dropped > LS Grain Type
2	IET 28746 RNR 28362 Bhadrakali / NSN 20894	MS			5574 101	14					Promoted
3	IET 28757 MTU 1321 (MTU 2284- 103-1-7) MTU 5249 / IR 72	MS			5164 115	6					Promoted
	Zone VI										
1	IET 28724 OR 2538-5 Gouri / PABRC 68	LS					6375 111	12			Dropped > LS Grain Type
2	IET 28727 RP 6346-36-16-24-2 Samba Mahsuri*3/ ST 12	MS					5977 98	5			Promoted
3	IET 28768 CR 3511-1-1-4-1-1 IR 36 / Surendra	MS					5983 103	5			Promoted
	Zone VII										
1	IET 28730 KPS-6262 BPT 5204 / MTU 1010	MS							6881 103	7	Promoted

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

S. No.	IET No./ Designation/ Cross combination	GT	Zone IV		Zone V		Zone VI		Zone VII		Remarks
			GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	GY (Kg/ha)/ FD	% BC	
2	IET 28732 MTU 1320 (RM 135-33-1-2-1) (HR L 4) MTU 1081 / MTU 1075	MS							7113 115	11	Promoted
3	IET 28754 MTU 1326 (MTU 2513-24-2-2) BPT 5204 / NLR 34449	MS							6965 110	9	Promoted
4	IET 28757 MTU 1321 (MTU 2284-103-1-7) MTU 5249 / IR 72	MS							7853 105	22	Promoted
5	IET 28760 RP 6300-188-23-7 IR 58025A / KMR-3R								6749 105	5	Promoted
BPT 5204 (NC)			4802 74		4573 115		3626 105		5069 105		
WGL 14 (NC)			5207 74		4698 110		4741 107		6413 102		
Zonal Check			3687 73		3174 103		3273 103		5041 92		
Local Check			5688 74		4882 105		5673 96		6152 105		
Over all											
S. No.	IET No./ Designation/ Cross combination	GT	Over all								
			GY (Kg/ha)/ FD	% BC							
1	IET 28730 KPS-6262 BPT 5204 / MTU 1010	MS	6270 105	5							Promoted
2	IET 28732 MTU 1320 (RM 135-33-1-2-1) (HR L 4) MTU 1081 / MTU 1075	MS	6329 117	6							Promoted
3	IET 28757 MTU 1321 (MTU 2284-103-1-7) MTU 5249 / IR 72	MS	6737 108	13							Promoted
BPT 5204 (NC)			4466 107								
WGL 14 (NC)			5728 105								
Zonal Check			4410 100								
Local Check			5961 103								

List of entries promoted to AVT 1- MS:

- **Overall: IET 28730, IET 28732 and IET 28757**
- **Zone IV: IET 28750, IET 28757 and IET 28778**
- **Zone V: IET 28746 and IET 28757**
- **Zone VI: IET 28727 and IET 28768**
- **Zone VII: IET 28730, IET 28732, IET 28754, IET 28757 and IET 28760**

Table 10.1: Composition of entries in Advance Variety Trial 1 – Medium Slender Grain (AVT 1-MS), Kharif 2019

4101-1 MS), Rank 2010

Entry No.	IET No.	Designation	Cross combination	Grain Type
3 rd Year of testing:				
4101	27136	CR 3783-3-2-1-1-1-1	Surendra / Abhaya	MS
4102	25802 (R)	ARRH-7576 (Hybrid)	-	MS
4103	27117	ORJ 1135	RR 615 Mutant	MS
4104	26549	PHI-17108 (Hybrid)	-	MS
4105	27118	MTU 1263	CMS 42B / IR 68897B	MS
4106	WGL 14 (NC)			
2 nd Year of testing:				
4107	27395	HRI-200 (Hybrid)	-	MS
4108	27438	MTU 1281 (MTU 2385-187-1-1-1)	MTU 1075 / MTU1081 / MTU1121	MS
4109	BPT 5204 (NC)			
4110	27460	PNP 55	NPG 11 / NPG 49	MS
4111	27401	RRX-502 (Hybrid)	-	MS
4112	Improved Samba Mahsuri (Eastern and Central), Ketekejoha (North Eastern), Karjat-6 (Western), ADT 49 (Southern) -- ZC			
4113	27394	TMRH-139 (Hybrid)	-	MS
4114	JKRH 3333 (HC)			
4115	27403	RRX-501 (Hybrid)	-	MS
4116	27 P 63 (HC)			
4117	27397	US-301 (Hybrid)	-	MS
4118	Local Check			

Table 10.2: Grain Yield (kg/ha) of entries in AVT1 MS Zone II, Kharif 2019

Entry No.	IET NO	ZONE II					
		UT		PU		HA	
		@PNT		@LDN		@KUL	
4104	26549	3979	3	3843	1	4173	1
4106	WGL 14 (NC)	3519	6	3171	4	2803	7
4109	BPT 5204 (NC)	2713	8	2594	8	3376	6
4112	Zonal Check (ZC)	2497	8	2746	7		
4114	JKRH 3333 (HC)	3501	7	3063	5	4133	3
4116	27 P 63 (HC)	4164	4	2756	6	4153	2
4117	27397	3876	4	3221	3	3560	4
4118	Local Check	4486	3	3738	2	3519	5
	Exp Mean	3592		3141		3674	
	CV	17.0		7.4		11.3	
	CD	898.79		343.52		616.26	
	D/S	05-07-2019		02-07-2019		08-07-2019	
	D/P	24-07-2019		27-07-2019		06-08-2019	
	Local Check Name	Pant Dhan 16		PR 127		Govind	

Table 10.2 contd.: Grain Yield (Kg/ha) of entries in AVT1 MS (Zone III), Kharif 2019

Entry No.	IET No.	Zone III									
		OD								OD (4)	
		BBN		CTK		JYP		CHP		Mean	
4106	WGL 14 (NC)	3716	8	4764	3	3847	6	4263	7	4148	8
4108	27438	5159	1 *	4363	6	6611	1 * #	7927	1 * #	6015	1 * # 27% 28%
4109	BPT 5204 (NC)	4293	5	4539	5	3353	7	5067	5	4313	7
4110	27460	5123	2 *	5425	1 #	5036	2 * #	3160	8	4686	4
4112	Zonal Check (ZC)			4138	8					4138	9
4114	JKRH 3333 (HC)	4978	3	4610	4	4435	4	4799	6	4706	3
4116	27 P 63 (HC)	4365	4	3927	9	4265	5	6172	3	4682	5
4117	27397	4040	6	4155	7	4593	3 *	5674	4	4616	6
4118	Local Check	4004	7	5180	2	3196	8	6626	2	4752	2
	Exp. Mean	4460		4567		4417		5461		4708	
	CD	661.17		679.19		388.14		1255.35		412.19	
	CV%	10.08		10.19		5.98		15.63		6.00	
	D/S	05-07-2019		11-07-2019		05-07-2019		10-07-2019			
	D/P	16-08-2019		10-08-2019		03-08-2019		09-08-2019			
	Local Check Name	Manaswini		CRDhan910		Manaswini		Pratikshya			

Table 10.2 contd.: Grain Yield (Kg/ha) of entries in AVT1 MS (Zone III), Kharif 2019

Entry No.	IET No.	Zone III											
		BI		JH		WB		UP		UP (2)		Zone III (7)	
		PSA (1)		@RCI		@CHN		MSD	VRN	Mean		Mean	
4106	WGL 14 (NC)	3889	3	2864	5	5154	6	6567	2	3936	7	5252	3 4426 8
4108	27438	3765	6	3499	3	5044	7	5892	3	4371	6	5132	5 5441 1 * 13 %
4109	BPT 5204 (NC)	3518	7	2619	7	5451	3	4951	8	3780	8	4366	9 4214 9
4110	27460	2469	8	2782	6	5436	4	5258	6	5002	3	5130	6 4496 6
4112	Zonal Check (ZC)			2578	8			4787	9			4787	8 4463 7
4114	JKRH 3333 (HC)	6296	2	3724	2	5404	5	5810	5	4569	5	5190	4 5071 3
4116	27 P 63 (HC)	6636	1	3273	4	6814	2	6608	1	5751	1	6180	1 5389 2
4117	27397	3765	5	4051	1	6877	1	5115	7	4569	4	4842	7 4559 5
4118	Local Check	3796	4	2373	9	4699	8	5810	4	5005	2	5408	2 4802 4
	Exp. Mean	4267		3085		5610		5644		4623		5238	4833
	CD	1068.46		846.45		256.07		567.41		578.32		517.9	395.91
	CV%	17.03		18.8		3.1		6.89		8.51		6.77	5.61
	D/S	04-07-2019		03-07-2019		09-07-2019		05-07-2019		04-07-2019			
	D/P	25-07-2019		30-07-2019		05-08-2019		03-08-2019		21-07-2019			
	Local Check Name	Santosh		BPT 5204		Ajit (IET		Sambha Sab-		HUR 4-3			

Table 10.2 contd.: Grain Yield (Kg/ha) of entries in AVT1 MS (Zone IV), Kharif 2019

Entry No.	IET No.										
		AS (1)		TR			TR (1)			Zone IV (2)	
		TTB		ARD	@LMB		Mean			Mean	
4101	27136	5480	9	4215	6	4279	4215	6	7%	4848	8
4102	25802 (R)	6429	2 6%	5696	1 *	7534	5696	1 *	45% 11%	6063	2 * 21%
4106	WGL 14 (NC)	5593	8	3024		5105	3024			4309	
4107	27395	5462	10	3817	8	6604	3817	8		4640	9
4109	BPT 5204 (NC)	5193		3222	10	4690	3222	10		4208	
4111	27401	6144	4	4969	4 *	5849	4969	4 *	26%	5557	5 11%
4112	Zonal Check (ZC)	5062		2892		4047	2892			3977	
4113	27394	7033	1 16% 12%	5230	2 *	7220	5230	2 *	33%	6132	1 * 22%
4114	JKRH 3333 (HC)	5271		3660	9	5678	3660	9		4466	10
4115	27403	6089	5	4633	5 *	6646	4633	5 *	18%	5361	6 7%
4116	27 P 63 (HC)	6296	3	5132	3	6022	5132	3		5714	4
4117	27397	5842	7			6140				5842	3 * 17%
4118	Local Check	6087	6	3937	7	5067	3937	7		5012	7
	Exp. Mean	5845		4202		5760	4202			5087	
	CD	1108.7		661.05		2035.91	661.05			658.43	
	CV%	11.26		9.29		20.97	9.29			7.68	
	D/S	06-07-2019		05-08-2019		24-07-2019					
	D/P	02-08-2019		05-09-2019		12-08-2019					
	Local Check Name	Ranjit		BPT-5204							

Table 10.2 contd.: Grain Yield (Kg/ha) of entries in AVT1 MS (Zone V), Kharif 2019

Entry No.	IET No.										
		CH (1)		MA			MA (2)			Zone V (3)	
		RPR		SKL	SND		Mean			Mean	
4101	27136	4181	9	2769	10	3220	2995	10		3390	10
4103	27117	5460	3	5548	1 #	4178	4863	1 #	9% 26%	5062	1 # 9% 20%
4104	26549	4883	8	3925	6	4945	4435	5	15%	4584	6
4105	27118	5942	1 4.72% 16%	5093	2 #	4001	4547	2	18%	5012	2 # 8% 19%
4106	WGL 14 (NC)	4974	6	4454	5	4455	4455	4		4628	5
4109	BPT 5204 (NC)	4032	10	3298	8	4607	3953	7		3979	9
4112	Zonal Check (ZC)	4009		2578		2867	2723			3151	
4114	JKRH 3333 (HC)	5134	5	3710	7	3581	3646	9		4142	8
4116	27 P 63 (HC)	4914	7	3276	9	4420	3848	8		4203	7
4117	27397	5207	4	4621	4 #	4426	4524	3	18%	4751	3 13%
4118	Local Check	5674	2	4853	3	3397	4125	6		4641	4
	Exp. Mean	4946		4011		4009	4010			4322	
	CD	924.17		891.04		1198.69	836.72			655.72	
	CV%	10.97		13.04		17.56	12.25			8.91	
	D/S	26-06-2019		03-07-2019		05-07-2019					
	D/P	16-07-2019		23-07-2019		15-07-2019					
	Local Check Name	Chhattisgarh Devbhog		PDKV Kisan		PKV-HMT					

Table 10.2 contd.: Grain Yield (Kg/ha) of entries in AVT1 MS (Zone VI), Kharif 2019

Entry No.	IET No.	Zone VI									
		MA				MA (2)		GU			
		KJT		SHR		Mean		NVS		NWG	
4102	25802 (R)	4929	3	4961	8	4945	6	6097	2 * #	6420	6
4106	WGL 14 (NC)	3373	9	6017	5	4695	8	4033	10	6526	3
4109	BPT 5204 (NC)	3317	10	4922	9	4120	9	4361	8	4356	10
4111	27401	5705	1 * #	4978	7	5342	5	6340	1 * #	6031	7
4112	Zonal Check (ZC)	3482	8	3306	10	3394	10	4342	9	5528	9
4114	JKRH 3333 (HC)	4641	6	6122	4	5382	4	5179	5	7556	1
4115	27403	4158	7	5600	6	4879	7	5249	4	5999	8
4116	27 P 63 (HC)	5086	2	7056	1	6071	1	5125	6	6808	2
4117	27397	4738	5	6667	2	5703	2	5583	3	6442	5
4118	Local Check	4775	4	6333	3	5554	3	4910	7	6463	4
	Exp. Mean	4420.47		5596.11		5008.29		5121.88		6212.92	
	CD	498.3		824.33		422.44		828.52		712.2	
	CV%	6.57		8.59		4.92		9.43		6.68	
	D/S	10-07-2019		02-07-2019				04-07-2019		07-07-2019	
	D/P	10-08-2019		16-07-2019				03-08-2019		20-08-2019	
	Local Check Name	Karjat 9		Ratnagiri 8				GNR-2		GAR-13	

Table 10.2 contd.: Grain Yield (Kg/ha) of entries in AVT1 MS (Zone VI), Kharif 2019

Entry No.	IET No.	Zone VI (6)					
		GU				GU (4)	
		DBI		VYR		Mean	
4102	25802 (R)	5355	1	3540	9	5353	3
4106	WGL 14 (NC)	4710	5	3937	7	4802	8
4109	BPT 5204 (NC)	3776	10	4139	5	4158	10
4111	27401	4669	6	4475	3	5379	2
4112	Zonal Check (ZC)	4099	8	3632	8	4400	9
4114	JKRH 3333 (HC)	5115	2	4051	6	5475	1
4115	27403	5076	3	3444	10	4942	7
4116	27 P 63 (HC)	3965	9	4519	2	5104	6
4117	27397	4261	7	4435	4	5180	5
4118	Local Check	4932	4	4765	1	5268	4
	Exp. Mean	4595.93		4093.7		5006.11	
	CD	663.46		711.35		402.12	
	CV%	8.42		10.13		4.68	
	D/S	03-07-2019		04-07-2019			
	D/P	05-08-2019		07-08-2019			

Table 10.2 contd.: Grain Yield (Kg/ha) of entries in AVT1 MS (Zone VII), Kharif 2019

Entry No.	IET No.	Zone VII																		
		AP			AP (2)		TE							TE (3)				TN		
		MTU		BPT	Mean		RNR		KNM		WGL		@KMP	Mean				ADT		CBT
4104	26549	3564	8	5117	6	4341	7	8258	4	8480	2*	9240	1 #	8974	1	8659	2* #	12%	11%	6801
4106	WGL 14 (NC)	4809	2	5243	4	5026	4	7888	5	7137	6	8176	3	7041	5	7734	5			7232
4108	27438	4221	5	6302	2*	5262	3	10211	1* #	7741	4	8685	2 #	8179	3	8879	1* #	15%	14%	5774
4109	BPT 5204 (NC)	4411	3	4306	9	4359	6	7740	7	6918	7	7589	5	5744	9	7416	6			5952
4112	Zonal Check (ZC)	3719	7	5512	3	4616	5	6127	9	5040	9	5418	9	6348	8	5528	9			4896
4114	JKRH 3333 (HC)	5795	1	5178	5	5487	1	7742	6	7585	5	6131	8	6665	7	7153	7			6563
4116	27 P 63 (HC)	4395	4	6363	1	5379	2	8304	3	8209	3	6799	7	6863	6	7771	4			6637
4117	27397	3344	9	4727	8	4036	9	8330	2	8787	1*	8027	4 #	7538	4	8381	3	8%		6324
4118	Local Check	3853	6	4822	7	4338	8	6931	8	6409	8	7190	6	8607	2	6843	8			6726
	Exp. Mean	4235		5285		4760		7948		7367		7473		7329		7644				6323
	CD	333.5		778.84		478.85		1293.1		1070.46		1098.21				720.22				1069.9
	CV%	5.4		10.1		6.89		11.15		9.96		10.07		14.73		6.46				11.59
	D/S	08-07-2019		03-08-2019				01-07-2019		05-07-2019		01-07-2019		24-06-2019						16-08-2019
	D/P	02-08-2019		06-09-2019				27-07-2019		23-07-2019		31-07-2019		18-07-2019						23-09-2019
	Local Check Name	MTU1190		BPT 5204				RNR 15048		RNR 15048		WGL-32100		B PT-5204						ADT 52
																				CO 52

Table 10.2 contd.: Grain Yield (Kg/ha) of entries in AVT1 MS (Zone VII), Kharif 2019

Entry No.	IET No.	Zone VII (11)													
		TN (2)			KA					KA (3)		PU (1)		Zone VII (11)	
		Mean			MND		@MGD		SRS		GNV	Mean		KBP	Mean
4104	26549	8063	1 #	18%	6887	3	5959	2	4140	5	9949	1	6992	2	4.35%
4106	WGL 14 (NC)	7862	2		4232	9	4072	5	3795	9	7603	8	5210	9	5599
4108	27438	7287	5		5826	7	5169	3	4990	1* #	9607	3	6808	5	7087
4109	BPT 5204 (NC)	6910	6		4630	8	3706	7	4089	7	7150	9	5290	8	7143
4112	Zonal Check (ZC)	4612	9		5941	6	3333	9	4090	6	8124	7	6052	7	4818
4114	JKRH 3333 (HC)	6357	8		7477	1	3798	6	4293	4	8692	6	6821	4	6157
4116	27 P 63 (HC)	6827	7		7369	2	4248	4	4548	3	9838	2	7252	1	4594
4117	27397	7796	3 #	14%	6647	4	3582	8	4573	2*	9359	5	6860	3	6864
4118	Local Check	7321	4		6563	5	6721	1	4010	8	9526	4	6700	6	6231
	Exp. Mean	7004			6175		4510		4281		8872		6082		6126
	CD	714.17			1080.53		1431.83		412.83		938.03		755.44		1048.83
	CV%	6.99			11.99		21.76		6.61		7.24		8.51		11.73
	D/S				15-07-2019		18-07-2019		03-07-2019		07-08-2019				26-08-2019
	D/P				18-08-2019				25-07-2019		03-09-2019				23-09-2019
	Local Check Name				Thanu		Siri 1253		SIRI 1253		Gangavati				TKM 13

Table 10.3: Days to 50% flowering of entries in AVT1 MS Zone II, Kharif 2019

Entry No.	IET NO	ZONE II		
		UT	PU	HA
		@PNT	@LDN	@KUL
4104	26549	111	111	86
4106	WGL 14 (NC)	103	103	90
4109	BPT 5204 (NC)	111	110	88
4112	Zonal Check (ZC)	125	112	
4114	JKRH 3333 (HC)	96	99	87
4116	27 P 63 (HC)	101	102	89
4117	27397	102	100	82
4118	Local Check	79	94	74
	Exp Mean	103	104	85

Table 10.3 contd.: Days to 50% flowering of entries in AVT1 MS (Zone III), Kharif 2019

Entry No.	IET NO	ZONE III											
		OD				OD (4)	BI (1)	JH	WB	UP		UP (2)	Zone III (7)
		BBN	CTK	JYP	CHP	Mean	PSA	@RCI	@CHN	MSD	VRN	Mean	Mean
4106	WGL 14 (NC)	110	99	110	117	109	104	106	102	111	104	107	108
4108	27438	116	107	111	122	114	111	116	113	116	106	111	113
4109	BPT 5204 (NC)	114	105	112	121	113	107	109	109	109	107	108	111
4110	27460	123	110	120	126	120	113	110	114	104	113	109	116
4112	Zonal Check (ZC)		94			94		94		107		107	100
4114	JKRH 3333 (HC)	107	97	106	112	106	98	103	105	112	92	102	103
4116	27 P 63 (HC)	107	97	107	115	107	98	105	102	104	93	99	103
4117	27397	109	101	109	114	108	99	100	104	106	99	103	105
4118	Local Check	104	99	106	112	105	104	104	84	113	100	107	105
	Exp Mean	111	101	110	117	108	104	105	104	109	102	106	107

Table 10.3 contd.: Days to 50% flowering of entries in AVT1 MS (Zone IV), Kharif 2019

Entry No.	IET NO	ZONE IV		
		AS (1)	TR (1)	Zone IV (2)
		TIB	ARD	Mean
4101	27136	109	102	106
4102	25802 (R)	101	101	101
4106	WGL 14 (NC)	104	101	102
4107	27395	105	102	104
4109	BPT 5204 (NC)	112	104	108
4111	27401	100	91	95
4112	Zonal Check (ZC)	114	91	103
4113	27394	96	88	92
4114	JKRH 3333 (HC)	101	97	99
4115	27403	100	101	100
4116	27 P 63 (HC)	100	99	100
4117	27397	103		103
4118	Local Check	107	103	105

Table 10.3 contd.: Days to 50% flowering of entries in AVT1 MS (Zone V), Kharif 2019

Entry No.	IET NO	ZONE-V				
		CG	MA		MA (2)	Zone V (3)
		RPR	SKL	SND	Mean	Mean
4101	27136	110	100	107	103	106
4103	27117	104	96	105	100	101
4104	26549	102	102	108	105	104
4105	27118	108	106	114	110	109
4106	WGL 14 (NC)	103	97	99	98	100
4109	BPT 5204 (NC)	109	102	109	106	107
4112	Zonal Check (ZC)	104	102	99	101	102
4114	JKRH 3333 (HC)	93	92	102	97	96
4116	27 P 63 (HC)	97	93	98	96	96
4117	27397	103	95	99	97	99
4118	Local Check	105	96	104	100	102
	Exp Mean	103	98	104	101	102

Table 10.3 contd.: Days to 50% flowering of entries in AVT1 MS (Zone VI), Kharif 2019

Entry No.	IET NO	ZONE VI								Zone VI (6)
		MA		MA (2)	GU				GU (4)	
		KJT	SHR	Mean	NVS	NWG	DBI	VYR	Mean	
4102	25802 (R)	99	98	99	95	100	102	98	99	99
4106	WGL 14 (NC)	101	97	99	100	106	105	99	102	101
4109	BPT 5204 (NC)	103	103	103	104	104	108	104	105	104
4111	27401	87	96	92	92	101	97	94	96	95
4112	Zonal Check (ZC)	89	95	92	86	97	105	93	95	94
4114	JKRH 3333 (HC)	90	96	93	93	98	103	97	98	96
4115	27403	88	97	93	92	97	103	96	97	96
4116	27 P 63 (HC)	99	98	98	95	101	99	95	97	98
4117	27397	99	96	98	95	103	105	99	100	99
4118	Local Check	95	93	94	92	104	102	95	98	97
	Exp Mean	95	97	96	95	101	103	97	99	98

Table 10.3 contd.: Days to 50% flowering of entries in AVT1 MS (Zone VII), Kharif 2019

Entry No.	IET NO	ZONE VII - SOUTHERN									
		AP		AP (2)	TE				TE (3)	TN	
		MTU	BPT	Mean	RNR	@KMP	KNM	WBL	Mean	ADT	CBT
4104	26549	99	109	104	104	109	98	106	103	101	104
4106	WGL 14 (NC)	99	107	103	107	108	96	105	103	105	107
4108	27438	103	110	106	109	111	99	109	106	128	107
4109	BPT 5204 (NC)	101	109	105	108	115	102	107	106	106	113
4112	Zonal Check (ZC)	89	103	96	93	115	86	97	92	95	93
4114	JKRH 3333 (HC)	102	108	105	97	104	92	101	97	98	102
4116	27 P 63 (HC)	95	109	102	101	119	94	101	99	100	105
4117	27397	97	110	104	108	117	100	105	104	102	107
4118	Local Check	111	112	111	98	119	99	104	101	116	108
	Exp Mean	99	109	104	103	113	96	104	101	106	105

Table 10.3 contd.: Days to 50% flowering of entries in AVT1 MS (Zone VII), Kharif 2019

Entry No.	IET NO							Zone VII (11)
		KA				KA (3)	PU	
		MND	@MGD	SRS	GNV	Mean	KBP	
4104	26549	111	106	114	101	109	94	104
4106	WGL 14 (NC)	112	105	115	105	111	95	105
4108	27438	112	100	115	107	111	97	109
4109	BPT 5204 (NC)	113	104	117	104	111	95	107
4112	Zonal Check (ZC)	98	95	100	105	101	84	95
4114	JKRH 3333 (HC)	105	99	105	97	102	87	99
4116	27 P 63 (HC)	98	100	108	105	104	89	100
4117	27397	112	105	117	106	112	94	105
4118	Local Check	104	104	117	103	108	88	105
	Exp Mean	107	102	112	104	108	91	103

Table 10.4: Plant Height (cm) of entries in AVT1 MS Zone II, Kharif 2019

Entry No.	IET NO	ZONE II		
		UT	PU	HA
		@PNT	@LDN	@KUL
4104	26549	116.00	101.00	85.00
4106	WGL 14 (NC)	118.00	101.50	78.00
4109	BPT 5204 (NC)	95.00	81.50	84.00
4112	Zonal Check (ZC)	94.00	84.75	
4114	JKRH 3333 (HC)	123.00	99.25	84.00
4116	27 P 63 (HC)	114.00	100.00	83.00
4117	27397	104.00	97.00	86.00
4118	Local Check	111.00	82.25	86.00
	Exp Mean	109.38	93.41	83.71

Table 10.4 contd.: Plant Height (cm) of entries in AVT1 MS (Zone III), Kharif 2019

Entry No.	IET NO	ZONE III											
		OD				OD (4)	BI (1)	JH	WB	UP		UP (2)	Zone III (7)
		BBN	CTK	JYP	CHP	Mean	PSA	@RCI	@CHN	MSD	VRN	Mean	Mean
4106	WGL 14 (NC)	104.00	100.60	96.13	100.55	100.32	99.00	97.00	120.33	81.00	113.33	97.17	99.23
4108	27438	103.00	129.55	105.80	105.63	110.99	114.00	95.00	115.67	122.00	122.03	122.02	114.57
4109	BPT 5204 (NC)	85.00	100.25	82.80	85.05	88.28	92.00	71.00	102.00	88.00	91.13	89.57	89.18
4110	27460	101.00	109.95	96.35	90.05	99.34	95.00	82.00	112.33	105.00	98.97	101.98	99.47
4112	Zonal Check (ZC)		105.25			105.25		107.00		116.00		116.00	110.63
4114	JKRH 3333 (HC)	106.00	108.55	94.93	97.68	101.79	114.00	88.00	119.67	85.00	117.83	101.42	103.43
4116	27 P 63 (HC)	100.00	105.95	92.63	90.53	97.28	112.00	82.00	124.00	112.00	114.13	113.07	103.89
4117	27397	101.00	113.70	96.88	94.78	101.59	106.00	85.00	126.00	115.00	110.03	112.52	105.34
4118	Local Check	98.00	110.65	84.93	91.68	96.31	133.00	74.00	112.33	96.00	95.27	95.63	101.36
	Exp Mean	99.75	109.38	93.80	94.49	100.13	108.13	86.78	116.54	102.22	107.84	105.49	103.01

Table 10.4 contd.: Plant Height (cm) of entries in AVT1 MS (Zone IV), Kharif 2019

Entry No.	IET NO	ZONE IV				
		AS	TR		TR (1)	Zone IV (2)
		TTB	ARD	@LMB	Mean	Mean
4101	27136	98.13	80.00	98.11	80.00	89.07
4102	25802 (R)	121.73	107.33	132.89	107.33	114.53
4106	WGL 14 (NC)	114.33	89.33	118.56	89.33	101.83
4107	27395	103.87	76.00	113.89	76.00	89.93
4109	BPT 5204 (NC)	98.13	77.00	97.67	77.00	87.57
4111	27401	116.80	91.33	117.22	91.33	104.07
4112	Zonal Check (ZC)	146.40	118.00	141.67	118.00	132.20
4113	27394	113.07	84.33	119.78	84.33	98.70
4114	JKRH 3333 (HC)	116.13	99.33	121.33	99.33	107.73
4115	27403	114.60	106.33	119.56	106.33	110.47
4116	27 P 63 (HC)	115.00	97.00	117.67	97.00	106.00
4117	27397	114.27		116.56		114.27
4118	Local Check	117.67	79.33	113.00	79.33	98.50
	Exp Mean	114.63	92.11	117.53	92.11	104.22

Table 10.4 contd.: Plant height (cm) of entries in AVT1 MS (Zone V), Kharif 2019

Entry No.	IET NO	ZONE-V				
		CG	MA		MA (2)	Zone V (3)
		RPR	SKL	SND	Mean	Mean
4101	27136	97.41	97.00	92.80	94.90	95.74
4103	27117	114.33	111.80	100.70	106.25	108.94
4104	26549	115.05	115.20	122.40	118.80	117.55
4105	27118	122.75	123.80	122.60	123.20	123.05
4106	WGL 14 (NC)	117.61	113.40	114.80	114.10	115.27
4109	BPT 5204 (NC)	97.06	86.80	86.40	86.60	90.09
4112	Zonal Check (ZC)	95.20	92.80	85.80	89.30	91.27
4114	JKRH 3333 (HC)	111.19	119.80	122.80	121.30	117.93
4116	27 P 63 (HC)	114.21	112.60	107.40	110.00	111.40
4117	27397	119.78	109.80	114.40	112.10	114.66
4118	Local Check	110.52	119.60	94.6	119.60	115.06
	Exp Mean	110.46	109.33	107.01	108.74	109.18

Table 10.4 contd.: Plant Height (cm) of entries in AVT1 MS (Zone VI), Kharif 2019

Entry No.	IET NO	ZONE VI								Zone VI (6)
		MA		MA (2)	GU				GU (4)	
		KJT	SHR	Mean	NVS	NWG	DBI	VYR	Mean	
4102	25802 (R)	99.00	125.20	112.10	121.30	120.00	128.10	124.47	123.47	119.68
4106	WGL 14 (NC)	100.67	114.60	107.63	113.30	109.00	111.70	120.53	113.63	111.63
4109	BPT 5204 (NC)	103.44	90.67	97.06	94.90	91.00	91.60	96.87	93.59	94.75
4111	27401	87.22	112.07	99.64	118.60	102.00	107.20	116.33	111.03	107.24
4112	Zonal Check (ZC)	89.44	100.07	94.76	102.60	84.00	93.90	110.07	97.64	96.68
4114	JKRH 3333 (HC)	90.22	109.20	99.71	118.30	107.00	107.80	113.27	111.59	107.63
4115	27403	88.44	115.40	101.92	119.70	119.60	115.20	114.93	117.36	112.21
4116	27 P 63 (HC)	99.33	108.27	103.80	120.10	100.00	111.10	107.93	109.78	107.79
4117	27397	99.22	109.93	104.58	116.90	95.60	103.60	109.33	106.36	105.76
4118	Local Check	94.22	99.80	97.01	98.30	103.00	111.80	110.07	105.79	102.86
	Exp Mean	95.12	108.52	101.82	112.40	103.12	108.20	112.38	109.03	106.62

Table 10.4 contd.: Plant Height (cm) of entries in AVT1 MS (Zone VII), Kharif 2019

Entry No.	IET NO	ZONE VII - SOUTHERN									
		AP		AP (2)	TE				TE (3)	TN	
		MTU	BPT	Mean	RNR	@KMP	KNM	WBL	Mean	ADT	CBT
4104	26549	126.55	96.25	111.40	102.65	97.00	124.55	123.30	116.83	109.00	113.00
4106	WGL 14 (NC)	134.60	93.50	114.05	102.95	128.00	123.87	121.15	115.99	106.00	120.40
4108	27438	143.90	118.00	130.95	105.40	126.00	139.91	141.58	128.96	120.00	134.15
4109	BPT 5204 (NC)	111.50	83.25	97.38	95.35	97.00	102.10	97.03	98.16	93.00	104.75
4112	Zonal Check (ZC)	113.70	103.25	108.48	100.65	115.00	121.69	113.55	111.96	101.00	110.30
4114	JKRH 3333 (HC)	140.95	89.25	115.10	102.25	120.00	124.47	113.40	113.37	105.00	111.00
4116	27 P 63 (HC)	123.80	87.25	105.53	100.60	123.00	122.85	117.90	113.78	114.00	117.10
4117	27397	122.55	89.75	106.15	100.60	122.00	123.61	122.15	115.45	112.00	120.35
4118	Local Check	126.60	89.50	108.05	105.70	128.00	134.97	114.30	118.32	115.00	116.90
	Exp Mean	127.13	94.44	110.79	101.79	117.33	124.23	118.26	114.76	108.33	116.44

Table 10.4 contd.: Plant Height (cm) of entries in AVT1 MS (Zone VII), Kharif 2019

Entry No.	IET NO	ZONE VII - SOUTHERN							Zone VII (11)
		TN (2)	KA				KA (3)	PU	
		Mean	MND	@MGD	SRS	GNV	Mean	KBP	Mean
4104	26549	111.00	91.00	89.20	90.70	109.07	96.92	127.00	110.28
4106	WGL 14 (NC)	113.20	93.73	87.40	97.00	106.20	98.98	128.00	111.58
4108	27438	127.08	95.60	88.20	101.70	113.07	103.46	140.00	123.03
4109	BPT 5204 (NC)	98.88	75.53	72.80	80.10	75.80	77.14	128.00	95.13
4112	Zonal Check (ZC)	105.65	93.20	88.10	83.80	110.33	95.78	133.00	107.68
4114	JKRH 3333 (HC)	108.00	94.60	90.80	89.20	108.27	97.36	117.00	108.67
4116	27 P 63 (HC)	115.55	90.53	85.60	88.60	101.13	93.42	118.00	107.43
4117	27397	116.18	97.53	83.00	94.70	109.07	100.43	108.00	109.12
4118	Local Check	115.95	97.00	78.20	71.40	107.40	91.93	117.00	108.71
	Exp Mean	112.39	92.08	84.81	88.58	104.48	95.05	124.00	109.07

Table 10.5: Panicles/m2 of entries in AVT1 MS Zone II, Kharif 2019

Entry No.	IET NO	ZONE II		
		UT	PU	HA
		@PNT	@LDN	@KUL
4104	26549	280	262	338
4106	WGL 14 (NC)	331	234	317
4109	BPT 5204 (NC)	296	272	281
4112	Zonal Check (ZC)	269	282	
4114	JKRH 3333 (HC)	288	239	272
4116	27 P 63 (HC)	301	239	307
4117	27397	273	254	280
4118	Local Check	294	290	255
	Exp Mean	292	259	293

Table 10.5 contd.: Panicles/m2 of entries in AVT1 MS (Zone III), Kharif 2019

Entry No.	IET NO	ZONE III											
		OD				OD (4)	BI (1)	JH	WB	UP		UP (2)	Zone III (7)
		BBN	CTK	JYP	CHP	Mean	PSA	@RCI	@CHN	MSD	VRN	Mean	Mean
4106	WGL 14 (NC)	222	345	293	167	257	276	149	248	475	205	340	283
4108	27438	230	340	302	159	258	253	155	297	410	212	311	272
4109	BPT 5204 (NC)	243	325	363	182	278	271	178	239	414	269	341	295
4110	27460	265	325	318	201	277	293	175	347	409	232	321	292
4112	Zonal Check (ZC)		323			323		160		397		397	360
4114	JKRH 3333 (HC)	254	340	277	176	262	347	152	281	384	174	279	279
4116	27 P 63 (HC)	245	310	301	190	261	324	146	297	461	229	345	294
4117	27397	225	343	349	181	275	319	168	371	360	201	281	283
4118	Local Check	228	317	316	220	270	359	185	248	346	242	294	290
	Exp Mean	239	330	315	184	273	305	163	291	406	221	323	294

Table 10.5 contd.: Panicles/m2 of entries in AVT1 MS (Zone IV), Kharif 2019

Entry No.	IET NO	ZONE IV				
		AS (1)	TR		TR (1)	Zone IV (2)
		TTB	D	@LM	Mean	Mean
4101	27136	252	250	264	250	251
4102	25802 (R)	202	299	211	299	250
4106	WGL 14 (NC)	218	298	244	298	258
4107	27395	250	293	239	293	271
4109	BPT 5204 (NC)	278	260	367	260	269
4111	27401	223	292	225	292	258
4112	Zonal Check (ZC)	305	221	331	221	263
4113	27394	275	284	283	284	279
4114	JKRH 3333 (HC)	217	302	253	302	259
4115	27403	208	290	281	290	249
4116	27 P 63 (HC)	223	282	289	282	253
4117	27397	208		242		208
4118	Local Check	212	315	297	315	264
	Exp Mean	236	282	271	282	256

Table 10.5 contd.: Panicles/m2 of entries in AVT1 MS (Zone V), Kharif 2019

Entry No.	IET NO	ZONE-V				
		CG	MA		MA (2)	Zone V (3)
		RPR	SKL	SND	Mean	Mean
4101	27136	229	253	342	298	275
4103	27117	245	270	271	271	262
4104	26549	210	251	273	262	245
4105	27118	231	210	183	197	208
4106	WGL 14 (NC)	216	200	273	237	230
4109	BPT 5204 (NC)	240	252	357	304	283
4112	Zonal Check (ZC)	218	210	221	216	216
4114	JKRH 3333 (HC)	215	233	236	235	228
4116	27 P 63 (HC)	224	212	215	213	217
4117	27397	211	225	248	237	228
4118	Local Check	229	237	337	287	268
	Exp Mean	224	232	269	250	242

Table 10.5 contd.: Panicles/m2 of entries in AVT1 MS (Zone VI), Kharif 2019

Entry No.	IET NO	ZONE VI								Zone VI (6)
		MA		MA (2)	GU				GU (4)	
		KJT	SHR	Mean	NVS	NWG	DBI	VYR	Mean	
4102	25802 (R)	209	184	197	210	294	220	223	237	223
4106	WGL 14 (NC)	214	276	245	237	296	200	198	233	237
4109	BPT 5204 (NC)	223	209	216	312	284	234	287	279	258
4111	27401	240	220	230	209	292	237	222	240	236
4112	Zonal Check (ZC)	215	161	188	226	289	221	262	250	229
4114	JKRH 3333 (HC)	235	260	247	222	304	212	185	231	236
4115	27403	240	242	241	222	292	230	236	245	243
4116	27 P 63 (HC)	214	312	263	258	298	235	233	256	258
4117	27397	231	252	242	249	293	223	240	251	248
4118	Local Check	242	193	218	261	293	152	219	231	227
	Exp Mean	226	231	229	241	293	217	231	245	240

Table 10.5 contd.: Panicles/m² of entries in AVT1 MS (Zone VII), Kharif 2019

Entry No.	IET NO	ZONE VII - SOUTHERN										
		AP		AP (2)	TE				TE (3)	TN		TN (2)
		MTU	BPT	Mean	RNR	@KMP	KNM	WBL	Mean	ADT	CBT	Mean
4104	26549	289	323	306	378	18	319	405	367	290	433	361
4106	WGL 14 (NC)	292	314	303	300	13	312	382	331	273	311	292
4108	27438	307	374	340	317	13	253	415	328	320	327	323
4109	BPT 5204 (NC)	310	309	309	370	15	345	384	367	290	436	363
4112	Zonal Check (ZC)	290	333	312	360	15	293	381	345	307	560	434
4114	JKRH 3333 (HC)	318	319	319	323	15	262	403	329	281	353	317
4116	27 P 63 (HC)	290	324	307	416	16	295	406	372	302	348	325
4117	27397	295	298	297	345	12	264	381	330	287	328	307
4118	Local Check	292	293	292	349	15	275	387	337	310	417	364
	Exp Mean	298	321	309	351	15	291	394	345	296	390	343

Table 10.5 contd.: Panicles/m² of entries in AVT1 MS (Zone VII), Kharif 2019

Entry No.	IET NO							Zone VII (11)
		KA				KA (3)	PU	
		MND	@MGD	SRS	GNV	Mean	KBP	Mean
4104	26549	430	365	308	373	370	478	366
4106	WGL 14 (NC)	440	280	314	370	375	562	352
4108	27438	467	142	310	356	377	495	358
4109	BPT 5204 (NC)	513	366	304	392	403	504	378
4112	Zonal Check (ZC)	450	68	364	349	388	429	374
4114	JKRH 3333 (HC)	447	59	268	383	366	520	352
4116	27 P 63 (HC)	493	229	326	440	420	412	368
4117	27397	410	218	260	397	356	520	344
4118	Local Check	457	329	346	348	383	520	363
	Exp Mean	456	228	311	379	382	493	362

Table 10.6: Grain quality characteristics of entries in AVT 1-MS, Kharif 2019

Entry No.	IET No.	HULL	MILL	HRR	KL	KB	L/B	Grain Type	Grain Chalk	ASV	AC	GC
4101	27136	76.4	68.6	59.8	5.16	1.87	2.75	MS	A	5.0	24.14	22
4102	25802	78.7	68.6	59.9	5.60	2.08	2.69	MS	A	7.0	24.05	32
4103	27117	78.4	68.2	61.3	5.79	2.13	2.71	MS	A	5.0	23.23	25
4104	26549	77.1	67.1	52.9	5.11	1.86	2.74	MS	VOC	5.0	22.58	48
4105	27118	76.1	67.5	57.2	5.43	2.01	2.7	MS	VOC	4.0	23.37	22
4106	WGL-14	77.4	69.3	66.9	5.13	1.88	2.72	MS	A	5.0	23.84	22
4107	27395	78.3	67.7	56.4	5.38	1.85	2.9	MS	A	7.0	21.64	22
4108	27438	79.3	70.1	59.5	5.38	1.89	2.84	MS	A	4.0	25.72	37
4109	BPT-5204	76.7	66.2	53.9	5.30	1.86	2.84	MS	A	5.0	24.34	22
4110	27460	78.8	69.5	62.1	5.32	1.78	2.98	MS	A	5.0	25.72	22
4111	27401	75.3	65.5	54.3	5.28	1.86	2.83	MS	A	7.0	22.90	22
4112	ADT-49	78.9	69.0	53.6	4.76	1.82	2.61	MS	A	7.0	23.52	31
4113	27394	77.7	68.2	57.1	5.80	2.05	2.82	MS	A	4.0	25.16	57
4114	JKRH-3333	79.0	69.7	64.8	5.29	2.00	2.64	MS	A	4.0	26.60	22
4115	27403	78.9	70.5	64.1	5.14	1.77	2.9	MS	A	7.0	27.42	22
4116	27 P 63	78.5	69.2	58.2	5.30	1.92	2.76	MS	A	5.0	24.11	22
4117	27397	76.7	68.1	58.7	5.21	1.89	2.75	MS	A	4.0	23.84	36

HULL: Hulling (%); MILLING (%); HRR: Head Rice Recovery (%); KL: Kernel Length(mm); KB: Kernel Breadth(mm); L/B: Length and breadth ratio; Grain Chalk: Grain Chalkiness; VOC: Very occasionally present; A: Absent; ASV: Alkali Spreading Value; AC: Amylose Content(%); GC: Gel Consistency; MS: Medium Slender;

Table 10.7: Composition of entries in Initial Variety Trial – Medium Slender Grain (IVT-MS), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
1st Year of testing:				
4201	28722	BPT 2824	MTU 7029 / NLR 34449	MS
4202	28723	AD 15105	BPT 5204 / AD 02233	MS
4203	28724	OR 2538-5	Gouri / PABRC 68	LS
4204	28725	GNV 1904	BPT 5204 Gamma Mutant (BPT 5204-11-89-13-1-1-1801)	MS
4205	28726	Pusa 1702-10-271	BPT 5204 / DHMASQ 164-2b // BPT 5204*3	MS
4206	28727	RP 6346-36-16-24-2	Samba Mahsuri*3 / ST 12	MS
4207	28728	CB 16570	CO 51 / JGL 384	MS
4208	28729	JGL 32485	JGL 11727 / BPT 5204	MS
4209	28730	KPS-6262	BPT 5204 / MTU 1010	MS
4210	28731	KNM 6869	BPT 5204 / GP 33 // RNR 15048	MS
4211	28732	MTU 1320 (RM 135-33-1-2-1) (HR L 4)	MTU 1081 / MTU 1075	MS
4212	28733	NWGR 15022	GR-11 / IR 60	MS
4213	28734	CR 4208 -12-2-2-1	Swarna MAS / CR 1014	MS
4214	28735	NP 9624	PAB 3237 / PAB 6469	MS
4215	28736	RP 6333-59-11-6-2	NLR 40058 / WGL 32100	MS
4216	28737	BPT 2846	MTU 1061 / IR 78585-64-2-4-3-1	MS
4217	28738	GNV 1907	BPT 5204 Gamma Mutant (BPT 5204-11-136-81-1-1-1-1804)	MS
4218	28739	RP 6366-JBC 154-1-14	WGL 14 / JSB 24	MS
4219	28740	BARC KKV 25	PB 1 Mutant / Karjat 4	SS
4220	28741	CR 4069-1311-1-1-4-5-7	Pyari / Satari	MS
4221	28742	NVSR 441	(RP-Bio-226 / IRGC 1819) / IET 22071	MS
4222	28743	CRAC 3998-41-2	Doubled haploid of 27P63	MS
4223	28744	NVSR 2565	(GAR 13 / RP BIO 226) / RP BIO 226.	MS
4224	BPT 5204 (NC)			
4225	28745	SKL -07-11-177-50-40-12-40	PKV HMT / Acharmati	MS
4226	28746	RNR 28362	Bhadrakali / NSN 20894	MS
4227	28747	RP 6365-JBC 166-7-1	Samba Mahsuri Sub-1 // BPT 5204 / C 101 A 51 /// BPT 5204 / Tetep	MS
4228	28748	Pusa 5268-40	Pusa 44 / CN 1408-10-2-2	MS
4229	28749	RP 5977-MS-M-20-3-2-3-4-3-2	BPT 5204 Mutant	MS
4230	28750	AD 16168	AD 07260 / ADT 49	MS
4231	28751	RP 5963-13	Improved Samba Mahsuri / KMR 3R*1	MS
4232	28752	CB 16512	CO 51 / HGL 17190	MS
4233	28753	RP 5977-MS-M-18-5-2-3-1-4-5	BPT 5204 Mutant	MS
4234	28754	MTU 1326 (MTU 2513-24-2-2)	BPT 5204 / NLR 34449	MS
4235	28755	CR 3553-9-2-1-1-2-2	ADT 43 / Ananga	MS
4236	WGL 14 (NC)			
4237	28756	R 1762-264-1-201-1	R 979-67-2-44-1 / IR 64	MS

Entry No.	IET No.	Designation	Cross combination	Grain Type
4238	28757	MTU 1321 (MTU 2284-103-1-7)	MTU 5249 / IR 72	MS
4239	28758	CR 3783-3-2-1-1-1-4-1	Surendra / Abhaya	MS
4240	28759	PNP 8064	NP 5682 / BPT 5204	MS
4241	28760	RP 6300-188-23-7	IR 58025A / KMR-3R	MS
4242	28761	RP 6112-MS-M-6-55-2-3-4-3-2-5	BPT 5204 Mutant	MS
4243	28762	NWGR 13052	Gurjari / IET 17126	MS
4244	28763	RTN 1313-6-3-1-1-2-4	GR 102 / PAB 9368	SS
4245	28764	JGL 33124	JGL 1798 / Mahamaya	MS
4246	28765	RP 6354-10-21-6-3	Samba Mahsuri*2 / ST 12	MS
4247	28766	P 3237	BPT 5204 / I.W.Ponni	MS
4248	Improved Samba Mahsuri (Eastern and Central), Ketekejoha (North Eastern), Karjat-6 (Western), ADT 49 (Southern) -- ZC			
4249	28767	SKL 07-11-177-50-65-60-267	PKV HMT / Acharmati	MS
4250	28768	CR 3511-1-1-1-4-1-1	IR 36 / Surendra	MS
4251	28769	KNM 6871	BPT 5204 / GP 33 // RNR 15048	MS
4252	28770	KNM 6854	BPT 5204 / GP 33 // RNR 15048	MS
4253	28771	CRAC 3998-114-1	Doubled haploid of 27P63	MS
4254	28772	NVSR 2715	IR 28 / GAR 13	MS
4255	28773	RP 6329-100-8-2-1	MTU 1081 / Sinnasivappu	MS
4256	28774	BARC KKV 24	PB 1 Mutant / Karjat 4	SS
4257	28775	NVSR 2529	GAR 13 / JGL 3828	MS
4258	28776	RP 6166-47	MTU 1010 / O.rufipogon	MS
4259	28777	CR 4213-22-1-3-1-1-1	CR 3856-44-22-2-1-11-1 / NJ 276	MS
4260	28778	RNR 26121	RNR 17469 / BBM 1	MS
4261	28779	JGL 23746	JGL 3855 / C 28	MS
4262	28780	RP 6334-111-5-2-1	JGL 3844 / KAUM 166-2	MS
4263	28781	Pusa 1702-10-289	BPT 5204 / DHMASQ 164-2b // BPT 5204*3	MS
4264	Local Check			

Table 10.8: Grain Yield (Kg/ha) of entries in IVT MS, Kharif 2019

Entry No.	IET No.	Zone III										
		OD		OD (2)		BI		BI (1)		WB		WB (1)
		CTK	JYP	Mean		PSA		Mean		@RCI	CHN	Mean
4201	28722	6032	6019	6026		3819		3819		1197	3039	3039
4202	28723	6723	4072	5398		5556		5556		1529	3885	3885
4203	28724	6348	4684	5516		8767	1 *	8767	1 * 28%	665	5326	5326
4204	28725	5259	4856	5058		5295		5295		1862	4073	4073
4205	28726	7829	7	3598	5714	5990		5990		2194	4825	4825
4206	28727	5603	6239	5921		6250		6250		1529	6704	3 * 6704
4207	28728	4199	5928	5064		6510		6510		2394	5764	9 5764 9
4208	28729	3952	3277	3615		7552	3	7552	3 10%	798	5827	8 5827 8
4209	28730	8475	4 * 7992	6	8234	3 * 15%	5729			2327	4386	4386
4210	28731	5509	4129	4819		4340		4340		2261	4637	4637
4211	28732	10211	1 * 10367	1 * 10289	1 * 44%	1910		1910		731	4762	4762
4212	28733	1882	5000	3441		6337		6337		1729	4574	4574
4213	28734	7401	2420	4911		1823		1823		2793	2	4198
4214	28735	5118	8314	3	6716	6858		6858		1995	3822	3822
4215	28736	5020	3419	4220		6597		6597		1995	3509	3509
4216	28737	4404	4801	4603		3038		3038		931	3446	3446
4217	28738	5424	4489	4957		6250		6250		2460	4010	4010
4218	28739	5895	5900	5898		5816		5816		1396	4386	4386
4219	28740	4836	3814	4325		5295		5295		2128	5138	5138
4220	28741	3072	2008	2540		3993		3993		598	2945	2945
4221	28742	3005	3816	3411		5642		5642		1795	3947	3947
4222	28743	3874	5530	4702		5295		5295		1729	5326	5326
4223	28744	2721	5227	3974		4774		4774		1330	3822	3822
4224	BPT 5204 (NC)	6008	994	3501		4774		4774		1928	3258	3258
4225	28745	6119	7439	10	6779	5642		5642		1529	3584	3584
4226	28746	6586	5456	6021		6250		6250		1197	4135	4135
4227	28747	3532	4644	4088		1736		1736		2128	4536	4536
4228	28748	5689	3598	4644		6163		6163		1928	3759	3759
4229	28749	4186	3220	3703		6163		6163		1928	3258	3258
4230	28750	5351	6335	5843		3299		3299		2394	3446	3446
4231	28751	5384	4782	5083		6163		6163		665	3383	3383
4232	28752	5499	4621	5060		7292	5	7292	5 6%	1463	4323	4323
4233	28753	3517	5061	4289		4427		4427		2660	4	3697
4234	28754	8919	3 * 7775	7	8347	2 * 17%	3038		3038	1662	4699	4699
4235	28755	6040	5777	5909		5990		5990		2660	4	6140
4236	WGL 14 (NC)	5376	6220	5798		6858		6858		1862	4825	4825
4237	28756	6299	8549	2	7424	7	5469		5469	2327	3540	3540
4238	28757	10163	2 * 5830	7997	4	12%	5729		5729	2593	8	5138
4239	28758	7742	8	7992	5	10%	6250		6250	2660	4	4762
4240	28759	7712	9	6686	7199	9	6597		6597	2660	4	5514
4241	28760	2577	3561	3069		6510		6510		3657	1	4511
4242	28761	4328	5246	4787		7118	8	7118	8	1795	3759	3759
4243	28762	4286	4894	4590		5295		5295		1862	5764	9 5764 9
4244	28763	5480	5805	5643		5729		5729		1729	4511	4511
4245	28764	4659	5795	5227		4948		4948		1596	5138	5138
4246	28765	7866	6	6733	7300	8	7552	3	7552	3 10%	1862	5075
4247	28766	5253	6551	5902		4948		4948		2593	8	5702
4248	Zonal Check (ZC)	5836	4205	5021		4601		4601		1463	3634	3634
4249	28767	4804	5947	5376		4514		4514		1729	3402	3402
4250	28768	6098	8157	4	7128		5816		5816	2460	5138	5138
4251	28769	7401	10	3864	5633		5556		5556	1662	6140	5 6140 5
4252	28770	5043	3693	4368		5729		5729		1795	4261	4261
4253	28771	3170	4583	3877		6250		6250		1995	4449	4449
4254	28772	3993	7502	9	5748		6858		6858	1064	5138	5138
4255	28773	3914	5540	4727		7118	8	7118	8	997	6328	4 6328 4
4256	28774	1734	4818	3276		6250		6250		1130	4950	4950
4257	28775	1150	3191	2171		3038		3038		1064	3728	3728
4258	28776	8009	5 * 7159	7584	6	6%	6250		6250	2527	4574	4574
4259	28777	4648	6636	5642		6684		6684		2128	5514	5514
4260	28778	6633	4883	5758		7292	5	7292	5 6%	2793	2	6892
4261	28779	4893	6379	5636		7899	2 * 7899	2 * 15%	1263	6892	1 * 6892	1 * 17%
4262	28780	5083	4451	4767		7292	5	7292	5 6%	2527	10	5138
4263	28781	6764	6148	6456		6944	10	6944	10	2061	4261	4261
4264	Local Check (LC)	6540	7727	8	7134	10	6771		6771	1596	5890	7 5890 7
	Exp. Mean	5423	5380	5402		5660		5660		1843	4612	4612
	CD	1414.86	1254.85	984.4		804.32		804.3		699.48	795.89	795.9
	CV%	13.06	11.67	9.12		7.11		7.11		18.99	8.64	8.64
	D/S	11-07-2019	27-06-2019			27-06-2019				27-06-2019	08-07-2019	
	D/P	13-08-2019	17-07-2019			20-07-2019				20-08-2019	09-08-2019	
	Local Check Name	CRDhan910	Manaswini			Santosh				BVS-1	Ajit (IET 22066)	

*Superior to best check %superior over best check

#Superior over hybrid check %Superior over hybrid check

Table 10.8 contd.: Grain Yield (Kg/ha) of entries in IVT MS, Kharif 2019

Entry No.	IET No.	Zone III					Zone IV			
		UP		UP (2)		Zone III (6)		TR		
		MSD	VRN	Mean		Mean		@ARD	@LMB	
4201	28722	5507	4460	4984		4813		3170	4738	
4202	28723	5757	5180	5469		5196		3200	4036	
4203	28724	5257	5220	5239		5934		3120	6043	2
4204	28725	7259	1 * 5270	6265	3 5%	5335		3315	2666	
4205	28726	7040	2 * 4040	5540		5554		4023	3957	
4206	28727	6195	4420	5308		5902		3631	3591	
4207	28728	6633	3 5405	6019	5	5740		3188	3899	
4208	28729	5319	5240	5280		5195		3014	4038	
4209	28730	5163	5170	5167		6153	8	3927	4723	
4210	28731	5569	5170	5370		4892		3054	3916	
4211	28732	4819	5280	5050		6225	5	4327	4143	
4212	28733	6508	5 5390	5949	8	4949		3032	3878	
4213	28734	6383	5160	5772		4564		3400	4764	
4214	28735	6383	4025	5204		5753		3006	2934	
4215	28736	5757	3470	4614		4629		3108	2737	
4216	28737	5131	5920	9 5526		4457		3031	4455	
4217	28738	5569	5040	5305		5130		3019	2273	
4218	28739	5632	6040	5 5836	10	5612		3117	3948	
4219	28740	6320	3550	4935		4826		4023	3317	
4220	28741	5194	3350	4272		3427		3181	3818	
4221	28742	6446	7 4740	5593		4599		3926	2022	
4222	28743	5695	6020	6 5858	9	5290		3638	2059	
4223	28744	5632	3710	4671		4314		5081	8 2418	
4224	BPT 5204 (NC)	6320	5580	5950	7	4489		4438	4434	
4225	28745	5632	5410	5521		5638		5881	3 * 5282	7
4226	28746	5820	5820	5820		5678		6068	2 * 4130	
4227	28747	6070	4650	5360		4195		4223	4246	
4228	28748	5257	2260	3759		4454		3669	5020	10
4229	28749	5194	4570	4882		4432		4127	3771	
4230	28750	4443	5215	4829		4682		2804	4075	
4231	28751	5444	5570	5507		5121		3011	2677	
4232	28752	5131	5500	5316		5394		3017	3118	
4233	28753	4506	6110	3 5308		4553		3036	3775	
4234	28754	4193	5390	4792		5669		3256	4179	
4235	28755	5225	5870	10 5548		5840		3131	3529	
4236	WGL 14 (NC)	5319	5970	8 5645		5761		3062	3458	
4237	28756	6633	3 5300	5967	6	5965	9	2767	4946	
4238	28757	6383	6000	7 6192	4	6541	3	3163	5222	8
4239	28758	5695	6900	1 6298	2 * 6%	6557	2	3019	5397	6
4240	28759	5695	4950	5323		6192	7	3603	4280	
4241	28760	5382	4750	5066		4549		5128	7 4599	
4242	28761	4819	4800	4810		5012		3300	3766	
4243	28762	5851	3370	4611		4910		3340	2273	
4244	28763	5194	4910	5052		5272		3288	4931	
4245	28764	6383	9 4880	5632		5301		4519	10 3854	
4246	28765	6508	5 6210	2 6359	1 * 7%	6657	1	3382	5027	9
4247	28766	6133	4120	5127		5451		3747	4657	
4248	Zonal Check (ZC)	4819	5320	5070		4736		3168	2829	
4249	28767	4568	4210	4389		4574		4471	4781	
4250	28768	5632	4790	5211		5939	10	3532	6362	1
4251	28769	5131	4700	4916		5465		3590	3338	
4252	28770	6008	4390	5199		4854		4167	3670	
4253	28771	5945	3870	4908		4711		4006	5624	5
4254	28772	5131	6080	4 5606		5784		4231	5645	4
4255	28773	4881	5040	4961		5470		6410	1 * 3983	
4256	28774	5069	5850	5460		4779		3170	4217	
4257	28775	4506	3100	3803		3119		5769	4 * 4334	
4258	28776	6383	9 4790	5587		6194	6	4647	9 3274	
4259	28777	5820	5190	5505		5749		3010	3882	
4260	28778	6446	7 2350	4398		5749		5769	4 * 4192	
4261	28779	5257	4010	4634		5888		3157	5014	
4262	28780	4944	5110	5027		5336		4167	4098	
4263	28781	4944	5140	5042		5700		3622	3317	
4264	Local Check (LC)	5695	5630	5663		6376	4	5275	6 5898	3
Exp. Mean		5618	4921	5270		5269		3760	4054	
CD		601.49	1089.85	624.9		430.4		397.28	2701.16	
CV%		5.36	11.08	5.93		4.09		5.29	33.34	
D/S		05-07-2019	26-06-2019					08-06-2019	24-07-2019	
D/P		03-08-2019	13-07-2019					29-08-2019	13-08-2019	
Local Check Name		Sambha Mahsuri	HUR 4-3					Gomati		

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 10.8 contd.: Grain Yield (Kg/ha) of entries in IVT MS, Kharif 2019

Entry No.	IET No.	Zone V								Zone V (3)	Zone VI												
		CH		CH (1)		MA		MA (2)			MA		MA (1)										
		RPR		Mean		SKL	SND	Mean			Mean		@KJT	SHR	Mean								
4201	28722	4844		4844		3308		4858	6	4083		4337		2390		3229		3229					
4202	28723	3994		3994		4151		3849		4000		3998		1892		3194		3194					
4203	28724	6315	1	6315	1	11%	4511		5078	3	4795	5	7%	5301	2	9%	1853	7095	5	7095	5	13%	
4204	28725	5089		5089		3636		3658		3647		4128		3885		3079		3079		3079			
4205	28726	4358		4358		3604		2940		3272		3634		2406		4259		4259		4259			
4206	28727	4562		4562		3925		4744	10	4335		4410		5340	1	7176	3	7176	3	15%			
4207	28728	4255		4255		4247		3651		3949		4051		3618		5336		5336		5336			
4208	28729	4470		4470		4858		4538		4698	7	4622		2662		3090		3090		3090			
4209	28730	5313		5313		5566	2	4411		4989	2	11%	5097	4	1693		3808		3808		3808		
4210	28731	3777		3777		4788		4425		4607		4330		4363	6	4155		4155		4155			
4211	28732	5555	10	5555	10	5534	3	3267		4401		4785		2527		4595		4595		4595			
4212	28733	3602		3602		3668		4510		4089		3927		1774		6019	10	6019	10				
4213	28734	4377		4377		3855		3523		3689		3918		1617		2604		2604		2604			
4214	28735	4290		4290		3784		4673		4229		4249		4036	10	7813	1 *	7813	1 *	25%			
4215	28736	3214		3214		3411		2628		3020		3084		1571		3889		3889		3889			
4216	28737	3878		3878		2317		2741		2529		2979		112		3704		3704		3704			
4217	28738	4373		4373		3565		4503		4034		4147		2464		6412	7	6412	7				
4218	28739	5073		5073		4003		3878		3941		4318		4605	2	4086		4086		4086			
4219	28740	3328		3328		4183		3643		3913		3718		3284		5000		5000		5000			
4220	28741	1503		1503		2542		3203		2873		2416		2649		4051		4051		4051			
4221	28742	4030		4030		3179		3885		3532		3698		3265		6713	6	6713	6	7%			
4222	28743	3832		3832		3642		4176		3909		3883		2957		2882		2882		2882			
4223	28744	3392		3392		3372		3267		3320		3344		2575		2731		2731		2731			
4224	BPT 5204 (NC)	4802		4802		4344				4344		4573		4202	8	3183		3183		3183			
4225	28745	4289		4289		4447		4411		4429		4382		3219		2280		2280		2280			
4226	28746	5824	6	5824	6	5393	5	5504	1 *	5449	1 *	22%	5574	1 *	14%	2735	2928	2928		2928			
4227	28747	3551		3551		3893		3132		3513		3525		3866		2813		2813		2813			
4228	28748	3682		3682		3887		3565		3726		3711		1198		3461		3461		3461			
4229	28749	3639		3639		4730		4538		4634	9	4302		1665		3947		3947		3947			
4230	28750	5990	4	5990	4	5%	4723		4396		4560		5036	5	1915		3634		3634		3634		
4231	28751	3633		3633		1622		3054		2338		2770		137		2836		2836		2836			
4232	28752	3747		3747		4846		3736		4291		4110		4514	3	5694		5694		5694			
4233	28753	4381		4381		4569		4560		4565		4503		2413		5093		5093		5093			
4234	28754	4787		4787		4910	8	4467		4689	8	4721		1833		4294		4294		4294			
4235	28755	3738		3738		4234		3203		3719		3725		4329	7	5139		5139		5139			
4236	WGL 14 (NC)	5207		5207		4498		4389		4444		4698		4420	4	3160		3160		3160			
4237	28756	4138		4138		4575		4489		4532		4401		4188	9	5231		5231		5231			
4238	28757	6261	2	6261	2	10%	5650	1 *	3580		4615	10	5164	3	6%	1834		4815		4815			
4239	28758	4563		4563		4093		4908	5	4501		4521		2454		5532		5532		5532			
4240	28759	5357		5357		4202		3977		4090		4512		3883		4120		4120		4120			
4241	28760	4830		4830		5508	4	3587		4548		4642		2400		6262	8	6262	8				
4242	28761	4571		4571		4762		5121	2	4942	3	10%	4818		2516		5394		5394		5394		
4243	28762	3950		3950		3153		3132		3143		3412		2647		3762		3762		3762			
4244	28763	4985		4985		4891	9	4822	7	4857	4	8%	4899	8	1910		3241		3241		3241		
4245	28764	4407		4407		4588		4332		4460		4442		3484		3854		3854		3854			
4246	28765	4875		4875		4955	7	3338		4147		4389		3454		4653		4653		4653			
4247	28766	5560	9	5560	9	3578		2642		3110		3927		2035		4398		4398		4398			
4248	Zonal Check (ZC)	3687		3687		2484		3352		2918		3174		3006		2766		2766		2766			
4249	28767	5132		5132		4743		3189		3966		4355		2634		2338		2338		2338			
4250	28768	4979		4979		4575		4993	4	4784	6	7%	4849	10	2110		7269	2	7269	2	16%		
4251	28769	4486		4486		4620		3970		4295		4359		3624		2546		2546		2546			
4252	28770	3189		3189		3263		3878		3571		3443		2185		3843		3843		3843			
4253	28771	3679		3679		3089		3232		3161		3333		2812		3206		3206		3206			
4254	28772	4125		4125		3623		4794	9	4209		4181		2286		5637		5637		5637			
4255	28773	5250		5250		4505		4283		4394		4679		2304		3819		3819		3819			
4256	28774	3762		3762		2780		4801	8	3791		3781		2952		5058		5058		5058			
4257	28775	3694		3694		4054		4517		4286		4088		3360		7106	4	7106	4	13%			
4258	28776	4141		4141		3282		3736		3509		3720		3414		4410		4410		4410			
4259	28777	5682	8	5682	8	4421		4325		4373		4809		2503		4213		4213		4213			
4260	28778	6061	3	6061	3	7%	5032	6	3835		4434		4976	7	3597		4155		4155		4155		
4261	28779	5852	5	5852	5		4865	10	4325		4595		5014	6	2542		4572		4572		4572		
4262	28780	4706		4706		4550		4183		4367		4480		3258		4317		4317		4317			
4263	28781	5099		5099		3044		3878		3461		4007		2298		3657		3657		3657			
4264	Local Check (LC)	5688	7	5688	7	4633		4325		4479		4882	9	4371	5	6262	8	6262	8				
	Exp. Mean	4491		4491		4113		4009		4064		4207		2813		4372		4372		4372			
	CD	879.68		879.68		969.92		872.26		667.77		507.16		602.1		1101		1101		1101			
	CV%	9.8		9.8		11.8		10.89		8.22		6.03		10.71		12.6		12.6		12.6			
	D/S	26-06-2019				27-06-2019		05-07-2019						28-06-2019		25-06-2019							
	D/P	21-07-2019				08-08-2019		03-08-2019						31-07-2019		18-07-2019							
	Local Check Name	Chhattisgarh Devbhog				PKDV Kisan		Tilak						Karjat 9		Ratnagiri 8							

Table 10.8 contd.: Grain Yield (Kg/ha) of entries in IVT MS, Kharif 2019

Entry No.	IET No.	Zone VI						Zone VI (4)		Zone VII									
		GU			GU (3)					AP			AP (2)						
		NVS		NWG		VYR		Mean		Mean		MTU		BPT		Mean			
4201	28722	4403		3474		3428		3768		3634		6457	6 *	6204		6331	5 *	16%	
4202	28723	5723		2969		3690		4127		3894		5271		5278		5275			
4203	28724	6742	1	6118		5545	4 *	6135	2 *	12%	6375	1* 12%	5125		6556	4	5841	10	7%
4204	28725	6201	7	5798		4711		5570	10		4947		5025		6111		5568		
4205	28726	5992		4161		5054		5069			4867		6098	*	5926		6012	9	10%
4206	28727	6103		5902		4725		5577	9		5977	3 5%	4665		3889		4277		
4207	28728	5723		5624		4998		5448			5420		5146		4167		4657		
4208	28729	4390		5235		4581		4735			4324		6474	5 *	3657		5066		
4209	28730	5913		8745	1 *	4729		6462	1 *	18%	5799	5	4836		6204		5520		
4210	28731	5804		6067		4535		5469			5140		4726		3889		4308		
4211	28732	5605		7904	2	4634		6048	3 *	10%	5685	6	6859	3 *	6593	2	6726	3 *	23%
4212	28733	3153		2381		3524		3019			3769		4726		4259		4493		
4213	28734	2825		5368		3875		4023			3668		4918		5269		5094		
4214	28735	5214		3136		3528		3959			4923		3554		4074		3814		
4215	28736	4178		3390		3992		3853			3862		6296	10 *	5926		6111	8	12%
4216	28737	3443		4168		3250		3620			3641		4761		5926		5344		
4217	28738	5951		5616		3609		5059			5397		4231		5926		5079		
4218	28739	5821		3636		3531		4329			4269		3323		6083		4703		
4219	28740	5348		804		4599		3584			3938		4626		4074		4350		
4220	28741	3503		2787		2747		3012			3272		3668		3611		3640		
4221	28742	6239	5	2806		4484		4510			5061		4822		4352		4587		
4222	28743	6139	8	3126		4149		4471			4074		3369		4444		3907		
4223	28744	4205		2082		3889		3392			3227		3654		4185		3920		
4224	BPT 5204 (NC)	4124		3750		3446		3773			3626								
4225	28745	4372		2553		4507		3811			3428		5135		4167		4651		
4226	28746	5691		6715	7	2808		5071			4536		5253		5741		5497		
4227	28747	6137	9	3123		4089		4450			4041		3077		3611		3344		
4228	28748	3721		3545		5540	5 *	4269			4067		6417	7 *	5185		5801	6%	
4229	28749	3281		2548		3639		3156			3354		2849		4352		3601		
4230	28750	5865		6245		3867		5326			4903		5217		6463	7	5840	7%	
4231	28751	4346		7610	3	3581		5179			4593		7094	1 *	6370		6732	2 *	23%
4232	28752	5878		4851		4866		5198			5322		6350	9 *	5000		5675		
4233	28753	5630		3934		3353		4306			4503		4897		4444		4671		
4234	28754	4964		6676	8	5204	9	5615	8		5285		5990	*	6398	10	6194	7	13%
4235	28755	6116	10	5651		5664	3 *	5810	5	6%	5643	9	3786		4722		4254		
4236	WGL 14 (NC)	5858		6321		3625		5268			4741		5032		5907		5470		
4237	28756	6711	2	6185		5178		6025	4 *	10%	5826		3262		4620		3941		
4238	28757	6498	3	6618	10	3763		5626	7		5424		4035		5204		4620		
4239	28758	5308		7038	4	4846		5731	6		5681	7	6937	2 *	6556	4	6747	1 *	23%
4240	28759	6229	6	5851		4110		5397			5078		4633		6463	7	5548		
4241	28760	5612		3664		6403	2 *	5226			5485	10	4776		6065		5421		
4242	28761	5329		4980		4001		4770			4926		3529		4444		3987		
4243	28762	6319	4	5103		5084		5502			5067		6026	*	4537		5282		
4244	28763	4243		3335		4538		4039			3839		4915		3981		4448		
4245	28764	3948		5185		5434	6	4856			4605		4825		4074		4450		
4246	28765	3716		6895	5	4553		5055			4954		5235		6213		5724		
4247	28766	5153		6184		4385		5241			5030		3494		6565	3	5030		
4248	Zonal Check (ZC)	3646		2951		3728		3442			3273		4006		4907		4457		
4249	28767	3890		2739		5281	8	3970			3562		4722		5093		4908		
4250	28768	4740		6722	6	5200	10	5554			5983	2 5%	3490		5833		4662		
4251	28769	4821		4375		4171		4456			3978		5773		4907		5340		
4252	28770	4729		3160		2716		3535			3612		6635	4 *	3657		5146		
4253	28771	3313		680		2850		2281			2512		4868		6102		5485		
4254	28772	4492		4556		3671		4240			4589		4754		4352		4553		
4255	28773	3951		3368		4951		4090			4022		4982		5519		5251		
4256	28774	3387		862		2709		2319			3004		4950		3565		4258		
4257	28775	2917		377		4865		2720			3816		4145		3333		3739		
4258	28776	5614		4765		3984		4788			4693		6122	*	6380		6251	6	14%
4259	28777	5179		3840		2118		3712			3838		4658		6454	9	5556		
4260	28778	5665		5618		4338		5207			4944		4113		6259		5186		
4261	28779	5333		3691		7293	1 *	5439			5222		4601		6481	6	5541		
4262	28780	4527		2408		4115		3683			3842		5057		4815		4936		
4263	28781	4963		4643		5320	7	4975			4646		6375	8 *	6667	1	6521	4 *	19%
4264	Local Check (LC)	5104		6664	9	4660		5476			5673	8	4587		5343		4965		
	Exp. Mean	4999		4489		4285		4591			4536		4908		5196		5052		
	CD	1167.51		1246.59		846.33		532.8			463.79		927.12		1279.24		788.74		
	CV%	11.69		13.9		9.88		5.81			5.11		9.45		12.32		7.81		
	D/S	26-06-2019		03-07-2019		26-06-2019							08-07-2019		06-08-2019				
	D/P	01-08-2019		09-08-2019		02-08-2019							13-08-2019		31-08-2019				
	Local Check Name	GNR-2		GAR-13		GAR-13							MTU 1190		BPT 5204				
*Superior to best check		%superior over best check																	
#Superior over hybrid check		%Superior over hybrid check																	

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 10.8 contd.: Grain Yield (Kg/ha) of entries in IVT MS, Kharif 2019

Entry No.	IET No.	Zone VII											
		TE				TE (3)		TN		TN (2)			
		RNR	@KMP	KNM	WGL	Mean		ADT	CBT	Mean			
4201	28722	6854		7513	7815	4	7394	8 8%	2454	4398		3426	
4202	28723	4058	5661	4274	4968		4433		5015	6118		5567	
4203	28724	5636	6782	7695	3844		5725		5864	7204	5 *	6534	7
4204	28725	7762	9 9468	2 7902	6643	10	7436	7 9%	5247	6211		5729	
4205	28726	6853	6992	5802			6328		6366	1780		4073	
4206	28727	5960	6879	6724	5111		5932		4745	3255		4000	
4207	28728	6134	5976	7887	5614		6545		6366	5652		6009	
4208	28729	7702	10 6234	7509	5383		6865		5502	4063		4783	
4209	28730	7682	8008	8883	6 * 6292		7619	5 11%	6713	5 6378		6546	5
4210	28731	7022	8887	5 6348	4665		6012		6404	9 6683	10	6544	6
4211	28732	5204	4710	8969	5 * 6826	9	7000		5054	5441		5248	
4212	28733	6549	8984	4 4840	5203		5531		4321	5779		5050	
4213	28734	6301	7121	5772			6037		4784	4208		4496	
4214	28735	7894	5 8839	6232	4729		6285		5401	3876		4639	
4215	28736	5723	8323	5461	4203		5129		5748	3632		4690	
4216	28737	5784	8766	8 4422	4593		4933		4552	4184		4368	
4217	28738	7826	8 8000	8240	7 *		8033	2 * 18%	4398	7159	6	5779	
4218	28739	6375	5710	7562	4410		6116		5478	6363		5921	
4219	28740	8438	4 * 8089	6122	3581		6047		5324	5667		5496	
4220	28741	3226	7153	4171	2703		3367		6019	2252		4136	
4221	28742	7497	8823	7 5377	2919		5264		4668			4668	
4222	28743	6133	5427	5109	4298		5180		4398	2746		3572	
4223	28744	3856	8016	6096			4976		4784	5648		5216	
4224	BPT 5204 (NC)	5743	3726		2855		4299		4367	3477		3922	
4225	28745	6432	10726	1 8092	9 *		7262	9 6%	5826	5539		5683	
4226	28746	8761	2 * 7742	7891	6475		7709	3 13%	6327	3957		5142	
4227	28747	5909	7968	5407	4864		5393		5424	5063		5244	
4228	28748	6420	7258	6573	5343		6112		5710	7074	7	6392	10
4229	28749	5165	8677	9 7590	3812		5522		5671	6226		5949	
4230	28750	6735	6129	7911	5742		6796		5448	6467		5958	
4231	28751	6356	5790	5324	7129	7	6270		2546	3577		3062	
4232	28752	6621	7871	5809	5423		5951		5208	9845	1 *	7527	1 *
4233	28753	6450	7258	8020	10 7153	6	7208	5%	4591	3484		4038	
4234	28754	7851	7 6290	7188	8046	3	7695	4 13%	6867	4 6705	9	6786	3
4235	28755	6532	8468	7443	3931		5969		5625	6193		5909	
4236	WGL 14 (NC)	6340	6774	6754	7408	5	6834		7099	2 6423		6761	4
4237	28756	7096	8226	7237	6308		6880		5941	4475		5208	
4238	28757	9062	1 * 6742	9089	2 * 9745	1 *	9299	1 * 36%	6597	6 7441	3 *	7019	2
4239	28758	7370	8476	10 8995	4 * 3828		6731		5015	7359	4 *	6187	
4240	28759	8478	3 * 7040	7275	5981		7245	10 6%	6289	6005		6147	
4241	28760	6648	7645	9020	3 * 7097	8	7588	6 11%	4823	5412		5118	
4242	28761	5834	6694	6482	2855		5057		6404	9 6327		6366	
4243	28762	5782	9274	3 6483	4123		5463		5594	2847		4221	
4244	28763	6768	6629	7388	5981		6712		6559	7 5080		5820	
4245	28764	7396	7242	9177	1 * 3285		6619		5826	4841		5334	
4246	28765	6992	6653	8193	8 * 3931		6372		4923	7680	2 *	6302	
4247	28766	5776	5403	7800	4944		6173		7639	1 5248		6444	9
4248	Zonal Check (ZC)	5636	7065	4753	2648		4346		4514	4680		4597	
4249	28767	7012	6677	7503	5375		6630		4244	5356		4800	
4250	28768	4234	4992	5772	3796		4601		5941	4392		5167	
4251	28769	6548	7242	4846	5478		5624		6520	8 5268		5894	
4252	28770	4931	6516	5937	6037		5635		4784	2023		3404	
4253	28771	5267	7484	4816	3700		4594		4630	2365		3498	
4254	28772	6345	5806	6857	8301	2	7168		5478	2495		3987	
4255	28773	6807	8323	5142	4139		5363		6289	6773	8	6531	8
4256	28774	3817	7347	3861	2512		3397		4012	2438		3225	
4257	28775	6728	6556	5088	2707		4831		4630	4086		4358	
4258	28776	5439	8306	7075	6475		6330		5517	2640		4079	
4259	28777	7097	7258	7814	4522		6478		5440	4744		5092	
4260	28778	6204	3597	7006	5694		6301		7099	2 4309		5704	
4261	28779	7874	6 7645	7375	4561		6603		4591	5152		4872	
4262	28780	6612	7984	6731	3732		5692		4730	3409		4070	
4263	28781	6254	7065	6603	6579		6479		5015	3623		4319	
4264	Local Check (LC)	6788	8097	6765	5885		6479		6250	4767		5509	
	Exp. Mean	6447	7230	6730	5122		6123		5400	4983		5189	
	CD	1558.63		1261.49	1603.51		914.63		1061.33	746.14		661.28	
	CV%	12.1	18.42984845	9.38	15.64		7.47		9.83	7.49		6.38	
	D/S	24-06-2019	24-06-2019	01-07-2019	25-06-2019				16-08-2019	03-07-2019			
	D/P	27-07-2019	18-07-2019	25-07-2019	26-07-2019				23-09-2019	25-07-2019			
	Local Check Name	RNR 15048	B PT-5204	RNR 15048	WGL-32100				ADT 52	C0 52			

*Superior to best check

%superior over best check

#Superior over hybrid check

%Superior over hybrid check

Table 10.8 contd.: Grain Yield (Kg/ha) of entries in IVT MS, Kharif 2019

Entry No.	IET No.	Zone VII										Zone VII (10)		Overall (23)						
		KA				KA (2)	PU		PU (1)											
		MND	@MGD	@SRS	GNV	Mean	KBP	Mean	Mean	Mean	Mean									
4201	28722	6001	4100	658	7224	6613	8882	3 *	8882	3 *	50%	6380		5227						
4202	28723	6008	5333	588	8481	7245	5428		5428			5490		4941						
4203	28724	5531	7800	1	1093	9423	7	7477	6414	6414	8%	6329		6100	5					
4204	28725	6606	6578		1633	8237		7422	5428	5428		6517	9	5624						
4205	28726	6284	4533		1492	5763		6024	6414	6414	8%	5698		5226						
4206	28727	6855	5833		1904	6141		6498	5702	5702		5305		5461						
4207	28728	2292	5500		1551	6295		4294	4331	4331		5388		5311						
4208	28729	5571	4578		1704	4391		4981	5757	5757		5601		5145						
4209	28730	7399	4	6033	2068	8006	7703	8	6414	6414	8%	6881	4* 7%	6270	3 * 5%					
4210	28731	6478		4072	1645	6397		6438	3618	3618		5623		5180						
4211	28732	7191	7	7711	2	564	9449	5	8320	4	9539	2 *	9539	2 *	61%	7113	2* 11%	6329	2 * 6%	
4212	28733	4966		4428		1422	6160		5563	4221		4221		5102		4677				
4213	28734	3945		6644	10	1469	8256		6101	4167		4167		5291		4611				
4214	28735	4960		4444		2491	6724		5842	6250		6250	6%	5369		5246				
4215	28736	4093		5633		1622	6776		5435	5647		5647		5351		4608				
4216	28737	5571		7222	5	494	6462		6017	5154		5154		5141		4420				
4217	28738	6808		7278	3	2033	7833		7321	6250	6%	6250		6519	8	5613				
4218	28739	4987		5422		2421	7224		6106	7730	6 *	7730	6 *	31%	5954		5358			
4219	28740	6862		5400		2280	7987		7425	5099		5099		5778		4941				
4220	28741	2130		4656		1140	5160		3645	4660		4660		3760		3413				
4221	28742	4375		6017		2785	6	7494	5935	8224	4 *	8224	4 *	39%	5525		4939			
4222	28743	5746		5100		2609	10	7571	6659	3180		3180		4699		4638				
4223	28744	5302		4278		2291		4692	4997	3947		3947		4685		4136				
4224	BPT 5204 (NC)	8905	1	3044		2679	9		8905	2				5069		4466				
4225	28745	6478		6944	8	623		7083	6781	3454		3454		5801		5131				
4226	28746	7030	10	4722		2056		6679	6855	5647		5647		6376		5769				
4227	28747	3790		6778	9	2797	5	6731	5261	4221		4221		4810		4348				
4228	28748	6142		4978		1403		8058	7100	6140		6140		6306		5095				
4229	28749	5410		4352		2045		6623	6017	4605		4605		5230		4575				
4230	28750	7836	3	7111	6	3055	2	9981	1	8909	1	6031		6031		6783	0	5680		
4231	28751	4449		5667		1810		5654	5052	7621	8	7621	8	29%	5612		4936			
4232	28752	2843		4778		470		7679	5261	3235		3235		5801		5391				
4233	28753	6895		2419		1445		6397	6646	4605		4605		5694		5034				
4234	28754	6741		4711		1645		6295	6518	7566	9	7566	9	28%	6965	3* 9%	6042	6		
4235	28755	5323		3400		1457		9244	8	7284		7127	10	20%	5993		5596			
4236	WGL 14 (NC)	5625		4489		1457		8442	7034	5099		5099		6413		5728				
4237	28756	7124	8	4047		1704		7333	7229	5482		5482		5888		5703				
4238	28757	7890	2	7244	4	1528		9487	4	8689	3	9978	1 *	9978	1* 22%	7853	6737	1 *	13%	
4239	28758	6828		6222		2855	3	7288	7058	4989		4989		6517	10	6121	4			
4240	28759	6042		5856		2832	4	9026	9	7534		5976		5976		6617	7	5964	7	
4241	28760	6183		6124		2444		9679	3	7931	7	7785	5 *	7785	5 *	31%	6749	6	5%	5680
4242	28761	6794		4467		2456		8077	7436	4276		4276		5502		5185				
4243	28762	4624		4613		1927		9814	2	7219		2961		2961		5279		4902		
4244	28763	5329		5833		1481		8891	7110	6689		6689		13%	6158		5359			
4245	28764	7325	6	5922		1175		7141	7233	6414		6414		8%	6030		5385			
4246	28765	5397		5844		2703	8	8333	6865	5647		5647		6254		5890	9			
4247	28766	6700		4587		2515		8564	7632	9	6579	6579		11%	6331		5562			
4248	Zonal Check (ZC)	6962		4287		1774		9013	10	7988	6	3289		3289		5041		4410		
4249	28767	6405		4178		2362		6250		6328		6140		6140		5810		4907		
4250	28768	7003		7000	7	1633		8051		7527		4879		4879		5339		5543		
4251	28769	4966		4144		1951		6788		5877		4605		4605		5570		5108		
4252	28770	3898		3100		2327		6878		5388		3618		3618		4840		4448		
4253	28771	2655		1460		1481		6808		4732		4550		4550		4576		4090		
4254	28772	5202		5333		1257		7474		6338		4879		4879		5614		5293		
4255	28773	7379	5	3356		2327		5583		6481		4167		4167		5678		5206		
4256	28774	4556		3289		2468		7731		6144		3618		3618		4106		4047		
4257	28775	6183		4389		1739		7506		6845		4167		4167		4854		4121		
4258	28776	4778		3571		2738	7	7923		6351		6305		6305	6%	5865		5467		
4259	28777	6075		3111		1375		8135		7105		5099		5099		6004		5405		
4260	28778	7063	9	3911		3337	1	9449	5	8256	5	6689		6689	13%	6389		5786		
4261	28779	6640		6111		2597		7782		7211		7730	6 *	7730	6 *	31%	6279		5828	10
4262	28780	6257		5167		2468		6917		6587		5976		5976		5424		5003		
4263	28781	6055		4408		1915		7032		6544		6250		6250	6%	6045		5446		
4264	Local Check (LC)	6626		2000		1915		8590		7608	10	5921		5921		6152		5961	8	
	Exp. Mean	5818		5024		1878		7501		6671		5595		5595		5767		5215		
	CD	1218.34		2833.71		283.46		1161.63		845.42		1720.44		1720.44		448.61		265.67		
	CV%	10.48		28.22		7.55		7.75		6.34		15.38		15.38		3.69		2.54		
	D/S	15-07-2019		27-06-2019		26-06-2019		08-07-2019				26-08-2019								
	D/P	17-08-2019				26-07-2019		02-09-2019				18-09-2019								
	Local Check Name	Thanu		Siri 1253		ABHILASH		Gangavati Sona				CO 52								

*Superior to best check %superior over best check
 #Superior over hybrid check %Superior over hybrid check

Table 10.9: Days to 50% flowering of entries in IVT MS, Kharif 2019

Entry No.	IET NO	ZONE III										ZONE IV		ZONE-V				Zone V (3)
		OD		OD (2)	BI	JH	WB	UP			UP (2)	Zone III (6)		TR	CH	MA		MA (2)
		CTK	JYP	Mean	PSA	@RCI	CHN	MSD	VRN	Mean	Mean	Mean	@ARD	RPR	SKL	SND	Mean	Mean
4201	28722	110	120	115	120	129	121	111	121	116	117	83	122	121	117	119	120	
4202	28723	107	103	105	115	129	121	113	111	112	111	84	118	117	117	117	117	
4203	28724	112	116	114	112	129	115	117	114	116	114	93	117	116	113	114	115	
4204	28725	93	103	98	107	115	106	115	110	112	105	76	101	96	110	103	102	
4205	28726	110	105	108	112	118	112	112	112	112	110	74	102	108	108	108	106	
4206	28727	94	97	95	98	109	97	110	99	104	99	75	99	98	98	98	98	
4207	28728	90	97	93	100	111	102	107	96	101	98	84	98	99	96	98	98	
4208	28729	92	96	94	99	108	103	109	91	100	98	73	97	98	96	97	97	
4209	28730	100	98	99	118	113	110	119	111	115	109	72	100	114	109	111	108	
4210	28731	95	95	95	112	114	103	112	119	115	106	73	98	99	97	98	98	
4211	28732	116	120	118	130	130	115	120	123	121	121	103	118	125	125	125	122	
4212	28733	89	99	94	109	106	102	103	101	102	100	63	94	100	99	99	97	
4213	28734	101	119	110	127	124	111	124	94	109	112	82	119	117	118	118	118	
4214	28735	94	100	97	105	111	106	102	91	97	99	73	101	101	97	99	99	
4215	28736	98	96	97	97	108	100	114	86	100	98	84	94	103	95	99	97	
4216	28737	112	94	103	127	130	107	113	124	118	113	96	125	124	125	124	124	
4217	28738	97	101	99	107	116	103	89	114	102	102	78	101	104	106	105	104	
4218	28739	99	108	103	110	118	105	115	99	107	106	79	103	108	105	106	105	
4219	28740	94	97	96	98	108	97	106	87	96	96	78	123	100	95	97	106	
4220	28741	83	90	86	86	102	89	97	69	83	86	72	113	88	85	86	95	
4221	28742	89	108	98	100	109	96	106	93	100	98	76	98	103	98	100	99	
4222	28743	94	105	100	101	109	100	104	114	109	103	76	100	101	97	99	99	
4223	28744	94	94	94	99	110	95	108	96	102	98	75	93	101	93	97	96	
4224	BPT 5204 (NC)	96	102	99	115	126	100	115	108	111	106	74	115	115		115	115	
4225	28745	93	98	95	119	116	104	114	100	107	104	71	113	121	113	117	115	
4226	28746	95	106	101	107	117	101	114	106	110	105	70	97	106	102	104	101	
4227	28747	96	96	96	100	109	94	110	99	104	99	69	95	107	97	102	99	
4228	28748	97	99	98	127	118	107	102	122	112	109	69	122	117	115	116	118	
4229	28749	98	110	104	105	109	103	110	100	105	104	68	99	102	98	100	100	
4230	28750	109	107	108	126	126	112	114	124	119	115	74	109	116	115	115	113	
4231	28751	112	117	115	127	127	116	105	126	115	117	83	121	122	126	124	123	
4232	28752	95	98	96	106	109	110	102	88	95	100	78	98	99	97	98	98	
4233	28753	97	100	98	106	110	102	592	100	346	183	74	94	104	99	101	99	
4234	28754	109	109	109	123	126	115	117	120	118	115	73	116	116	120	118	117	
4235	28755	97	104	100	110	115	102	109	105	107	104	75	101	104	102	103	102	
4236	WGL 14 (NC)	105	98	101	110	116	109	113	101	107	106	74	113	107	110	108	110	
4237	28756	97	103	100	111	125	119	112	115	113	109	75	113	109	111	110	111	
4238	28757	74	106	90	119	126	120	100	117	108	106	82	114	117	114	115	115	
4239	28758	97	102	100	108	114	109	119	113	116	108	73	110	108	101	104	106	
4240	28759	92	101	97	106	117	105	101	112	106	103	71	101	107	104	105	104	
4241	28760	109	106	107	118	118	117	115	95	105	110	72	113	112	112	112	112	
4242	28761	91	99	95	90	110	99	97	91	94	94	74	99	102	96	99	99	
4243	28762	89	97	93	100	109	102	109	106	108	100	74	96	98	97	97	97	
4244	28763	90	101	95	100	110	99	100	97	98	97	69	99	101	98	99	99	
4245	28764	98	100	99	106	118	106	108	117	112	106	68	110	105	108	106	107	
4246	28765	94	104	99	111	116	105	115	114	115	107	82	113	107	100	104	107	
4247	28766	102	109	105	120	121	109	124	121	122	114	85	113	110	111	110	111	
4248	Zonal Check (ZC)	105	106	106	111	109	105	113	106	109	107	73	112	108	98	103	106	
4249	28767	97	99	98	121	115	113	117	99	108	107	68	116	114	105	109	111	
4250	28768	102	100	101	106	117	113	114	111	113	108	84	115	113	110	112	113	
4251	28769	92	98	95	106	109	99	98	106	102	100	70	96	102	96	99	98	
4252	28770	93	97	95	100	109	95	106	92	99	97	72	97	100	96	98	98	
4253	28771	99	105	102	100	110	103	114	89	101	102	72	95	102	108	105	102	
4254	28772	98	99	98	100	108	97	104	93	98	98	70	94	100	98	99	97	
4255	28773	93	95	94	90	108	98	109	100	104	97	76	94	101	98	99	97	
4256	28774	95	96	95	110	109	98	108	106	107	102	70	97	104	98	101	100	
4257	28775	87	95	91	86	108	86	99	79	89	88	73	92	97	95	96	95	
4258	28776	91	94	93	96	108	97	106	96	101	96	71	93	100	94	97	95	
4259	28777	96	104	100	105	118	100	115	100	107	103	81	111	106	112	109	109	
4260	28778	93	100	96	106	122	100	108	110	109	103	76	99	107	104	105	103	
4261	28779	97	99	98	111	111	102	112	121	117	107	73	99	104	106	105	103	
4262	28780	96	103	99	101	110	100	108	106	107	102	73	100	100	94	97	98	
4263	28781	99	119	109	115	115	109	115	94	105	108	73	101	114	110	112	108	
4264	Local Check (LC)	105	97	101	107	106	86	117	101	109	102	74	104	107	106	106	105	
	Exp Mean	97	102	100	108	115	104	117	104	111	105	75	105	106	104	105	105	

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Table 10.9 contd.: Days to 50% flowering of entries in IVT MS, Kharif 2019

Entry No.	IET NO	ZONE VI								Zone VI (4)	ZONE VII																			Zone VII (10)	Overall (23)
		MA		MA (1)	GU		GU (3)	AP	AP (2)		TE				TE (3)	TN	TN (2)	KA				KA (2)	PU								
		@KJT	SHR	Mean	MS	NMG	VR				Mean	Mean	MTU	BPT	Mean	RNR	KMP@	KNM	WGL	Mean	ADT	CBT	Mean	MND	@MGD	@SRS	GNV	Mean	KBP		
4201	28722	113	112	112	118	107	118	114	114	120	110	115	122	108	121	126	123	117	112	114	123	128	126	114	118	89	115	116			
4202	28723	99	100	100	114	109	111	111	108	112	101	106	118	109	108	115	114	107	106	106	113	121	131	117	115	96	109	111			
4203	28724	111	103	103	113	111	116	113	111	110	106	108	120	98	107	113	113	119	112	115	121	120	129	113	117	101	112	113			
4204	28725	100	104	104	106	105	102	104	104	100	95	98	109	103	98	105	104	104	102	103	102	107	115	102	102	83	100	102			
4205	28726	102	102	102	108	108	107	107	106	102	97	99	109	105	100		104	102	103	102	100	111	115	104	102	82	100	104			
4206	28727	98	91	91	100	104	99	101	98	93	92	93	103	111	91	98	97	95	98	96	95	106	106	98	96	74	94	96			
4207	28728	98	95	95	101	105	100	102	100	94	92	93	103	101	92	96	97	93	96	94	92	106	107	93	92	77	92	96			
4208	28729	98	102	102	100	103	98	100	101	92	90	91	103	115	92	92	96	95	104	99	103	109	114	103	103	77	95	97			
4209	28730	108	103	103	101	105	107	104	104	106	98	102	107	118	105	112	108	98	103	100	101	109	112	111	106	87	103	105			
4210	28731	96	99	99	102	102	100	101	100	98	92	95	101	103	96	98	98	97	97	97	96	106	102	97	96	87	96	99			
4211	28732	116	104	104	126	99	121	115	112	119	109	114	124	99	120	126	123	119	120	119	94	104	135	119	106	104	115	117			
4212	28733	100	101	101	95	104	103	100	100	93	98	95	102	102	96	99	99	95	90	92	97	106	108	97	97	83	95	97			
4213	28734	117	117	117	115	103	121	113	114	108	102	105	122	109	118		120	101	112	106	108	113	120	99	103	80	105	110			
4214	28735	98	102	102	101	97	99	99	100	94	95	94	105	100	93	93	97	97	102	99	109	119	123	104	106	91	98	99			
4215	28736	96	95	95	85	102	100	95	95	119	95	107	98	88	94	91	94	103	93	98	92	108	105	93	92	77	95	96			
4216	28737	116	125	125	87	107	121	105	110	94	106	100	127	118	120	127	125	115	118	116	121	107	133	120	120	108	115	115			
4217	28738	100	103	103	108	100	102	103	103	100	93	97	114	109	98		106	106	105	105	104	107	115	102	103	92	101	102			
4218	28739	102	104	104	109	102	105	105	105	101	93	97	107	113	100	105	104	101	107	104	108	109	120	104	106	88	101	104			
4219	28740	96	85	85	90	83	98	90	89	91	91	91	101	113	89	88	93	97	98	97	102	109	120	98	100	94	95	95			
4220	28741	86	79	79	83	84	96	87	85	92	107	99	90	118	105	83	93	88	83	85	86	96	100	115	100	73	92	89			
4221	28742	100	84	84	91	93	101	95	92	95	93	94	102	100	93	93	96	95		95	96	107	105	97	96	91	95	96			
4222	28743	94	98	98	90	101	104	98	98	94	93	93	101	100	93	93	96	109	95	102	95	118	105	98	96	91	96	99			
4223	28744	94	90	90	90	92	99	93	92	93	92	93	101	105	90		96	95	95	95	94	103	110	97	95	78	93	94			
4224	BPT 5204 (NC)	98	99	99	106	106	112	108	105				101	105		97	99	117	113	115	99	128	117		99		105	107			
4225	28745	107	103	103	115	105	117	112	110	98	91	94	111	101	105		108	92	96	94	96	114	115	94	95	76	95	103			
4226	28746	106	103	103	101	100	102	101	101	98	91	94	107	117	97	104	103	96	99	97	101	107	117	97	99	75	96	100			
4227	28747	98	98	98	101	102	101	101	100	92	91	91	103	99	94	96	98	100	96	98	102	104	117	102	102	80	95	98			
4228	28748	106	102	102	103	102	118	108	106	104	88	96	119	102	114	123	119	92	101	96	99	119	115	99	99	75	101	106			
4229	28749	99	98	98	98	99	99	99	98	96	94	95	107	100	98	96	100	104	104	104	102	109	120	100	101	80	98	100			
4230	28750	110	88	88	115	113	100	109	104	112	92	102	115	118	107	120	114	107	111	109	109	130	124	106	107	95	107	109			
4231	28751	115	114	114	127	109	112	116	115	127	107	117	120	117	117	126	121	116	120	118	119	130	134	119	119	100	117	117			
4232	28752	98	97	97	101	98	100	100	99	94	94	94	101	104	91	97	96	97	95	96	96	109	110	92	94	76	93	96			
4233	28753	102	94	94	103	109	104	105	102	95	93	94	101	96	90	107	99	98	95	96	94	109	110	96	95	83	95	120			
4234	28754	109	104	104	102	112	118	111	109	113	100	107	118	103	108	122	116	109	112	110	111	126	126	106	108	98	110	112			
4235	28755	102	104	104	102	104	99	101	102	101	98	99	103	118	97	105	102	101	97	99	98	106	110	98	98	79	97	101			
4236	WGL 14 (NC)	98	103	103	109	109	107	108	107	99	99	99	105	99	103	105	104	107	105	106	109	109	120	106	107	88	102	105			
4237	28756	105	103	103	112	111	112	111	109	110	102	106	109	108	105	116	110	106	108	107	110	117	120	106	108	81	105	108			
4238	28757	112	112	112	116	109	115	113	113	101	107	104	116	114	106	116	113	105	108	106	106	116	120	103	104	89	105	108			
4239	28758	103	103	103	109	101	107	106	105	113	93	103	103	118	101	111	105	104	105	104	105	107	120	105	105	98	104	105			
4240	28759	99	104	104	108	112	106	108	107	99	97	98	105	118	99	106	103	105	109	107	111	107	120	107	109	89	102	103			
4241	28760	109	104	104	113	109	117	113	111	113	99	106	114	116	108	118	113	100	102	101	103	115	120	105	104	92	105	108			
4242	28761	96	94	94	96	102	106	101																							
4243	28762	98	94	94	96	93	99	96	95	92	89	90	101	118	92	95	96	95	86	90	96	104	105	95	95	76	91	95			
4244	28763	97	99	99	102	99	100	100	100	94	90	92	103	105	92	99	98	97	98	97	102	116	120	101	101	78	95	97			
4245	28764	103	101	101	108	103	103	104	104	100	91	95	105	107	96	107	103	107	104	105	107	114	120	102	104	91	101	103			
4246	28765	104	114	114	109	101	101	103	106	99	101	100	107	116	105	105	106	106	108	107	112	114	120	104	108	96	104	105			
4																															

Table 10.10.: Plant Height (cm) of entries in IVT MS, Kharif 2019

Entry No.	IET NO	ZONE III									ZONE IV	
		OD		OD (2)	BI	Jh	WB	UP		UP (2)	Zone III (6)	TR
		CTK	JYP	Mean	PSA	@RCI	CHN	MSD	VRN	Mean	Mean	@ARD @LMB
4201	28722	126.20	99.10	112.65	118.00	96.00	106.00	113.00	100.00	106.50	110.38	103.00 108.50
4202	28723	109.60	98.90	104.25	121.00	104.00	129.00	112.00	96.60	104.30	111.18	117.50 123.67
4203	28724	102.80	107.10	104.95	141.00	84.00	129.50	84.00	124.00	104.00	114.73	109.00 111.95
4204	28725	101.80	96.90	99.35	118.00	78.00	108.50	88.00	107.50	97.75	103.45	107.00 110.17
4205	28726	94.70	85.00	89.85	88.00	66.00	101.00	80.00	129.50	104.75	96.37	99.00 99.67
4206	28727	116.40	90.60	103.50	99.00	74.00	106.50	95.00	103.90	99.45	101.90	98.00 102.50
4207	28728	104.40	93.00	98.70	104.00	75.00	112.00	93.00	112.30	102.65	103.12	73.00 106.70
4208	28729	90.90	96.80	93.85	110.00	77.00	109.50	84.00	109.50	96.75	100.12	98.00 113.17
4209	28730	107.60	96.10	101.85	108.00	96.00	108.50	80.00	108.60	94.30	101.47	103.00 110.37
4210	28731	121.80	86.60	104.20	102.00	82.00	106.00	93.00	89.30	91.15	99.78	105.00 105.33
4211	28732	111.00	101.90	106.45	96.00	67.00	116.00	74.00	113.00	93.50	101.98	97.00 116.03
4212	28733	105.90	86.20	96.05	98.00	74.00	90.50	88.00	121.40	104.70	98.33	87.00 97.50
4213	28734	120.00	95.20	107.60	79.00	65.00	102.50	84.00	116.10	100.05	99.47	73.00 103.17
4214	28735	96.70	93.00	94.85	116.00	80.00	96.00	86.00	98.70	92.35	97.73	99.00 107.00
4215	28736	87.40	87.60	87.50	122.00	76.00	101.00	74.00	101.30	87.65	95.55	112.00 102.67
4216	28737	103.90	93.30	98.60	93.00	74.00	102.00	71.00	96.20	83.60	93.23	103.00 102.83
4217	28738	110.40	96.00	103.20	114.00	77.00	107.50	102.00	118.30	110.15	108.03	107.00 107.00
4218	28739	118.80	96.90	107.85	112.00	78.00	115.00	104.00	108.10	106.05	109.13	107.00 110.67
4219	28740	112.75	96.10	104.43	118.00	75.00	120.50	82.00	101.80	91.90	105.19	97.00 103.50
4220	28741	120.10	62.20	91.15	95.00	70.00	84.50	88.00	85.10	86.55	89.15	74.00 97.12
4221	28742	120.80	93.40	107.10	118.00	81.00	106.50	98.00	106.30	102.15	107.17	97.00 110.67
4222	28743	119.40	97.00	108.20	103.00	83.00	106.50	16.00	118.40	67.20	93.38	109.00 102.67
4223	28744	97.60	101.15	99.38	109.00	73.00	104.50	85.00	107.40	96.20	100.78	104.00 106.67
4224	BPT 5204 (NC)	104.02	94.50	99.26	95.00	65.00	103.00	86.00	116.40	101.20	99.82	103.00 105.33
4225	28745	117.20	96.00	106.60	96.00	71.00	106.50	100.00	118.10	109.05	105.63	98.00 98.00
4226	28746	118.80	99.50	109.15	123.00	80.00	110.00	89.00	130.40	109.70	111.78	116.00 122.50
4227	28747	108.60	83.90	96.25	102.00	70.00	96.00	84.00	93.90	88.95	94.73	96.00 101.17
4228	28748	94.10	92.40	93.25	82.00	71.00	102.50	88.00	166.00	127.00	104.17	105.00 110.20
4229	28749	95.60	100.30	97.95	117.00	83.00	114.00	94.00	112.20	103.10	105.52	126.00 115.50
4230	28750	115.60	103.00	109.30	115.00	79.00	115.50	100.00	108.80	104.40	109.65	119.00 109.53
4231	28751	107.00	88.10	97.55	117.00	62.00	99.50	98.00	89.50	93.75	99.85	93.00 102.00
4232	28752	125.20	95.70	110.45	102.00	77.00	93.50	100.00	106.30	103.15	103.78	71.00 108.83
4233	28753	113.80	114.10	113.95	123.00	95.00	131.00	108.00	135.60	121.80	120.92	112.00 142.33
4234	28754	118.20	106.40	112.30	99.00	77.00	112.50	83.00	114.90	98.95	105.67	99.00 114.15
4235	28755	107.60	99.60	103.60	117.00	76.00	104.50	88.00	121.50	104.75	106.37	117.00 112.17
4236	WGL 14 (NC)	116.40	97.60	107.00	119.00	86.00	114.50	93.00	126.50	109.75	111.17	113.00 112.72
4237	28756	100.30	96.70	98.50	114.00	70.00	114.50	102.00	111.90	106.95	106.57	119.00 108.83
4238	28757	115.00	100.30	107.65	118.00	79.00	104.00	98.00	113.70	105.85	108.17	115.00 111.67
4239	28758	97.00	98.00	97.50	117.00	78.00	120.00	93.00	123.80	108.40	108.13	109.00 123.67
4240	28759	112.30	101.40	106.85	115.00	70.00	119.50	107.00	108.70	107.85	110.65	115.00 113.83
4241	28760	111.60	101.70	106.65	116.00	81.00	113.50	100.00	102.10	101.05	107.48	117.00 118.20
4242	28761	101.40	101.00	101.20	148.00	99.00	122.50	115.00	134.60	124.80	120.42	112.00 148.68
4243	28762	123.20	97.20	110.20	127.00	83.00	116.00	104.00	111.00	107.50	113.07	118.00 112.83
4244	28763	118.80	83.90	101.35	119.00	65.00	106.00	85.00	104.50	94.75	102.87	104.00 106.83
4245	28764	113.20	97.60	105.40	121.00	78.00	111.50	102.00	102.30	102.15	107.93	121.00 112.17
4246	28765	106.20	97.40	101.80	102.00	73.00	104.50	88.00	101.00	94.50	99.85	113.00 102.13
4247	28766	108.00	104.20	106.10	115.00	87.00	124.50	102.00	103.50	102.75	109.53	113.00 120.67
4248	Zonal Check (ZC)	96.20	81.90	89.05	89.00	65.00	95.50	84.00	107.30	95.65	92.32	142.00 151.00
4249	28767	109.40	96.90	103.15	99.00	73.00	108.50	83.00	100.60	91.80	99.57	113.00 101.50
4250	28768	112.50	104.10	108.30	131.00	87.00	115.00	95.00	119.40	107.20	112.83	117.00 123.67
4251	28769	108.60	87.00	97.80	115.00	79.00	101.00	82.00	104.00	93.00	99.60	106.00 103.83
4252	28770	96.70	82.40	89.55	115.00	71.00	94.00	88.00	96.10	92.05	95.37	91.00 101.50
4253	28771	82.00	66.70	74.35	81.00	57.00	85.50	74.00	91.70	82.85	80.15	103.00 87.83
4254	28772	113.60	96.90	105.25	117.00	82.00	113.50	84.00	104.40	94.20	104.90	114.00 112.50
4255	28773	100.60	109.20	104.90	136.00	80.00	120.00	105.00	130.40	117.70	116.87	126.00 125.67
4256	28774	110.80	101.20	106.00	105.00	66.00	102.00	95.00	109.50	102.25	103.92	94.00 96.67
4257	28775	106.60	93.70	100.15	103.00	74.00	111.50	94.00	104.80	99.40	102.27	116.00 109.17
4258	28776	99.60	95.30	97.45	124.00	82.00	118.50	95.00	116.60	105.80	108.17	113.00 108.25
4259	28777	99.60	115.00	107.30	136.00	93.00	113.50	118.00	118.10	118.05	116.70	131.00 125.67
4260	28778	86.00	103.90	94.95	120.00	79.00	124.50	115.00	122.60	118.80	112.00	113.00 111.83
4261	28779	73.80	98.70	86.25	121.00	85.00	119.50	90.00	92.90	91.45	99.32	113.00 111.67
4262	28780	105.70	96.10	100.90	109.00	73.00	111.00	88.00	98.80	93.40	101.43	112.00 103.33
4263	28781	109.60	105.60	107.60	98.00	68.00	97.50	84.00	112.60	98.30	101.22	103.00 87.67
4264	Local Check (LC)	78.20	92.30	85.25	155.00	108.00	102.50	94.00	100.50	97.25	103.75	132.00 112.00
	Exp Mean	106.87	95.74	101.30	111.80	77.84	108.79	91.39	110.33	100.86	104.15	106.90 110.43

Table 10.10 contd.: Plant Height (cm) of entries in IVT MS, Kharif 2019

Entry No.	IET NO	ZONE-V				Zone V (3)	ZONE VI							Zone VI (4)
		CH	MA		MA (2)		MA		MA (1)	GU			GU (3)	
		RPR	SKL	SND	Mean		Mean	@KJT	SHR	Mean	NVS	NWG	VYR	Mean
4201	28722	108.03	110.40	125.80	118.10	114.74	128.00	104.50	104.50	137.00	122.80	100.40	120.07	116.18
4202	28723	118.16	111.00	117.00	114.00	115.39	127.00	115.70	115.70	122.40	105.80	106.20	111.47	112.53
4203	28724	120.23	118.00	132.15	125.08	123.46	136.50	115.50	115.50	128.10	139.80	109.30	125.73	123.18
4204	28725	104.76	97.00	115.65	106.33	105.80	102.50	111.20	111.20	108.00	106.80	108.40	107.73	108.60
4205	28726	87.41	74.40	91.05	82.73	84.29	107.50	97.20	97.20	97.00	96.60	88.10	93.90	94.73
4206	28727	96.46	87.40	84.80	86.10	89.55	104.50	107.10	107.10	104.40	102.00	99.40	101.93	103.23
4207	28728	96.09	97.60	94.05	95.83	95.91	112.00	109.90	109.90	117.60	95.40	93.50	102.17	104.10
4208	28729	91.38	95.20	101.65	98.43	96.08	111.00	96.90	96.90	98.60	106.00	100.10	101.57	100.40
4209	28730	96.46	98.00	109.00	103.50	101.15	111.50	106.30	106.30	113.90	116.80	99.70	110.13	109.18
4210	28731	96.10	98.00	100.90	99.45	98.33	113.00	104.00	104.00	118.60	117.80	100.80	112.40	110.30
4211	28732	96.66	108.60	110.25	109.43	105.17	130.00	114.90	114.90	147.00	125.40	109.30	127.23	124.15
4212	28733	94.31	85.60	93.60	89.60	91.17	110.50	102.80	102.80	98.60	89.20	92.80	93.53	95.85
4213	28734	96.93	93.20	101.60	97.40	97.24	118.00	102.70	102.70	114.40	104.20	99.30	105.97	105.15
4214	28735	89.25	97.00	99.00	98.00	95.08	113.00	105.50	105.50	92.70	95.20	96.50	94.80	97.48
4215	28736	91.03	97.60	98.10	97.85	95.58	110.50	98.00	98.00	113.90	112.80	99.30	108.67	106.00
4216	28737	106.40	97.20	112.20	104.70	105.27	124.00	105.30	105.30	108.30	118.20	93.60	106.70	106.35
4217	28738	105.24	107.40	114.00	110.70	108.88	118.00	111.10	111.10	121.30	140.20	109.80	123.77	120.60
4218	28739	94.55	93.80	105.70	99.75	98.02	119.00	109.00	109.00	123.80	124.00	102.00	116.60	114.70
4219	28740	94.38	85.20	95.90	90.55	91.83	113.50	99.30	99.30	98.10	118.80	87.60	101.50	100.95
4220	28741	76.65	83.20	85.40	84.30	81.75	92.50	87.50	87.50	103.70	93.80	86.20	94.57	92.80
4221	28742	96.56	94.00	105.95	99.98	98.84	121.50	109.25	109.25	112.90	112.80	99.10	108.27	108.51
4222	28743	101.21	110.00	114.40	112.20	108.54	108.50	97.80	97.80	120.40	127.60	96.30	114.77	110.53
4223	28744	105.53	76.00	84.15	80.08	88.56	101.50	102.40	102.40	110.60	105.80	113.00	109.80	107.95
4224	BPT 5204 (NC)	89.38	85.20	85.20	85.20	87.29	116.50	101.00	101.00	120.60	95.40	95.20	103.73	103.05
4225	28745	93.14	94.80	102.65	98.73	96.86	110.00	103.90	103.90	113.80	111.80	101.00	108.87	107.63
4226	28746	106.19	114.40	124.20	119.30	114.93	133.00	97.40	97.40	127.50	140.40	97.30	121.73	115.65
4227	28747	88.78	74.80	79.60	77.20	81.06	103.00	88.50	88.50	117.70	106.20	98.50	107.47	102.73
4228	28748	94.21	94.80	102.95	98.88	97.32	122.00	95.70	95.70	107.50	109.00	94.70	103.73	101.73
4229	28749	110.63	97.80	106.80	102.30	105.08	118.00	97.80	97.80	131.10	105.20	94.50	110.27	107.15
4230	28750	107.11	107.40	113.60	110.50	109.37	126.50	101.50	101.50	118.90	121.20	103.30	114.47	111.23
4231	28751	94.63	87.00	101.80	94.40	94.48	106.50	98.30	98.30	112.60	126.80	99.20	112.87	109.23
4232	28752	92.59	96.40	97.70	97.05	95.56	110.00	109.10	109.10	115.90	121.60	107.40	114.97	113.50
4233	28753	110.57	112.00	126.90	119.45	116.49	128.50	115.30	115.30	141.00	145.00	108.50	131.50	127.45
4234	28754	105.77	113.60	122.00	117.80	113.79	137.00	112.10	112.10	136.70	129.80	117.80	128.10	124.10
4235	28755	96.77	96.80	97.00	96.90	96.86	116.00	102.00	102.00	121.20	120.40	100.90	114.17	111.13
4236	WGL 14 (NC)	99.10	109.00	117.80	113.40	108.63	124.50	107.90	107.90	135.70	122.00	96.50	118.07	115.53
4237	28756	98.47	96.80	113.60	105.20	102.96	100.00	98.80	98.80	128.60	116.80	93.40	112.93	109.40
4238	28757	107.87	98.00	111.05	104.53	105.64	122.50	116.50	116.50	121.80	117.20	103.10	114.03	114.65
4239	28758	103.91	108.00	106.70	107.35	106.20	112.00	108.60	108.60	133.00	121.20	106.90	120.37	117.43
4240	28759	105.44	106.40	108.15	107.28	106.66	119.00	115.90	115.90	128.30	96.20	101.40	108.63	110.45
4241	28760	119.67	95.80	113.40	104.60	109.62	120.00	102.00	102.00	139.20	108.20	105.50	117.63	113.73
4242	28761	114.95	124.80	135.80	130.30	125.18	142.00	133.20	133.20	136.60	126.80	93.10	118.83	122.43
4243	28762	117.89	96.80	102.30	99.55	105.66	120.50	99.00	99.00	125.70	126.80	95.40	115.97	111.73
4244	28763	93.40	107.00	96.15	101.58	98.85	107.50	95.70	95.70	115.10	106.80	91.20	104.37	102.20
4245	28764	96.43	96.40	118.00	107.20	103.61	124.00	113.10	113.10	119.10	121.00	106.80	115.63	115.00
4246	28765	95.93	98.00	101.15	99.58	98.36	118.50	96.10	96.10	106.90	110.60	109.60	109.03	105.80
4247	28766	109.17	111.00	112.65	111.83	110.94	131.50	116.90	116.90	120.50	122.40	105.80	116.23	116.40
4248	Zonal Check (ZC)	96.00	74.40	90.15	82.28	86.85	100.50	101.40	101.40	98.00	127.40	97.30	107.57	106.03
4249	28767	104.33	86.40	105.20	95.80	98.64	120.50	103.80	103.80	101.30	103.20	101.70	102.07	102.50
4250	28768	120.88	113.00	128.40	120.70	120.76	127.00	112.40	112.40	119.80	144.60	103.90	122.77	120.18
4251	28769	109.32	94.80	89.75	92.28	97.96	111.50	90.80	90.80	105.80	113.20	89.50	102.83	99.83
4252	28770	77.41	93.80	89.95	91.88	87.05	94.50	91.40	91.40	98.20	107.60	86.20	97.33	95.85
4253	28771	92.32	62.80	76.05	69.43	77.06	97.00	76.10	76.10	94.10	78.80	80.30	84.40	82.33
4254	28772	108.99	85.60	93.95	89.78	96.18	117.00	106.40	106.40	116.00	114.40	97.90	109.43	108.68
4255	28773	130.32	114.60	110.05	112.33	118.32	119.00	106.30	106.30	137.10	137.00	116.10	130.07	124.13
4256	28774	101.55	76.20	92.00	84.10	89.92	111.50	109.50	109.50	115.80	96.00	89.90	100.57	102.80
4257	28775	106.47	93.00	90.20	91.60	96.56	108.00	94.90	94.90	110.20	119.20	95.70	108.37	105.00
4258	28776	127.41	110.40	106.95	108.68	114.92	118.00	107.20	107.20	125.70	124.00	113.10	120.93	117.50
4259	28777	140.80	116.80	130.95	123.88	129.52	139.50	113.10	113.10	128.60	112.20	105.40	115.40	114.83
4260	28778	121.74	108.00	111.25	109.63	113.66	121.50	102.80	102.80	117.30	112.80	104.80	111.63	109.43
4261	28779	122.41	110.80	118.00	114.40	117.07	122.50	113.40	113.40	119.80	116.20	117.50	117.83	116.73
4262	28780	120.42	92.60	99.00	95.80	104.01	108.00	96.40	96.40	113.70	103.40	92.80	103.30	101.58
4263	28781	107.90	86.00	96.30	91.15	96.73	99.50	92.10	92.10	101.30	90.20	92.40	94.63	94.00
4264	Local Check (LC)	104.37	108.20	93.30	100.75	101.96	123.00	104.60	104.60	123.40	110.00	100.70	111.37	109.68
	Exp Mean	103.26	97.91	105.17	101.38	102.02	116.27	104.11	104.11	117.38	114.33	100.05	110.58	108.96

Table 10.10 contd.: Plant Height (cm) of entries in IVT MS, Kharif 2019

Entry No	IET NO	ZONE VII																		Zone VII (10)	Overall (23)
		AP		AP (2)	TE				TE (3)	TN		TN (2)	KA				KA (2)	PU			
		MTU	BPT	Mean	RNR	KMP@	KNM	WGL	Mean	ADT	CBT	Mean	MND	@MGD	@SRS	GNV	Mean	KBP	Mean		
4201	28722	133.70	120.50	127.10	102.90	127.00	121.40	120.30	114.87	99.00	105.50	102.25	85.60	86.20	91.60	103.10	94.35	118.00	111.00	112.23	
4202	28723	141.40	120.00	130.70	105.00	119.00	137.31	138.30	126.87	105.40	102.90	104.15	101.60	92.00	90.40	119.50	110.55	127.00	119.84	115.73	
4203	28724	136.10	121.50	128.80	108.00	96.00	133.48	121.20	120.89	113.00	114.00	113.50	103.60	103.00	98.80	117.20	110.40	135.00	120.31	119.76	
4204	28725	126.50	110.00	118.25	101.75	99.00	122.64	126.90	117.10	96.40	97.70	97.05	88.80	88.50	84.40	104.30	96.55	123.00	109.80	107.41	
4205	28726	118.70	89.50	104.10	94.10	98.00	95.23	.	94.67	81.40	80.90	81.15	84.90	74.30	72.40	89.90	87.40	100.00	92.74	92.94	
4206	28727	114.80	90.50	102.65	104.50	102.00	106.04	114.80	108.45	83.60	92.20	87.90	85.90	79.50	75.90	87.20	86.55	100.00	97.95	98.80	
4207	28728	127.30	73.50	100.40	102.90	100.00	110.40	116.50	109.93	89.00	93.10	91.05	85.40	82.80	75.90	88.90	87.15	89.00	97.60	99.95	
4208	28729	133.40	94.50	113.95	106.15	95.00	109.78	112.50	109.48	98.00	97.50	97.75	82.20	83.40	87.10	93.80	88.00	107.00	103.48	101.10	
4209	28730	125.00	104.00	114.50	101.40	116.00	122.96	121.15	115.17	98.00	97.40	97.70	83.00	87.50	79.20	91.50	87.25	106.00	105.04	104.32	
4210	28731	126.60	102.00	114.30	107.50	118.00	108.60	124.50	113.53	88.60	95.10	91.85	92.40	75.60	82.20	90.12	91.26	106.00	104.14	103.32	
4211	28732	137.80	121.50	129.65	103.80	100.00	127.61	133.60	121.67	86.00	99.80	92.90	91.80	95.70	87.70	100.60	96.20	125.00	112.75	110.94	
4212	28733	105.00	74.50	89.75	101.65	126.00	85.66	110.40	99.24	90.20	99.90	95.05	87.40	76.10	77.80	93.60	90.50	114.00	96.23	96.05	
4213	28734	121.90	96.50	109.20	103.00	138.00	110.55	.	106.78	93.20	95.00	94.10	78.40	78.70	78.00	94.70	86.55	102.00	99.47	100.20	
4214	28735	122.30	95.50	108.90	103.60	128.00	101.60	111.90	105.70	94.80	88.80	91.80	81.50	92.40	82.40	92.50	87.00	109.00	100.15	98.39	
4215	28736	129.20	111.50	120.35	99.95	79.00	95.96	120.20	105.37	91.00	101.40	96.20	87.60	82.90	79.60	92.10	89.85	110.00	103.89	101.00	
4216	28737	117.90	114.00	115.95	99.95	115.00	111.34	128.10	113.13	96.00	100.10	98.05	85.60	93.50	77.90	92.00	88.80	105.00	105.00	102.20	
4217	28738	135.60	113.00	124.30	103.30	130.00	121.66	.	112.48	111.00	102.60	106.80	89.00	92.00	86.10	107.70	98.35	124.00	111.98	112.05	
4218	28739	127.70	121.00	124.35	98.00	134.00	114.72	124.30	112.34	104.00	104.10	104.05	78.40	87.40	83.70	95.75	87.08	115.00	108.30	108.29	
4219	28740	121.20	94.00	107.60	83.40	140.00	96.26	113.10	97.59	88.00	93.40	90.70	95.50	87.00	81.30	100.50	98.00	109.00	99.44	100.21	
4220	28741	103.40	71.00	87.20	104.85	145.00	88.48	94.60	95.98	74.00	70.60	72.30	86.80	65.70	69.30	88.70	87.75	77.00	85.94	87.43	
4221	28742	118.70	98.00	108.35	101.60	115.00	103.88	105.60	103.69	102.00	.	102.00	92.70	72.30	81.10	111.40	102.05	117.00	105.65	105.66	
4222	28743	127.90	101.50	114.70	96.50	130.00	116.83	128.30	113.88	96.20	87.80	92.00	92.40	86.10	79.80	101.80	97.10	121.00	107.02	104.27	
4223	28744	120.90	75.50	98.20	98.80	111.00	102.14	.	100.47	97.20	77.80	87.50	99.40	71.60	82.90	99.80	99.60	100.00	96.84	98.80	
4224	BPT 5204 (NC)	.	.	113.40	93.00	.	112.70	113.05	95.40	92.95	94.18	108.60	77.80	76.70	.	108.60	.	104.61	100.51		
4225	28745	132.00	70.00	101.00	104.70	112.00	105.60	.	105.15	75.20	80.50	77.85	83.40	85.20	85.30	87.40	85.40	86.00	91.64	99.08	
4226	28746	141.80	101.50	121.65	102.60	120.00	128.77	123.40	118.26	109.00	95.60	102.30	95.80	99.30	82.10	106.50	101.15	90.00	109.50	111.87	
4227	28747	112.60	71.50	92.05	93.10	117.00	98.12	109.10	100.11	104.00	76.20	90.10	76.00	83.60	94.80	87.40	81.70	92.00	92.00	93.15	
4228	28748	117.80	102.50	110.15	102.80	104.00	112.38	129.30	114.83	88.00	98.80	93.40	83.10	90.30	75.70	102.90	93.00	96.00	103.36	102.50	
4229	28749	132.80	101.50	117.15	101.40	100.00	106.59	111.30	106.43	120.00	102.60	111.30	92.60	102.60	83.30	107.70	100.15	121.00	109.75	107.58	
4230	28750	142.10	112.00	127.05	102.70	130.00	132.82	138.70	124.74	105.00	108.30	106.65	97.20	104.40	96.20	117.00	107.10	115.00	117.08	113.12	
4231	28751	115.60	108.00	111.80	93.60	118.00	111.04	119.85	108.16	82.00	89.40	85.70	87.00	93.00	91.80	89.60	88.30	103.00	99.91	100.81	
4232	28752	125.20	80.00	102.60	97.60	130.00	108.46	121.40	109.15	92.20	79.90	86.05	87.00	75.20	79.70	109.60	98.30	103.00	100.44	102.95	
4233	28753	154.30	99.00	126.65	112.60	100.00	130.21	118.60	120.47	106.20	105.00	105.60	111.00	104.90	86.60	123.90	117.45	113.00	117.38	119.94	
4234	28754	138.00	121.50	129.75	125.15	106.00	127.57	126.00	126.24	113.00	108.50	110.75	102.40	101.10	97.80	107.60	105.00	122.00	119.17	115.80	
4235	28755	130.40	104.50	117.45	103.90	125.00	115.52	124.99	114.80	94.00	93.50	93.75	99.40	83.50	96.70	116.20	107.80	111.00	109.34	107.25	
4236	WGL 14 (NC)	137.80	115.00	126.40	98.90	90.00	111.75	126.95	112.53	103.20	109.40	106.30	95.20	94.80	77.70	106.20	100.70	113.00	111.74	111.84	
4237	28756	128.70	121.00	124.85	102.70	120.00	119.09	127.60	116.46	95.40	100.10	97.75	91.40	89.10	89.50	99.80	95.60	114.00	109.98	108.07	
4238	28757	141.90	113.00	127.45	103.00	97.00	123.98	123.25	116.74	105.00	105.00	105.00	99.40	98.30	89.40	105.50	102.45	111.00	113.10	111.11	
4239	28758	140.10	119.50	129.80	113.40	15.00	123.67	139.30	125.46	106.00	106.20	106.10	89.40	89.80	88.50	98.70	94.05	122.00	115.83	112.84	
4240	28759	139.10	120.00	129.55	104.40	116.00	117.60	116.70	112.90	104.00	110.50	107.25	96.40	92.10	91.90	105.70	101.05	115.00	112.94	111.09	
4241	28760	133.50	119.50	126.50	107.10	116.00	123.36	113.40	114.62	101.60	97.40	99.50	98.20	91.30	92.10	108.55	103.38	117.00	111.96	110.79	
4242	28761	149.00	133.50	141.25	109.10	90.00	126.87	146.95	127.64	125.00	129.10	127.05	122.40	101.50	99.00	124.90	123.65	93.00	125.98	123.81	
4243	28762	129.20	97.50	113.35	103.30	130.00	126.75	122.90	117.65	90.00	91.40	90.70	97.40	90.90	105.10	119.80	108.60	132.00	111.03	110.98	
4244	28763	123.00	98.50	110.75	99.90	103.00	106.49	114.30	106.90	109.40	100.60	105.00	86.60	78.00	82.30	86.00	86.30	100.00	102.48	102.06	
4245	28764	136.70	84.00	110.35	100.60	117.00	116.13	122.70	113.14	100.00	105.30	102.65	96.80	91.30	73.20	103.50	100.15	120.00	108.57	108.88	
4246	28765	127.70	106.50	117.10	104.00	115.00	114.46	117.80	112.09	103.00	94.00	98.50	91.20	92.40	93.70	108.40	99.80	103.00	107.01	103.80	

Table 10.11: Panicles of entries in IVT MS, Kharif 2019

Entry No.	IET NO	ZONE III										ZONE IV		ZONE-V				Zone V (3)
		OD		OD (2)	BI	JH	WB	UP		UP (2)	Zone III (6)	TR		CH	MA		MA (2)	
		CTK	JYP	Mean	PSA	@RCI	CHN	MSD	VRN	Mean	Mean	@ARD	@LMB	RPR	SKL	SND	Mean	
4201	28722	288	436	362	371	259	248	324	261	292	321	395	338	278	249	289	269	272
4202	28723	322	383	352	419	317	429	329	188	258	345	461	313	208	234	408	321	283
4203	28724	320	460	390	346	262	314	247	258	252	324	428	342	253	232	370	301	285
4204	28725	330	260	295	290	248	281	360	247	303	294	296	225	189	242	225	233	219
4205	28726	308	286	297	228	218	363	330	190	260	284	529	279	189	210	281	245	227
4206	28727	245	293	269	258	258	314	358	211	284	280	362	358	197	201	276	239	225
4207	28728	275	270	273	260	263	363	376	255	315	300	428	313	171	310	178	244	219
4208	28729	300	290	295	270	241	429	278	212	245	297	329	329	219	299	242	271	253
4209	28730	284	213	248	147	250	363	287	195	241	248	296	338	201	282	268	275	250
4210	28731	303	396	350	148	260	363	353	221	287	297	494	267	167	295	278	287	247
4211	28732	318	386	352	264	253	479	278	242	260	328	560	271	209	271	219	245	233
4212	28733	295	256	276	141	245	248	332	205	268	246	595	363	216	221	371	296	269
4213	28734	324	449	387	293	257	314	338	199	268	319	626	383	244	191	280	235	238
4214	28735	277	246	262	270	200	396	329	189	259	284	428	283	191	230	262	246	228
4215	28736	324	300	312	241	222	363	329	223	276	296	429	258	187	233	279	256	233
4216	28737	301	450	375	286	202	380	290	245	267	325	461	400	212	189	231	210	210
4217	28738	318	343	331	221	244	281	279	182	231	271	529	283	194	193	286	239	224
4218	28739	314	290	302	230	228	363	343	263	303	300	494	279	171	198	262	230	210
4219	28740	304	220	262	305	254	347	322	243	282	290	428	354	164	213	276	245	218
4220	28741	265	296	281	126	227	314	358	234	296	265	427	350	129	254	293	273	225
4221	28742	300	451	376	278	294	330	356	229	293	324	364	342	202	270	292	281	254
4222	28743	337	286	312	193	258	330	329	201	265	279	426	275	189	194	271	232	218
4223	28744	317	397	357	301	187	314	358	235	296	320	511	267	216	196	246	221	219
4224	BPT 5204 (NC)	297	362	329	298	252	363	328	228	278	312	404	304	212	184		184	198
4225	28745	317	460	388	308	249	363	358	262	310	344	510	342	169	299	234	266	234
4226	28746	327	380	353	255	242	314	318	185	251	296	632	246	183	255	246	250	228
4227	28747	320	366	343	319	189	429	321	193	257	325	395	313	158	213	309	261	226
4228	28748	307	350	328	303	245	396	279	214	246	308	362	325	211	232	238	235	227
4229	28749	307	280	293	300	236	347	250	187	218	278	396	342	219	220	320	270	253
4230	28750	307	406	357	261	298	363	329	191	260	309	296	317	189	230	246	238	222
4231	28751	277	506	392	333	256	347	339	216	277	336	263	454	229	205	283	244	239
4232	28752	307	386	347	273	283	347	311	187	249	302	229	358	189	249	249	249	229
4233	28753	296	230	263	275	214	248	318	130	224	249	298	246	147	208	178	193	178
4234	28754	307	326	317	347	232	281	259	208	233	288	233	217	206	288	242	265	245
4235	28755	297	296	297	333	254	297	319	200	259	290	263	479	207	172	245	209	208
4236	WGL 14 (NC)	324	316	320	289	255	314	348	193	271	297	267	367	211	206	253	229	223
4237	28756	291	500	396	285	223	347	368	231	300	337	296	304	204	202	258	230	221
4238	28757	298	260	279	261	233	264	273	213	243	261	233	233	215	221	328	274	255
4239	28758	296	386	341	374	185	330	349	193	271	321	263	300	215	257	296	276	256
4240	28759	310	500	405	256	280	314	295	188	241	310	230	308	219	260	231	245	236
4241	28760	300	303	302	315	219	297	249	202	225	278	494	296	185	213	280	247	226
4242	28761	257	320	288	330	195	314	376	169	272	294	297	271	204	277	269	273	250
4243	28762	309	400	354	290	211	314	289	161	225	293	230	313	185	174	234	204	198
4244	28763	297	379	338	292	206	314	322	211	266	302	296	300	201	277	240	258	239
4245	28764	284	206	245	289	192	314	359	237	298	281	432	321	190	217	244	230	217
4246	28765	314	273	293	258	211	264	249	201	225	260	494	279	196	231	310	270	245
4247	28766	274	303	288	275	240	347	284	257	271	290	530	263	186	161	258	209	201
4248	Zonal Check (ZC)	343	316	330	300	280	446	274	187	230	311	626	438	203	188	279	233	223
4249	28767	277	326	302	301	218	264	361	251	306	297	396	458	192	239	270	255	234
4250	28768	297	403	350	290	236	314	248	217	232	295	427	321	206	251	261	256	239
4251	28769	304	340	322	268	246	347	369	270	319	316	296	275	202	354	286	320	280
4252	28770	319	477	398	335	312	264	342	203	272	323	297	329	189	235	269	252	231
4253	28771	340	293	316	328	297	363	338	259	298	320	362	450	172	197	271	234	213
4254	28772	296	240	268	343	243	264	321	187	254	275	395	242	178	188	295	241	220
4255	28773	317	306	312	290	260	347	281	198	239	290	507	317	201	215	269	242	228
4256	28774	330	346	338	200	226	281	268	200	234	271	264	342	188	222	277	249	229
4257	28775	294	322	308	245	221	314	337	196	267	285	525	313	193	269	278	273	247
4258	28776	333	256	295	253	249	281	319	218	268	277	528	263	174	248	252	250	225
4259	28777	345	243	294	342	147	314	329	201	265	296	296	225	205	174	122	148	167
4260	28778	258	317	287	336	261	363	270	186	228	288	296	288	205	177	244	210	209
4261	28779	290	233	262	321	237	363	340	257	299	301	264	333	202	239	342	290	261
4262	28780	295	266	280	384	228	380	334	202	268	310	363	319	214	279	287	283	260
4263	28781	318	300	309	364	237	396	324	259	291	327	447	321	218	204	365	285	262
4264	Local Check (LC)	317	346	332	352	219	347	335	203	269	316	494	442	206	289	319	304	271
	Exp Mean	304	336	320	285	240	334	318	213	266	298	397	318	198	231	271	250	233

Table 10.11 contd.: Panicles of entries in IVT MS, Kharif 2019

Entry No.	IET NO	ZONE VI							Zone VI (4)	ZONE VII		
		MA		MA (1)	GU			GU (3)		AP		AP (2)
		@KJT	SHR	Mean	NVS	NWG	VYR	Mean		MTU	BPT	Mean
4201	28722	242	352	352	208	261	254	241	268	287	335	311
4202	28723	147	235	235	256	257	206	240	238	297	255	276
4203	28724	212	300	300	296	276	246	273	279	297	284	291
4204	28725	236	200	200	207	274	206	229	221	330	227	279
4205	28726	227	196	196	243	266	201	237	226	297	283	290
4206	28727	243	330	330	276	280	183	246	267	281	268	274
4207	28728	260	302	302	191	278	212	227	245	330	258	294
4208	28729	248	240	240	181	276	194	217	222	330	251	290
4209	28730	257	289	289	188	297	234	240	252	330	284	307
4210	28731	223	229	229	233	277	213	241	238	330	312	321
4211	28732	181	262	262	222	287	194	234	241	314	256	285
4212	28733	234	270	270	291	254	206	250	255	264	234	249
4213	28734	208	147	147	223	272	179	224	205	297	233	265
4214	28735	218	318	318	211	258	204	224	248	330	243	287
4215	28736	234	241	241	188	260	251	233	235	297	286	292
4216	28737	206	231	231	287	264	219	257	250	297	348	322
4217	28738	203	350	350	224	273	200	232	262	347	206	276
4218	28739	236	296	296	212	262	237	237	252	297	194	246
4219	28740	218	214	214	258	148	234	213	214	314	251	282
4220	28741	197	223	223	294	256	186	245	240	290	291	291
4221	28742	232	346	346	241	255	218	238	265	281	280	280
4222	28743	224	121	121	294	258	200	250	218	281	205	243
4223	28744	239	306	306	211	250	224	228	248	347	280	313
4224	BPT 5204 (NC)	243	186	186	186	262	200	216	208			
4225	28745	232	150	150	192	255	204	217	200	297	289	293
4226	28746	240	226	226	214	281	216	237	234	330	188	259
4227	28747	244	216	216	179	258	246	228	225	330	222	276
4228	28748	234	286	286	232	261	242	245	255	264	206	235
4229	28749	208	253	253	224	254	168	215	225	281	238	259
4230	28750	155	250	250	272	277	210	253	252	314	277	295
4231	28751	171	316	316	218	285	215	239	258	297	264	281
4232	28752	236	240	240	218	268	182	222	227	281	288	284
4233	28753	186	241	241	166	264	207	212	219	330	182	256
4234	28754	198	267	267	247	280	212	246	251	304	289	296
4235	28755	228	277	277	260	274	225	253	259	317	265	291
4236	WGL 14 (NC)	234	163	163	236	277	179	230	214	330	285	308
4237	28756	213	233	233	304	277	189	257	251	297	243	270
4238	28757	226	321	321	193	282	183	219	245	314	251	282
4239	28758	218	214	214	194	282	192	223	220	314	267	290
4240	28759	260	279	279	225	275	240	246	255	297	255	276
4241	28760	202	325	325	186	259	215	220	246	281	242	261
4242	28761	243	279	279	186	275	203	221	235	314	244	279
4243	28762	209	279	279	212	275	213	233	245	330	285	308
4244	28763	260	271	271	236	260	222	239	247	290	190	240
4245	28764	251	159	159	169	272	194	211	198	284	222	253
4246	28765	237	245	245	257	282	221	253	251	330	250	290
4247	28766	175	253	253	193	280	200	224	231	330	294	312
4248	Zonal Check (ZC)	241	147	147	245	259	215	239	216	330	318	324
4249	28767	202	131	131	188	256	185	209	190	314	316	315
4250	28768	173	379	379	197	281	218	232	268	330	260	295
4251	28769	214	238	238	174	266	191	210	217	314	269	291
4252	28770	223	130	130	171	258	185	204	186	304	198	251
4253	28771	217	161	161	212	140	200	184	178	314	266	290
4254	28772	227	203	203	229	267	221	239	230	320	201	261
4255	28773	212	258	258	243	259	245	249	251	330	253	291
4256	28774	232	247	247	169	151	200	173	192	314	228	271
4257	28775	220	337	337	226	121	213	187	224	320	235	278
4258	28776	224	221	221	184	268	198	216	218	297	214	255
4259	28777	227	273	273	213	263	186	220	234	314	200	257
4260	28778	210	196	196	213	273	206	231	222	317	243	280
4261	28779	205	227	227	206	262	194	220	222	347	247	297
4262	28780	221	203	203	207	254	207	223	218	314	230	272
4263	28781	206	263	263	269	267	218	251	254	320	295	308
4264	Local Check (LC)	217	327	327	221	285	227	244	265	304	330	317
	Exp Mean	220	248	248	222	260	209	230	235	310	255	283

Table 10.11 contd.: Panicles of entries in IVT MS, Kharif 2019

Entry No.	IET NO	ZONE VII														Zone VII (10)	Overall (23)
		TE				TE (3)	TN		TN (2)	KA				KA (2)	PU		
		RNR	KMP@	KNM	WGL	Mean	ADT	CBT	Mean	MND	@MGD	@SRS	GNV	Mean	KBP		
4201	28722	450	13	317	380	382	293	268	280	410	230	278	399	405	517	365	325
4202	28723	463	10	327	411	400	326	400	363	530	296	312	334	432	384	373	330
4203	28724	437	11	429	398	421	251	325	288	550	272	347	299	424	367	364	328
4204	28725	457	16	281	375	371	203	300	251	525	240	275	370	448	384	345	294
4205	28726	497	15	330		413	251	298	274	490	269	303	413	451	450	367	300
4206	28727	423	12	314	365	367	281	295	288	485	296	263	269	377	384	336	295
4207	28728	397	15	317	375	363	281	290	286	540	221	294	355	448	334	348	301
4208	28729	433	18	307	343	361	314	325	320	460	301	230	344	402	384	349	301
4209	28730	337	11	307	361	335	265	276	270	480	272	248	341	410	483	346	292
4210	28731	383	11	320	365	356	275	313	294	510	271	308	365	437	400	357	306
4211	28732	430	10	307	391	376	239	328	283	440	221	296	502	471	417	362	315
4212	28733	392	11	307	399	366	239	353	296	515	290	320	428	471	367	350	296
4213	28734	480	13	326		403	326	295	311	560	291	308	443	501	450	379	312
4214	28735	330	10	307	389	342	281	298	289	485	247	249	426	456	417	351	299
4215	28736	337	15	300	360	332	202	325	264	510	272	254	358	434	434	341	297
4216	28737	450	15	307	361	373	236	300	268	500	336	300	295	397	450	354	310
4217	28738	370	13	297		334	254	288	271	540	246	297	380	460	417	344	293
4218	28739	477	13	327	381	395	234	300	267	470	309	266	319	395	400	340	297
4219	28740	377	12	317	414	369	285	328	306	465	264	323	321	393	467	354	295
4220	28741	360	16	330	317	336	238	294	266	445	270	264	405	425	417	339	288
4221	28742	393	11	330	408	377	279		279	490	267	281	432	461	433	369	322
4222	28743	307	11	320	335	321	239	335	287	460	274	294	398	429	417	329	282
4223	28744	353	15	323		338	253	288	270	460	249	266	393	427	367	340	301
4224	BPT 5204 (NC)	407	13		363	385	186	388	287	450	145	327		450		359	288
4225	28745	440	13	330		385	243	298	270	490	231	257	342	416	367	344	303
4226	28746	473	18	317	378	389	262	283	272	430	226	257	330	380	367	336	294
4227	28747	447	15	330	381	386	254	298	276	410	299	251	402	406	450	352	306
4228	28748	390	13	350	366	369	273	315	294	490	288	284	384	437	334	337	301
4229	28749	350	14	333	389	358	239	323	281	460	165	260	358	409	417	339	292
4230	28750	363	16	314	388	355	313	310	312	450	227	221	382	416	450	356	308
4231	28751	497	14	327	380	401	247	288	267	540	369	251	401	470	417	366	323
4232	28752	380	15	343	396	373	281	300	290	540	278	348	326	433	400	353	302
4233	28753	343	16	267	330	314	254	290	272	440	190	249	250	345	258	294	254
4234	28754	413	15	307	358	359	316	325	320	490	269	213	297	394	358	346	301
4235	28755	410	13	337	404	384	195	300	247	490	249	267	317	403	308	334	293
4236	WGL 14 (NC)	427	14	311	370	369	281	340	310	480	296	227	362	421	317	350	296
4237	28756	427	12	304	376	369	251	308	279	500	224	330	340	420	333	338	307
4238	28757	500	14	317	340	386	263	293	278	440	261	284	347	394	258	332	288
4239	28758	403	9	300	355	353	251	330	291	540	300	281	407	473	308	347	307
4240	28759	453	13	320	398	390	303	295	299	450	297	233	500	475	283	355	310
4241	28760	357	13	300	333	330	283	318	300	450	238	246	406	428	308	328	287
4242	28761	480	16	267	422	390	251	298	274	420	198	246	382	401	332	341	298
4243	28762	437	10	294	380	370	303	298	300	400	272	272	454	427	267	345	295
4244	28763	307	11	274	383	321	269	298	283	520	340	185	425	473	300	325	294
4245	28764	317	13	287	327	310	235	303	269	500	260	318	340	420	333	315	273
4246	28765	417	11	277	370	354	243	293	268	450	270	278	320	385	267	322	283
4247	28766	487	12	320	416	408	255	310	282	450	289	249	389	419	383	363	300
4248	Zonal Check (ZC)	503	11	307	401	404	230	310	270	490	315	297	306	398	283	348	299
4249	28767	420	13	399	399	406	326	343	334	560	337	251	449	505	233	376	304
4250	28768	450	13	320	394	388	336	315	326	450	327	225	306	378	300	346	305
4251	28769	550	11	314	391	418	302	333	318	450	334	332	409	430	300	363	315
4252	28770	373	13	340	384	366	243	303	273	490	302	257	385	437	275	329	290
4253	28771	430	16	320	403	384	225	308	266	430	245	264	376	403	333	340	290
4254	28772	427	11	290	396	371	241	310	276	490	300	335	342	416	342	336	286
4255	28773	390	18	287	353	343	276	333	304	440	240	282	253	347	308	322	289
4256	28774	363	9	300	345	336	250	295	273	430	261	248	303	367	316	314	270
4257	28775	437	15	297	366	367	199	300	249	470	277	338	384	427	275	328	288
4258	28776	433	15	294	381	369	223	283	253	400	228	374	358	379	333	321	279
4259	28777	347	18	254	347	316	201	294	247	400	196	242	422	411	225	300	270
4260	28778	427	16	314	373	371	345	328	336	460	227	249	375	417	308	349	293
4261	28779	377	22	251	408	345	290	313	301	475	295	305	397	436	342	344	301
4262	28780	357	22	271	356	328	252	280	266	450	252	251	589	519	291	339	300
4263	28781	433	16	327	424	395	272	273	272	500	293	315	384	442	292	352	317
4264	Local Check (LC)	350	13	294	350	331	281	383	332	445	166	368	489	467	350	357	319
	Exp Mean	411	13	312	376	367	262	310	286	475	265	278	374	425	356	344	298

NEAR ISOGENIC LINES (NIL'S) IN ADVANCE VARIETY TRIAL

Near Isogenic lines (NIL's) were evaluated in various Advance Variety Trials (AVT) based on their duration. The NIL's along with their respective recurrent parents were evaluated for yield under regular yield trials in gazette notified states and for target traits viz., drought tolerance, submergence tolerance, herbicide tolerance, coastal salinity tolerance, bacterial leaf blight and blast resistance, a separate trials across the hot spot locations across the country were conducted. The yield trial and target trials data were analyzed as per the approved guidelines for testing of NILs during the breeder's group meeting held at 53rd Annual Rice Group Meetings (ARGM) on 13th April 2018 (Draft Proceedings of 53rd ARGM, 2018; Page 45) and 54th Annual Rice Group Meetings (ARGM) on 29th May, 2019 (Draft Proceedings of 54th ARGM, 2019; Page 6, 42-43).

Near Isogenic Lines for Drought Tolerance

A separate drought trial was conducted at four locations namely Hazaribagh, Varanasi, Patna and Rewa but data from Hazaribagh, Varanasi and Rewa was not included due to low experimental mean yield and or low CV and data from Patna centre only was included in analysis.

Near Isogenic Lines for Herbicide (Imazethapyr) Tolerance

A total of four NIL entries, two each in the genetic background of Pusa Basmati 1121 (IET 28812 and IET 28813) and Pusa Basmati 1509 (IET 28814 and IET 28815) were evaluated for yield and herbicide tolerance for the first time in AICRIP. All the four NIL's were evaluated for yield performance in the regular basmati trial and for trait confirmation (herbicide tolerance), a separate herbicide trial was conducted at six locations viz., ICAR-IARI, ICAR-IIRR, Kaul, Ludhiana, Nagina and Pantnagar and data from two locations viz., Ludhiana (low experimental mean yield) and Kaul (conduction of trial was not appropriate) were not included.

Near Isogenic Lines for Bacterial Leaf Blight and Blast Resistance

For bacterial leaf blight and blast resistance, a separate trial under NSN was conducted in hot spot regions across the country to determine the resistance of NILs against bacterial leaf blight and blast disease.

Near Isogenic Lines for Submergence Tolerance

A separate submergence trial was conducted at three locations namely Cuttack, Maruteru and Karaikal but data from Maruteru and Karaikal was not included due to low experimental mean yield and or low CV and data from Cuttack centre only was included in analysis.

Near Isogenic Lines for Coastal Salinity Tolerance

A separate submergence trial was conducted at four locations namely Cuttack, Chinsurah, Canning and Machilipatnam. All the four locations data was included in analysis.

Table 11.1: Composition of entries in Advance Variety Trial 1- Near Isogenic Lines-Coastal Salinity (AVT 1-NIL CS), Kharif 2019

Entry No.	IET No.	Designation	Cross Combination	Grain Type
4501	28037	KR 15014	ADT 45 / FL 478	MS
4502	28038	KR 15006	ADT 45 / FL 478	MS
4503	28039	KR 15010	ADT 45 / FL 478	MS
4504	28040	KR 15016	ADT 45 / FL 478	MS
4505	ADT 45 (RP)			MS
4506	28007	MTU 1290	MTU 1010 / FL 478 // *3 MTU 1010	LB
4507	28011	MTU 1294	MTU 1010 / FL 478 // *3 MTU 1010	LS
4508	28036	MTU 1292	MTU 1010 / FL 478 // *3 MTU 1010	LB
4509	28008	MTU 1291	MTU 1010 / FL 478 // *3 MTU 1010	LS
4510	28010	MTU 1293	MTU 1010 / FL 478 // *3 MTU 1010	LS
4511	MTU 1010 (RP)			LS
4512	28782	CSR 187-11-229	Pusa 44 / FL 478 /* Pusa 44	LS
4513	Pusa 44 (RP)			MS
4514	28783	CSR 189-11-123	Sarjoo 52 / FL 478 /*4	SB
4515	Sarjoo 52 (RP)			SB
4516	28784	RP 6287-188-45-12-88	Improved Samba Mahsuri * 3 /// FL 478	LS
4517	Improved Samba Mahsuri (RP)			MS
4518	FL 478 (DP)			LB

Table 11.2: Grain Yield (kg/ha), days to 50% flowering, plant height (cm) and panicles/m² of entries in AVT 1-NIL (Coastal Salinity-- Stress), kharif 2019

Entry No	IET No	Zone III (1)				
		WB (1)				
		CNG				
		Grain Yield (kg/ha)		Flowering	Plant Height	Panicles
4501	28037	2217		75	69.7	400
4502	28038	1930		75	67.0	348
4503	28039	1804		74	69.1	392
4504	28040	2061		74	66.0	407
4505	ADT 45 (RP)	2458	6	74	71.4	341
4506	28007	2262	10	75	74.2	323
4507	28011	2422	8	74	76.0	363
4508	28036	2878	3	75	77.4	370
4509	28008	2727	4	76	75.6	407
4510	28010	3057	1	76	82.5	392
4511	MTU 1010 (RP)	2439	7	74	75.7	279
4512	28782	2946	2	75	76.3	367
4513	Pusa 44 (RP)	1594		102	60.2	323
4514	28783	2622	5	89	75.8	425
4515	Sarjoo 52 (RP)	2018		88	68.4	400
4516	28784	2341	9	95	75.6	436
4517	Improved Samba Mahsuri (RP)	1877		97	66.2	469
4518	FL 478 (DP)	2237		88	72.6	392
Exp. Mean		2327.3		81	72.2	380
CD		857.87				
CV%		25.97				
D/S		08-08-2019				
D/P		04-09-2019				

Table 11.2 contd.: Grain Yield of entries in AVT 1- NIL (CS) Normal Kharif 2019

Entry No	IET No	Zone III		Zone III(2)	Zone V		Zone VII (1)		Overall (3)
		OD (1)	WB (1)				MA	AP (1)	
		CTK	CHN				@PNV	MPM	
4501	28037	2567	3222	2895	1472	2	790	2193	
4502	28038	2243	3000	2622	633		1230	2158	
4503	28039	2553	3111	2832	1370	3	2862	2842	
4504	28040	2374	3000	2687	394		4812	3395	
4505	ADT 45 (RP)	2289	3167	2728	1039	5	1513	2323	
4506	28007	3388	4056	3722	569		8048	5164	1
4507	28011	2982	3556	3269	1133	4	5491	4010	
4508	28036	3161	3667	3414	922	7	7766	4865	2
4509	28008	2742	3444	3093	732		8075	4754	3
4510	28010	2935	3722	3329	511		6542	4400	6
4511	MTU 1010 (RP)	2797	3000	2899	911	8	6892	4230	8
4512	28782	2623	4556	3590	733	10	6245	4475	4
4513	Pusa 44 (RP)	2745	4000	3373	600		5811	4185	9
4514	28783	2622	4222	3422	1033	6	6574	4473	5
4515	Sarjoo 52 (RP)	2849	3333	3091	648		6573	4252	7
4516	28784	3141	3611	3376	1861	1	5431	4061	10
4517	Improved Samba Mahsuri (RP)	2707	3167	2937	448		4680	3518	
4518	FL 478 (DP)	1753	3128	2441	756	9	7197	4026	
Exp. Mean		2692.82	3497.84	3095	875.96		5362.96	3851	
CD		378.51	851.99	577.17	359.09		1356.29	694.7	
CV%		9.9	17.16	12.51	19.43		17.82	12.18	
D/S		16-07-2019	16-07-2019				29-07-2019		
D/P		20-08-2019	15-08-2019				16-08-2019		

Table 11.3: Days to 50% Flowering of entries in AVT 1- NIL (CS) Normal Kharif 2019

Entry No	IET No	Zone III		Zone III(2)	Zone V	Zone VII (1)	Overall (3)
		OD (1)	WB (1)				
		CTK	CHN		MA	AP (1)	
4501	28037	90	95	93	76	81	89
4502	28038	92	95	94	74	82	90
4503	28039	91	97	94	84	79	89
4504	28040	92	95	93	80	78	88
4505	ADT 45 (RP)	91	97	94	86	81	89
4506	28007	90	100	95	88	81	90
4507	28011	94	101	97	88	80	91
4508	28036	91	102	96	87	81	91
4509	28008	94	106	100	87	79	93
4510	28010	92	105	98	87	80	92
4511	MTU 1010 (RP)	92	106	99	87	77	92
4512	28782	94	108	101	92	76	93
4513	Pusa 44 (RP)	108	115	111	83	90	104
4514	28783	98	110	104	87	91	99
4515	Sarjoo 52 (RP)	97	108	102	92	84	96
4516	28784	104	114	109	88	87	101
4517	Improved Samba Mahsuri (RP)	112	94	103	91	93	100
4518	FL 478 (DP)	94	92	93	77	87	91
Exp. Mean		95	102	99	85	83	93

Table 11.4: Plant Height of entries in AVT 1- NIL (CS) Normal Kharif 2019

Entry No	IET No	Zone III		Zone III(2) Mean	Zone V	Zone VII (1)	Overall (3) Mean
		OD (1)	WB (1)		MA	AP (1)	
		CTK	CHN		@PNV	MPM	
4501	28037	90.22	83.00	86.61	85.50	91.78	88.33
4502	28038	73.00	75.00	74.00	61.50	90.10	79.37
4503	28039	83.67	69.00	76.33	95.00	87.40	80.02
4504	28040	80.67	73.00	76.83	63.00	92.35	82.01
4505	ADT 45 (RP)	86.22	77.00	81.61	85.50	90.93	84.72
4506	28007	94.78	99.00	96.89	85.50	104.70	99.49
4507	28011	101.11	93.00	97.06	92.00	106.68	100.26
4508	28036	92.44	94.00	93.22	84.50	107.48	97.97
4509	28008	92.89	91.00	91.94	89.50	108.93	97.60
4510	28010	103.00	94.00	98.50	81.50	107.48	101.49
4511	MTU 1010 (RP)	80.22	90.00	85.11	90.50	105.00	91.74
4512	28782	88.78	91.00	89.89	75.00	101.30	93.69
4513	Pusa 44 (RP)	80.44	85.00	82.72	58.50	92.73	86.06
4514	28783	89.11	97.00	93.06	87.50	102.55	96.22
4515	Sarjoo 52 (RP)	87.78	83.00	85.39	66.50	101.50	90.76
4516	28784	99.78	96.00	97.89	88.00	103.45	99.74
4517	Improved Samba Mahsuri (RP)	89.33	86.00	87.67	64.00	90.45	88.59
4518	FL 478 (DP)	79.67	118.00	98.83	86.50	96.70	98.12
Exp. Mean		88.51	88.56	88.53	80.00	98.97	92.01

Table 11.5: Panicle/m2 of entries in AVT 1- NIL (CS) Normal Kharif 2019

Entry No	IET No	Zone III		Zone III(2) Mean	Zone V	Zone VII (1)	Overall (3) Mean
		OD (1)	WB(1)		MA	AP (1)	
		CTK	CHN		@PNV	MPM	
4501	28037	219	446	332	239	35	233
4502	28038	232	487	359	44	46	255
4503	28039	259	487	373	285	109	285
4504	28040	238	446	342	206	146	277
4505	ADT 45 (RP)	237	479	358	273	68	261
4506	28007	302	413	357	265	207	307
4507	28011	268	281	274	430	120	223
4508	28036	281	355	318	290	168	268
4509	28008	256	347	301	283	213	272
4510	28010	283	281	282	130	193	252
4511	MTU 1010 (RP)	254	380	317	453	185	273
4512	28782	246	305	276	270	182	245
4513	Pusa 44 (RP)	260	355	308	128	113	243
4514	28783	261	462	362	307	152	292
4515	Sarjoo 52 (RP)	307	396	352	323	181	295
4516	28784	239	297	268	387	162	233
4517	Improved Samba Mahsuri (RP)	208	404	306	146	138	250
4518	FL 478 (DP)	182	454	318	164	174	270
Exp. Mean		252	393	322	257	144	263

Table 11.6: Composition of entries in Advance Variety Trial 1- Near Isogenic Lines-Drought (AVT 1-NIL DRT), Kharif 2019

Entry No.	IET No.	Designation	Cross Combination	Grain Type
4601	28032	CRR 751-1-7-B-B	IR 64 Sub1*4 / I R 88287-367-B-B	LS
4602	28033	CRR 751-1-12-B-B	IR 64 Sub1*4 / IR 88287-367-B-B	LS
4603	IR 64 (RP)			LS
4604	28017	Pusa 1823-12-62	Pusa 44 / IR81896-B-B-142 // Pusa 44*3	LB
4605	28018	Pusa 1823-12-82	Pusa 44 / IR81896-B-B-142 // Pusa 44*3	LB
4606	Pusa 44 (RP)			MS
4607	28785	R-RF-135	Swarna / IR 86931-B-400	SB
4608	28786	R-RF-158	Swarna / IR 90019-17-159-B	SB
4609	Swarna (RP)			SB
4610	28787	Pusa 1882-12-111-7	Pusa Basmati-1 / N 22 // Pusa Basmati-1 * 3	LS
4611	28788	Pusa 1882-12-111-20	Pusa Basmati-1 / N 22 // Pusa Basmati-1 * 3	LS
4612	Pusa Basmati -1 (RP)			LS
4613	IR 81896-B-B-142 (DP)			MS
4614	Nagina 22 (DP)			SB
4615	Gangavati Ageti (Sensitive Check)			SB
4616	DRR Dhan 42 (Check)			LS
4617	DRR Dhan 44 (Check)			LS
4618	MTU 1010 (Check)			LS

Table 11.7: Grain Yield (Kg/ha) of entries in AVT1 NIL (Drought), Kharif 2019

Entry No.	IET No.	Zone III						Zone III (1)		Zone V MP		Overall (1)	
		BI (1)		JH		UP							
		PTN		@HZB		@VRN		Mean		@REW		Mean	
4601	28032	4383		1136	5	4020		4383		1627	7	4383	
4602	28033	4508		1247	2	4197		4508		777		4508	
4603	IR 64 (RP)	5008	5	654	9	5093	7	5008	5	1986	5	5008	5
4604	28017	4833	7	877	6	5737	2	4833	7	1141		4833	7
4605	28018	5033	4	809	8	5513	4	5033	4	915		5033	4
4606	Pusa 44 (RP)	5292	1	235		4790	9	5292	1	699		5292	1
4607	28785	5283	2	1185	3	5893	1	5283	2	1981	6	5283	2
4608	28786	4608	10	1160	4	5267	6	4608	10	2217	4	4608	10
4609	Swarna (RP)	4650	9	309		5570	3	4650	9	722		4650	9
4610	28787	3775		531		4037		3775		1212	10	3775	
4611	28788			494		3317				1111			
4612	Pusa Basmati -1 (RP)	3758		130		3090		3758		970		3758	
4613	IR 81896-B-B-142 (DP)	4683	8	617	10	4123		4683	8	1169		4683	8
4614	Nagina 22 (DP)	3333		605		3360		3333		1411	8	3333	
4615	Gangavati Ageti (Sensitive Check)	4383		173		4047		4383		1392	9	4383	
4616	DRR Dhan 42 (Check)	5075	3	1284	1	4910	8	5075	3	2326	3	5075	3
4617	DRR Dhan 44 (Check)	4883	6	346		5367	5	4883	6	2497	1	4883	6
4618	MTU 1010 (Check)	4133		877	6	4493	10	4133		2342	2	4133	
	Exp. Mean	4566		704		4601		4566		1472		4566	
	CD	458.08		186.93		375.86		458.08		443.2		445.3	
	CV%	6.03		16.01		4.92		6.03		18.14		5.88	
	D/S	20-07-2019		18-07-2019		17-07-2019				17-07-2019			
	D/P	12-08-2019		17-08-2019		03-08-2019				22-08-2019			

Table 11.7 contd.: Grain Yield (Kg/ha) of entries in AVT1 NIL Drought (Normal), Kharif 2019

Entry No.	IET No.	Zone V						Zone V (2)		Zone VII				Zone VII (2)	Overall (4)		
		CH			CH (2)					TE (1)		TA (1)					
		RPR		JDP		Mean		Mean		WGL		CBT		Mean		Mean	
4601	28032	4728	5	3235		3982	9	3982	9	7778	4	6681	8	7230	5	5606	6
4602	28033	4273		2877		3575		3575		7694	5	6906	5	7300	2	5438	10
4603	IR 64 (RP)	4315	10	2986		3651		3651		5748		6632		6190		4920	
4604	28017	4878	3	3451		4165	6	4165	6	5766		6933	3	6350		5257	
4605	28018	4138		3526	10	3832	10	3832	10	5051		7130	2	6091		4961	
4606	Pusa 44 (RP)	5366	1	4415	1	4891	1 8%	4891	1 8%	5853	10	6924	4	6389	10	5640	4
4607	28785	5063	2	4332	4	4698	2	4698	2	7810	3	6645		7228	6	5963	2
4608	28786	4791	4	3795	7	4293	4	4293	4	6888	9	6754	6	6821	8	5557	7
4609	Swarna (RP)	4413	8	3235		3824		3824		8123	2	6373		7248	4	5536	9
4610	28787	3627		3013		3320		3320		1895		6322		4109		3714	
4611	28788	3649		3130		3390		3390		2288		6576		4432		3911	
4612	Pusa Basmati -1 (RP)	3111		3606	8	3359		3359		3755		6681	8	5218		4288	
4613	IR 81896-B-B-142 (DP)	4555	7	3470		4013	8	4013	8	7302	6	7230	1	7266	3	5639	5
4614	Nagina 22 (DP)	2377		3558	9	2968		2968		2723		3859		3291		3129	
4615	Gangavati Ageti (Sensitive Check)	3390		4097	5	3744		3744		5015		6442		5729		4736	
4616	DRR Dhan 42 (Check)	4036		4362	2	4199	5	4199	5	7131	7	6652	10	6892	7	5545	8
4617	DRR Dhan 44 (Check)	4722	6	4356	3	4539	3	4539	3	7070	8	6514		6792	9	5666	3
4618	MTU 1010 (Check)	4379	9	3822	6	4101	7	4101	7	9296	1	6687	7	7992	1	6046	1
	Exp. Mean	4212		3626		3919		3919		5955		6552		6253		5086	
	CD	950.18		850.7		534.31		534.31		1048.03		1224.71		840.92		530.17	
	CV%	13.6		14.14		8.22		8.22		10.61		11.26		8.1		6.28	
	D/S	16-07-2019		17-07-2019						12-07-2019		13-08-2019					
	D/P	06-08-2019		09-08-2019						14-08-2019		20-09-2019					

Table 11.8: Days to 50% flowering of entries in AVT1 NIL (Drought), Kharif 2019

Entry No.	IET NO	ZONE III			Zone III (1)	ZONE-V	Overall (1)
		BI (1)	JH	UP		MP	
		PTN	@HZB	@VRN	Mean	@REW	
4601	28032	77	91	76	77	93	77
4602	28033	82	91	70	82	94	82
4603	IR 64 (RP)	81	95	76	81	94	81
4604	28017	91	103	84	91	109	91
4605	28018	93	102	82	93	109	93
4606	Pusa 44 (RP)	96	104	91	96	92	96
4607	28785	92	103	81	92	104	92
4608	28786	83	99	82	83	101	83
4609	Swarna (RP)	105	116	101	105	116	105
4610	28787	96	103	91	96	103	96
4611	28788		104	91		108	
4612	Pusa Basmati -1 (RP)	101	105	90	101	110	101
4613	IR 81896-B-B-142 (DP)	93	104	89	93	109	93
4614	Nagina 22 (DP)	74	84	61	74	88	74
4615	Gangavati Ageti (Sensitive Check)	74	85	70	74	95	74
4616	DRR Dhan 42 (Check)	80	92	76	80	98	80
4617	DRR Dhan 44 (Check)	85	92	76	85	90	85
4618	MTU 1010 (Check)	84	88	74	84	97	84
Exp Mean		88	98	81	88	101	88

Table 11.8 contd.: Days to 50% flowering of entries in AVT1 NIL Drought (Normal), Kharif 2019

Entry No.	IET NO	ZONE-V		Zone V (2)		ZONE VII		Zone VII (2)	Overall (4)
		CH		CH (2)		TE (1)	TA (1)		
		RPR	JDP	Mean		WGL	CBT	Mean	Mean
4601	28032	84	97	91		91	92	91	91
4602	28033	86	98	92		90	95	93	92
4603	IR 64 (RP)	88	97	92		95	91	93	93
4604	28017	93	107	100		102	97	100	100
4605	28018	93	113	103		97	97	97	100
4606	Pusa 44 (RP)	96	110	103		101	99	100	102
4607	28785	92	106	99		100	100	100	99
4608	28786	88	100	94		95	96	96	95
4609	Swarna (RP)	105	119	112		114	111	113	112
4610	28787	95	107	101		97	97	97	99
4611	28788	97	108	103		100	98	99	101
4612	Pusa Basmati -1 (RP)	96	108	102		100	98	99	101
4613	IR 81896-B-B-142 (DP)	96	109	103		103	101	102	102
4614	Nagina 22 (DP)	73	101	87		86	85	86	86
4615	Gangavati Ageti (Sensitive Check)	76	89	82		105	83	94	88
4616	DRR Dhan 42 (Check)	85	97	91		95	88	91	91
4617	DRR Dhan 44 (Check)	86	94	90		94	89	92	91
4618	MTU 1010 (Check)	104	97	101		90	90	90	95
	Exp Mean	91	103	97		97	95	96	97

Table 11.9: Plant Height (cm) of entries in AVT1 NIL (Drought), Kharif 2019

Entry No.	IET NO	ZONE III			Zone III (1)	ZONE-V MP	Overall (1)
		BI (1)	JH	UP			
		PTN	@HZB	@VRN	Mean	@REW	Mean
4601	28032	84	65	93	84	69	84
4602	28033	90	61	98	90	63	90
4603	IR 64 (RP)	102	72	106	102	81	102
4604	28017	86	58	95	86	64	86
4605	28018	95	54	92	95	73	95
4606	Pusa 44 (RP)	88	51	91	88	64	88
4607	28785	89	51	93	89	77	89
4608	28786	83	55	101	83	72	83
4609	Swarna (RP)	82	44	92	82	54	82
4610	28787	97	56	107	97	76	97
4611	28788		57	113		72	
4612	Pusa Basmati -1 (RP)	98	58	102	98	84	98
4613	IR 81896-B-B-142 (DP)	113	62	126	113	92	113
4614	Nagina 22 (DP)	105	94	118	105	101	105
4615	Gangavati Ageti (Sensitive Check)	90	60	103	90	76	90
4616	DRR Dhan 42 (Check)	102	73	111	102	85	102
4617	DRR Dhan 44 (Check)	107	63	117	107	100	107
4618	MTU 1010 (Check)	84	68	99	84	73	84
	Exp Mean	94	61	103	94	76	94

Table 11.9 contd.: Plant Height (cm) of entries in AVT1 NIL Drought (Normal), Kharif 2019

Entry No.	IET NO	ZONE-V		Zone V (2)	ZONE VII		Zone VII (2)	Overall (4)
		CH		CH (2)	TE (1)	TA (1)		
		RPR	JDP	Mean	WGL	CBT	Mean	Mean
4601	28032	91	89	90	103	90	96	93
4602	28033	89	83	86	101	93	97	91
4603	IR 64 (RP)	102	92	97	129	116	122	110
4604	28017	91	75	83	94	90	92	88
4605	28018	89	76	83	98	89	94	88
4606	Pusa 44 (RP)	93	74	84	93	91	92	88
4607	28785	90	76	83	106	94	100	92
4608	28786	91	86	88	96	99	98	93
4609	Swarna (RP)	136	68	102	108	96	102	102
4610	28787	95	99	97	97	108	102	100
4611	28788	105	96	100	104	108	106	103
4612	Pusa Basmati -1 (RP)	100	97	98	105	112	109	104
4613	IR 81896-B-B-142 (DP)	113	101	107	155	125	140	124
4614	Nagina 22 (DP)	118	92	105	122	123	123	114
4615	Gangavati Ageti (Sensitive Check)	95	87	91	101	97	99	95
4616	DRR Dhan 42 (Check)	95	94	94	117	113	115	105
4617	DRR Dhan 44 (Check)	105	98	102	126	109	117	109
4618	MTU 1010 (Check)	96	89	93	113	100	106	99
	Exp Mean	100	87	94	109	103	106	100

Table 11.10: Panicles/m2 of entries in AVT1 NIL (Drought), Kharif 2019

Entry No.	IET NO	ZONE III			Zone III (1)	ZONE-V	Overall (1)
		BI (1)	JH	UP		MP	
		PTN	@HZB	@VRN	Mean	@REW	Mean
4601	28032	275	153	301	275	189	275
4602	28033	307	177	304	307	151	307
4603	IR 64 (RP)	256	158	315	256	210	256
4604	28017	241	145	243	241	140	241
4605	28018	242	106	217	242	197	242
4606	Pusa 44 (RP)	218	119	242	218	218	218
4607	28785	322	170	261	322	172	322
4608	28786	248	140	254	248	195	248
4609	Swarna (RP)	353	160	226	353	242	353
4610	28787	331	149	247	331	144	331
4611	28788		133	270		167	
4612	Pusa Basmati -1 (RP)	301	151	287	301	232	301
4613	IR 81896-B-B-142 (DP)	254	129	242	254	154	254
4614	Nagina 22 (DP)	319	139	240	319	142	319
4615	Gangavati Ageti (Sensitive Check)	318	148	253	318	132	318
4616	DRR Dhan 42 (Check)	275	152	243	275	224	275
4617	DRR Dhan 44 (Check)	312	106	280	312	219	312
4618	MTU 1010 (Check)	261	139	233	261	200	261
	Exp Mean	284	143	259	284	185	284

Table 11.10 contd.: Panicles/m² of entries in AVT1 NIL Drought (Normal), Kharif 2019

Entry No.	IET NO	ZONE-V		Zone V (2)	ZONE VII		Zone VII (2)	Overall (4)
		CH		CH (2)	TE (1)	TA (1)		
		RPR	JDP	Mean	WGL	CBT	Mean	Mean
4601	28032	231	257	244	396	493	445	344
4602	28033	263	194	228	394	593	494	361
4603	IR 64 (RP)	234	207	221	395	628	512	366
4604	28017	194	206	200	375	482	428	314
4605	28018	191	257	224	402	485	443	334
4606	Pusa 44 (RP)	194	218	206	381	532	456	331
4607	28785	175	198	186	404	473	439	312
4608	28786	205	225	215	384	458	421	318
4609	Swarna (RP)	181	193	187	373	486	429	308
4610	28787	221	207	214	397	445	421	318
4611	28788	234	237	235	410	457	433	334
4612	Pusa Basmati -1 (RP)	232	237	234	396	433	415	325
4613	IR 81896-B-B-142 (DP)	185	240	213	385	468	427	320
4614	Nagina 22 (DP)	185	186	185	381	535	458	321
4615	Gangavati Ageti (Sensitive Check)	165	223	194	389	532	461	327
4616	DRR Dhan 42 (Check)	198	246	222	391	472	431	326
4617	DRR Dhan 44 (Check)	168	197	183	373	522	447	315
4618	MTU 1010 (Check)	174	227	200	387	560	474	337
	Exp Mean	202	220	211	390	503	446	328

Table 11.11: Composition of entries in Advance Variety Trial 1- Near Isogenic Lines-Submergence (AVT 1-NIL-Sub), Kharif 2019

Entry No.	IET No.	Designation	Cross Combination	Grain Type
4701	26744	CR 3932-7	Pooja*3 / Swarna-Sub1	SB
4702	Pooja (RP)			
4703	28789	KR 16022	ADT 46 * 3 / Swarna Sub-1	LS
4704	28790	KR 16023	ADT 46 * 3 / Swarna Sub-1	LS
4705	28791	KR 16024	ADT 46 * 3 / Swarna Sub-1	LS
4706	ADT 46 (RP)			LS
4707	28792	Sarjoo 52 Sub-1	Sarjoo 52 / IR 64 sub 1	LB
4708	Sarjoo 52 (RP)			LB
4709	28793	120-11-RM-Sub-1	Rajendra Mahsuri // Swarna Sub-1	MS
4710	28794	120-79-RM-Sub-1	Rajendra Mahsuri // Swarna Sub-1	MS
4711	Rajendra Mahsuri (RP)			MS
4712	28024	HUR 105-Sub-1	HUR 105 / IR 64 Sub-1	LB
4713	HUR 105 (RP)			
4714	Swarna Sub-1 (DP)			
4715	Swarna (Sensitive Check)			

Table 11.12: Grain Yield of entries in AVT 1- NIL (SUB) Submergence Kharif 2019

Entry No.	IET NO.	Zone III (1)		Zone VII				Overall (1)	
		OD (1)		AP		PUD		Mean	
		CTK		@MTU		@KRK			
4701	26744	3593	7	3966	4	2602	7	3593	7
4702	Pooja (RP)	3161	9	3649	5	245		3161	9
4703	28789	4212	3	3509	6	4542	2	4212	3
4704	28790	2971		2402		3460	3	2971	
4705	28791	4485	2	4168	3	3375	5	4485	2
4706	ADT 46 (RP)	2605		2439		295		2605	
4707	28792	4058	4	2931	8	215		4058	4
4708	Sarjoo 52 (RP)	3668	6	3455	7	2815	6	3668	6
4709	28793	3063	10	1518		3425	4	3063	10
4710	28794	4621	1	2752	9	4637	1	4621	1
4711	Rajendra Mahsuri (RP)	3029		2750	10	620	8	3029	
4712	28024	3713	5	4200	2	520	9	3713	5
4713	HUR 105 (RP)	1904		4426	1	500	10	1904	
4714	Swarna Sub-1 (DP)	3284	8	2337		480		3284	8
4715	Swarna (Sensitive Check)	2600		2003		142		2600	
Exp. Mean		3398		3100		1858		3398	
CD		950.37		246.26		244.39		950.37	
CV%		16.72		4.75		7.86		16.72	
D/S		16-07-2019		17-07-2019		09-09-2019			
D/P		22-08-2019		30-08-2019		10-10-2019			

Table 11.12 contd.: Grain Yield of entries in AVT 1- NIL (SUB) Normal Kharif 2019

Entry No.	IET NO.	Zone III (1)				Overall (1)	
		BI		UP (1)		Mean	
		@PSA		GGT			
4701	26744	1206		3278	3	3278	3
4702	Pooja (RP)	1590	9	2278		2278	
4703	28789	1480		2478		2478	
4704	28790	1809	7	3556	1	3556	1
4705	28791	1590	9	3389	2	3389	2
4706	ADT 46 (RP)	1974	6	3000	7	3000	7
4707	28792	1535		3278	3	3278	3
4708	Sarjoo 52 (RP)	1480		2500	10	2500	10
4709	28793	3344	1	2156		2156	
4710	28794	3289	2	3222	6	3222	6
4711	Rajendra Mahsuri (RP)	1754	8	3278	3	3278	3
4712	28024	2686	3	1900		1900	
4713	HUR 105 (RP)	2083	5	2889	9	2889	9
4714	Swarna Sub-1 (DP)	2522	4	2922	8	2922	8
4715	Swarna (Sensitive Check)	1371		2278		2278	
Exp. Mean		1981		2827		2827	
CD		288.3		413.76		413.76	
CV%		8.7		8.75		8.75	
D/S		23-07-2019		21-07-2019			
D/P				15-08-2019			

Table 11.13: Days to 50% flowering of entries in AVT 1- NIL (SUB) Submergence Kharif 2019

Entry No.	IET NO.	Zone III (1)	Zone VII		Overall (1)
		OD (1)	AP	PUD	
		CTK	@MTU	@KRK	Mean
4701	26744	116	108	108	116
4702	Pooja (RP)	113	107	116	113
4703	28789	133	117	115	133
4704	28790	134	120	111	134
4705	28791	135	114	115	135
4706	ADT 46 (RP)	119	126	109	119
4707	28792	102	99	107	102
4708	Sarjoo 52 (RP)	114	100	113	114
4709	28793	122	120	112	122
4710	28794	113	121	111	113
4711	Rajendra Mahsuri (RP)	114	118	114	114
4712	28024	114	99	113	114
4713	HUR 105 (RP)	111	99	107	111
4714	Swarna Sub-1 (DP)	113	124	111	113
4715	Swarna (Sensitive Check)	119	124	109	119
Exp. Mean		118	113	111	118

Table 11.13 contd.: Days to 50% flowering of entries in AVT 1- NIL (SUB) Normal Kharif 2019

Entry No.	IET NO.	Zone III (1)		Overall (1)
		BI	UP (1)	
		@PSA	GGT	Mean
4701	26744	100	96	96
4702	Pooja (RP)	111	108	108
4703	28789	104	97	97
4704	28790	105	92	92
4705	28791	109	97	97
4706	ADT 46 (RP)	105	87	87
4707	28792	87	100	100
4708	Sarjoo 52 (RP)	92	108	108
4709	28793	95	111	111
4710	28794	94	100	100
4711	Rajendra Mahsuri (RP)	97	106	106
4712	28024	91	94	94
4713	HUR 105 (RP)	89	88	88
4714	Swarna Sub-1 (DP)	100	93	93
4715	Swarna (Sensitive Check)	101	87	87
Exp. Mean		99	98	98

Table 11.14: Plant Height (cm) of entries in AVT 1- NIL (SUB) Submergence Kharif 2019

Entry No.	IET NO.	Zone III (1)	Zone VII		Overall (1)
		OD (1)	AP	PUD	
		CTK	@MTU	@KRK	Mean
4701	26744	93	105	113	93
4702	Pooja (RP)	68	104	78	68
4703	28789	101	99	114	101
4704	28790	96	102	112	96
4705	28791	94	103	113	94
4706	ADT 46 (RP)	89	103	109	89
4707	28792	58	73	72	58
4708	Sarjoo 52 (RP)	74	96	94	74
4709	28793	77	92	101	77
4710	28794	75	99	101	75
4711	Rajendra Mahsuri (RP)	77	99	80	77
4712	28024	69	96	82	69
4713	HUR 105 (RP)	72	98	71	72
4714	Swarna Sub-1 (DP)	69	95	86	69
4715	Swarna (Sensitive Check)	70	93	101	70
Exp. Mean		79	97	95	79

Table 11.14 contd.: Plant Height (cm) of entries in AVT 1- NIL (SUB) Normal Kharif 2019

Entry No.	IET NO.	Zone III (1)		Overall (1)
		BI	UP (1)	
		@PSA	GGT	Mean
4701	26744	65	98	98
4702	Pooja (RP)	66	110	110
4703	28789	77	101	101
4704	28790	84	103	103
4705	28791	80	87	87
4706	ADT 46 (RP)	87	101	101
4707	28792	92	90	90
4708	Sarjoo 52 (RP)	89	106	106
4709	28793	94	109	109
4710	28794	94	92	92
4711	Rajendra Mahsuri (RP)	88	108	108
4712	28024	86	92	92
4713	HUR 105 (RP)	92	97	97
4714	Swarna Sub-1 (DP)	96	97	97
4715	Swarna (Sensitive Check)	80	95	95
Exp. Mean		85	99	99

Table 11.15: No. of Panicles/m2 of entries in AVT 1- NIL (SUB) Submergence Kharif 2019

Entry No.	IET NO.	Zone III (1)	Zone VII		Overall (1)
		OD (1)	AP	PUD	
		CTK	@MTU	@KRK	Mean
4701	26744	244	233	329	244
4702	Pooja (RP)	409	218	26	409
4703	28789	332	246	509	332
4704	28790	334	277	379	334
4705	28791	345	288	373	345
4706	ADT 46 (RP)	407	319	44	407
4707	28792	396	191	10	396
4708	Sarjoo 52 (RP)	532	213	195	532
4709	28793	326	213	300	326
4710	28794	320	235	396	320
4711	Rajendra Mahsuri (RP)	414	216	33	414
4712	28024	363	235	15	363
4713	HUR 105 (RP)	407	187	15	407
4714	Swarna Sub-1 (DP)	335	200	53	335
4715	Swarna (Sensitive Check)	286	216	14	286
Exp. Mean		363	233	179	363

Table 11.16: No. of Panicles/m2 of entries in AVT 1- NIL (SUB) Normal Kharif 2019

Entry No.	IET NO.	Zone III (1)		Overall (1)
		BI	UP (1)	
		@PSA	GGT	Mean
4701	26744	60	128	128
4702	Pooja (RP)	67	123	123
4703	28789	79	140	140
4704	28790	82	146	146
4705	28791	83	145	145
4706	ADT 46 (RP)	75	146	146
4707	28792	70	152	152
4708	Sarjoo 52 (RP)	59	156	156
4709	28793	87	138	138
4710	28794	78	149	149
4711	Rajendra Mahsuri (RP)	68	156	156
4712	28024	75	136	136
4713	HUR 105 (RP)	61	141	141
4714	Swarna Sub-1 (DP)	75	115	115
4715	Swarna (Sensitive Check)	82	107	107
Exp. Mean		73	139	139

IVT- LOW PHOSPHORUS TOLERANCE TRIAL

Im (iv): Evaluation of identified cultures and cultivars for enhancing phosphorus use efficiency in irrigated rice

Rice is a major cereal crop of India. Phosphorus is an important nutrient for rice production but the use efficiency of this nutrient is very low (20-30%) and phosphorus deficiency has been identified as one of the major constraint limiting crop production. Enhancing phosphorus use efficiency in rice would offer an affordable option for improving yields and economic returns with reduced inputs. Further, research studies have revealed that genotypic differences for PUE exist. There is a need to identify the cultivars which are adapted to low P situations and have higher P use efficiency. Hence the present trial is constituted to evaluate the identified cultures and cultivars with the following objectives: 1) To study the comparative performance of elite lines and cultivars in different levels of Phosphorus and 2) To identify the elite lines for tolerance to low P soil conditions. The trial was conducted at 3 locations (**ICAR-IIRR, Ludhiana and Nellore**). The trial was conducted by department of crop production in all the locations in association with crop improvement and other related disciplines. Split plot design was adopted with 3 main plots of phosphorus levels (P₁- No Phosphorus (Control) (N and K Constant), P₂: 50 %of recommended P dose (N and K is constant) and P₃: 100 % of recommended dose of P (N and K constant). Subplots consist of 36 advanced cultures. The results were summarized and presented in **Table 4.1. Im (iv) of progress report of Crop Production 2019, IIRR** and the salient findings are as followed.

Interaction effect of phosphorus level and advanced cultures on grain yield was found significant at **ICAR-IIRR and Nellore**.

The recommended phosphorus dose at clay loam soils of ICAR-IIRR research plot is 60 kg P₂O₅/ha (100% recommended dose of phosphorus). There are four fixed phosphorus plots (0, 20, 40 and 60 kg P₂O₅/ha) are maintained at Rajendranagar farm of ICAR-IIRR since last 20 years. So, 20 and 40 kgP₂O₅/ha corresponds to 33.3 and 66.6% of recommended dose of phosphorus, respectively. Every season the above mentioned phosphorus dose is applied keeping other nutrients dose (N and K₂O) constant. The recommended nitrogen and potassium doses are 120 and 40 kg/ha, respectively. In *kharif* (rainy) season of 2019, IET 28060 was not grown/taken up due to lack of seeds. Further, for a better comparison and valid conclusion we have taken two phosphorus level (20 and 60 kg P₂O₅/ha) for in depth discussion. In *kharif* (rainy) season of 2019, IET 28061 at 100% RDP (60 kg P₂O₅/ha) resulted the highest grain yield (5.41 t/ha) closely followed by IET 28816 (5.15 t/ha), IET 28066 (5.0 t/ha), IET 28076 (4.93 t/ha). Similarly, at 66.6% of RDP (40 kg P₂O₅/ha) the highest grain yield was recorded in IET 28066 (4.67 t/ha) closely followed by IET 28076 (4.62 t/ha). Again at 33.3% of RDP (20 kg P₂O₅/ha) the highest grain yield was resulted in IET 28061 (3.73 t/ha) followed by IET 28065 (3.49 t/ha), IET 28076 (3.44 t/ha), IET 28776 (3.34 t/ha), IET 27641 (3.32 t/ha) and IET 28075 (3.32 t/ha). At 100% RDP the highest agronomic efficiency of P was recorded in IET 28071 (52.5%) followed by IET 28059 (50.0%). Similarly, among phosphorus levels, RDP (60 kg P₂O₅) resulted in significantly highest grain yield (4.44 t/ha) than 40 kg P₂O₅ (4.02 t/ha) and 20 kg P₂O₅ (2.78 t/ha). Among advanced cultures IET 28061 (4.57 t/ha) resulted the highest grain yield followed by IET 28076 (4.33 t/ha) and IET 28066 (4.32 t/ha).

Recommended dose of fertilizer at sandy loam soils of **Ludhiana** is **105:30:30 kg N: P₂O₅: K₂O/ha**. Two phosphorus levels (0, and 30 kg P₂O₅/ha) were adopted in the trial which corresponds to 0% and 100% of RDP. The above mentioned phosphorus doses are applied

keeping other recommended nutrients dose (N and K₂O) constant. Entries/Cultivars not taken up/grown for the trial were (IET 28073, IET 28063, IET 28069, IET 28059, IET 28065, IET 28819, IET 28070, IET 28064, IET 28078, IET 28072). Interaction effect of phosphorus level and advanced cultivars on grain yield was found to be statistically non-significant. However, under the plots received no phosphorus, the highest grain yield was recorded in IET 28816 (3.84 t/ha) closely followed by IET 28061 (3.79 t/ha), IET 28066 (3.77 t/ha) and IET 28075 (3.56 t/ha). Similarly, at 100% RDP applied plots, IET 28066 resulted the highest grain yield (4.2 t/ha) followed by IET 28816 (3.9 t/ha), IET 28075 (3.88 t/ha) and IET 28061 (3.7 t/ha). Main plots (phosphorus level) effect on grain yield was also found to be statistically non-significant. Among advanced cultivars IET 28066 resulted the highest grain yield (3.99 t/ha) followed by IET 28816 (3.87), IET 28061 (3.75 t/ha) and IET 28075 (3.72 t/ha). The highest agronomic efficiency of P was recorded in IET 28824(20.33%) followed by Rasi(15.67%).

Recommended dose of fertilizer at sandy clay loam soils of **Nellore 80:40:0 kg N: P₂O₅: K₂O/ha**. Three phosphorus levels (0, 20 kg and 40 P₂O₅/ha) were adopted in the trial which corresponds to 0%, 50% and 100% of RDP. The above mentioned phosphorus doses are applied keeping other recommended nutrients dose (N and K₂O) constant. Entries/Cultivars not taken up/grown for the trial were (IET 28060 and IET 28074). In *kharif* (rainy) season of 2019, at 100% RDP (40 kg P₂O₅/ha) IET 28070 resulted in the highest grain yield (6.4 t/ha) closely followed by IET 28816 (5.77 t/ha). Similarly, at 50% RDP the highest grain yield was recorded in IET 28071 (6.36 t/ha) followed by IET 28816 (6.02 t/ha). However, under the plots received no phosphorus, the highest grain yield was recorded in IET 28816 (6.1 t/ha) closely followed by IET 28070 (5.9 t/ha), IET 28818 (5.57 t/ha), IET 27641 (5.3 t/ha) and IET 28821 (5.3 t/ha). The highest agronomic efficiency of P was recorded in IET 28069 (72%) followed by IET 28072 (48%). Main plots (phosphorus level) effect on grain yield was also found to be non-significant. Among advanced cultures IET 28816 (5.96 t/ha) resulted the highest grain yield followed by IET 28070 (5.84 t/ha) and IET 28818 (5.53 t/ha).

Trials conducted at 3 locations revealed that the following cultivars/entries to be high grain yielding and phosphorus use efficient

Location	High grain yielding entries/cultivars (descending order) under low phosphorus condition	High grain yielding entries/cultivars (descending order) under recommended phosphorus dose
ICAR-IIRR	IET 28061 (3.73 t/ha), IET 28065 (3.49 t/ha), IET 28076 (3.44 t/ha), IET 28776 (3.34 t/ha), IET 27641 (3.32 t/ha) and IET 28075 (3.32 t/ha) *Rasi and BPT 5204 resulted the highest grain yield (2.38 t/ha) over other checks (Swarna and ISM) at 33.3% RDP (20 kg P ₂ O ₅ /ha)	IET 28061 (5.41 t/ha), IET 28816 (5.15 t/ha), IET 28066 (5.0 t/ha) and IET 28076 (4.93 t/ha) *Rasi resulted the highest grain yield (4.41 t/ha) over other checks (Swarna, ISM, BPT 5204) at 100% RDP (60 kg P ₂ O ₅ /ha)
PAU, Ludhiana	IET 28816 (3.84 t/ha), IET 28061 (3.79 t/ha), IET 28066 (3.77 t/ha) and IET 28075 (3.56 t/ha) *ISM resulted the highest grain yield (2.69 t/ha) over other checks (Rasi, Swarna, BPT 5204) at without P applied plots (0 kg P ₂ O ₅ /ha)	IET 28066 (4.2 t/ha), IET 28816 (3.9 t/ha), IET 28075 (3.88 t/ha) and IET 28061 (3.7 t/ha) *ISM resulted the highest grain yield (2.68 t/ha) over other checks (Rasi, Swarna, BPT 5204) at

Location	High grain yielding entries/cultivars (descending order) under low phosphorus condition	High grain yielding entries/cultivars (descending order) under recommended phosphorus dose
		without 100% applied RDP (30 kg P ₂ O ₅ /ha)
Nellore, AP	IET 28816 (6.1 t/ha), IET 28070 (5.9 t/ha), IET 28818 (5.57 t/ha), IET 27641 (5.3 t/ha) and IET 28821 (5.3 t/ha) *Swarna resulted the highest grain yield (5.05 t/ha) over other checks (Rasi, ISM, BPT 5204) at without P applied plots (0 kg P ₂ O ₅ /ha)	IET 28070(6.4 t/ha) closely followed by IET 28816 (5.77 t/ha) *Swarna resulted the highest grain yield (5.05 t/ha) over other checks (Rasi, ISM, BPT 5204) at 100% RDP applied plots (40 kg P ₂ O ₅ /ha)

Based on the performance of entries under low Phosphorus fertility level, 11 entries viz., IET 28061, IET 28076, IET 28075, IET 28816, IET 28066, IET 28070, IET 28818, IET 28821, IET 27641, IET 28065, IET 28776 are promoted to second year of testing.

IVT LOW NITROGEN TOLERANCE TRIAL

Im(iii): Evaluation of identified cultures and cultivars for enhancing nitrogen use efficiency in irrigated rice

The productivity of rice is very low due to imbalanced and excessive use of nitrogen fertilizers by the farmers. It has been reported that the apparent recovery efficiency of applied nitrogen is approximately about 30-33%. The remaining amount of N is either lost through surface runoff, leaching, volatilization or denitrification and further adds to increased cost of production and environmental degradation. The use of efficient and economical rates of nitrogen fertilizer is important for enhancing crop productivity and maintaining environmental sustainability. To achieve this, it is imperative to identify high nitrogen utilizing cultivars which can minimize the losses. Large numbers of rice cultivars have been released in India so far, but the question is that whether these cultivars are capable to utilizing the nitrogen efficiently. Inter varietal differences for nitrogen use efficiency has been reported by many researchers. Therefore, there is a need to identify the cultivars which can efficiently utilize the nitrogen and to develop a sustainable nitrogen rate recommendation for these cultivars which can further give enhanced yield and resource use efficiency. Hence the present trial is constituted to evaluate the identified cultures and cultivars with the following objective: 1) To study the comparative performance of elite lines and cultivars under different levels of nitrogen. The trial was conducted at 4 locations (**ICAR-IIRR, Ludhiana, Ranchi and Maruteru**). The trial was conducted by department of crop production in all the locations in association with crop improvement and other related disciplines. Split plot design was adopted with 3 main plots of

nitrogen levels (N₁- No nitrogen, N₂: 50 %of recommended N dose (P and K is constant) and M₃: 100 % of recommended dose of N (P and K constant). Subplots consists of 25 advanced cultures. The results were summarized and presented in **Table 4.1. m(iii) of progress report of Crop Production 2019, IIRR** and the salient findings are as followed.

Interaction effect of nitrogen level and advanced cultures on grain yield was found significant at **ICAR-IIRR** and **Maruteru** only. However, our interest is to find out suitable and efficient cultivars under 0%, 50% and 100% RDN, we will limit our discussion to these three RDN levels.

The recommended nitrogen dose of black clay soils of **ICAR-IIRR** research plot is 120 kg N/ha (100% recommended dose of nitrogen). There are four fixed nitrogen plots (0, 60, 120 and 180 kg N/ha) are maintained at Rajendranagar farm of ICAR-IIRR since last three years. So, 60 and 120 kg N/ha corresponds to 50 and 100% of recommended dose of nitrogen, respectively. Every season the above mentioned nitrogen dose is applied keeping other nutrients dose (P₂O₅ and K₂O) constant. The recommended phosphorus and potassium doses are 60 and 40 kg/ha, respectively. For a better comparison among the locations and valid conclusion we have taken three nitrogen level (0, 60 and 120 kg N/ha) for in depth discussion.

At black clay soils of **ICAR-IIRR** all cultures performed better under 150% of RDN than under 100% RDN. At 150% of RDN, IET 28827 resulted the highest grain yield (8.75 t/ha) followed by IET 28084 (8.03 t/ha), IET 28088 (7.99 t/ha), IET 28080 (7.55 t/ha) and IET 27730 (7.49 t/ha). Similarly, at 100% RDN IET 28080 resulted the highest grain yield (7.31 t/ha) closely followed by IET 28084 (7.29 t/ha), IET 27730 (7.29 t/ha), IET 28088 (7.24 t/ha). Similarly, at 50% of RDN the highest grain yield was recorded in IET 28087 (5.81 t/ha) closely followed by IET 27730 (5.26 t/ha), IET 28080 (5.03 t/ha), IET 28831 (4.47 t/ha), IET 28081 (4.38 t/ha) and IET 28830 (4.37 t/ha). In without nitrogen (0 kg/ha) applied plots IET 27730 (3.32 t/ha) resulted the highest grain yield, followed by IET 28081 (3.07 t/ha), IET 28830 (2.95 t/ha), IET 28080 (2.94 t/ha) and IET 28084 (2.93 t/ha). The highest agronomic efficiency of N was recorded in IET 28088 (43.83%) followed by Tella Hamsa (41.33%) at 100% RDN. Similarly, at 50% RDN the highest agronomic efficiency of N was recorded in IET 28831 (39.33%) followed by IET 28080 (35.0%). Among nitrogen levels 150% RDN resulted significantly highest grain yield (6.45 t/ha) than 100% (6.05 t/ha), 50% (3.70 t/ha), without nitrogen (2.2 t/ha). Among advanced cultures IET 27730 (5.84 t/ha) resulted the highest grain yield followed by IET 28080 (5.82 t/ha), IET 28087 (5.75 t/ha), IET 28086 (5.52 t/ha).

The recommended **N: P₂O₅: K₂O/ha** at sandy loam soils of **Ludhiana** is **105:30:30 kg/ha**. Two nitrogen levels (52.5 and 105 kg N/ha) were adopted in the trial which corresponds to 50 and 100% of RDN, respectively. The above mentioned nitrogen doses are applied keeping other recommended nutrients dose (P₂O₅ and K₂O) constant. Entries/Cultivars not taken up/grown for the trial were (IET 28083, IET 27730, IET 28079, BPT 5204 and Swarna). At 100% RDN, IET 28087 resulted the highest grain yield (5.93 t/ha) closely followed by IET 28827 (5.51 t/ha), Varadhan (5.48 t/ha), IET 28826 (5.37 t/ha). Similarly, at 50% of RDN the highest grain yield was recorded in IET 28087 (4.99 t/ha) closely followed by IET 28827 (4.98 t/ha), IET 28084 (4.98 t/ha), IET 28088 (4.84 t/ha), IET 28828 (4.81 t/ha), IET 28086 (4.78 t/ha) and Varadhan (4.71 t/ha). At 100% RDN the highest agronomic efficiency of N was recorded in IET 28081 (11.33%) followed by IET 28829 (10.67%). Effect of main plots nitrogen levels were non-significant on grain yields. Among advanced cultures IET 28087 (5.46 t/ha) resulted the highest grain yield followed by IET 28827 (5.25 t/ha), Varadhan (5.10 t/ha), IET 28084 (4.96 t/ha), IET 28826 (4.93 t/ha) and IET 28086 (4.89).

The recommended **N: P₂O₅: K₂O/ha** of **Ranchi** soils is **120:60:40 kg/ha**. Three nitrogen levels (0, 60 and 120 kg N/ha) were adopted in the trial which corresponds to 0, 50 and 100% of RDN, respectively. The above mentioned nitrogen doses are applied keeping other recommended nutrients dose (P₂O₅ and K₂O) constant. The interaction effect of nitrogen level and advanced cultures on grain yield was statistically non-significant. At 100% RDN, IET 27730 resulted the highest grain yield (4.82 t/ha) followed by IET 28831 (4.62 t/ha), Rasi (4.61 t/ha), IET 28827 (4.56 t/ha) and BPT 5204 (4.55 t/ha). At 50% RDN, the highest grain yield was recorded in IET 28828 (4.05 t/ha) followed by BPT 5204 (4.02 t/ha), IET 28831 (3.96 t/ha), IET 27730 (3.94 t/ha) and Tella Hamsa (3.92 t/ha). In without nitrogen (0 kg/ha) applied plots IET 28828 (2.33 t/ha) given the highest grain yield followed by IET 28088 (2.3 t/ha), IET 28832 (2.24 t/ha), IET 28084 (2.23 t/ha) and Rasi (2.22 t/ha). Among advanced cultures IET 28828 (3.63 t/ha) resulted the highest grain yield followed by Rasi (3.58 t/ha), IET 27730 (3.58 t/ha), IET 28831 (3.57 t/ha) and Tella Hamsa (3.53 t/ha).

The recommended **N: P₂O₅: K₂O/ha** at **Maruteru** is **90:60:60 kg/ha**. Three nitrogen levels (0, 45 and 90 kg N/ha) were adopted in the trial which corresponds to 0, 50 and 100% of RDN, respectively. The above mentioned nitrogen doses are applied keeping other recommended nutrients dose (P₂O₅ and K₂O) constant. In delta alluvial soils of **Maruteru** IET 27730 at 100% RDN resulted the highest grain yield (6.96 t/ha) closely followed by IET 28831 (6.52 t/ha), Improved Samba Mahsuri (6.25 t/ha). At 50% RDN, the highest grain yield recorded in IET 28831 (6.52 t/ha), IET 28828 (5.87 t/ha), Improved Samba Mahsuri (5.53 t/ha), IET 28079 (5.52 t/ha) and IET 28086 (5.43 t/ha). The highest agronomic efficiency of N was recorded in IET 28831 (78.22%) at 50% RDN. In without nitrogen (0 kg/ha) applied plots the highest grain yield recorded in IET 28831 (3.0 t/ha) followed by IET 28828 (2.83 t/ha), IET 28832 (2.71 t/ha), IET 28079 (2.68 t/ha) and IET 28086 (2.58 t/ha). Among nitrogen levels 100% RDN resulted significantly highest grain yield (4.87 t/ha) followed by 50% (4.74 t/ha) and without nitrogen (2.37 t/ha). Among advanced cultures IET 28831 (4.94 t/ha) resulted the highest grain yield followed by Improved Samba Mahsuri (4.8 t/ha), IET 28828 (4.69 t/ha), IET 27730 (4.59 t/ha) and IET 28826 (4.49 t/ha).

Trials conducted at 4 locations revealed that the following cultivars/entries to be high grain yielding and nitrogen use efficient

Location	High grain yielding entries/cultivars (descending order) under without application of nitrogen (0 kg/ha)	High grain yielding entries/cultivars (descending order) under 50% of recommended nitrogen dose	High grain yielding entries/cultivars (descending order) under 100% of recommended nitrogen dose	High grain yielding entries/cultivars (descending order) under 150% of recommended nitrogen dose
ICAR-IIRR	IET 27730 (3.32 t/ha), IET 28081 (3.07 t/ha), IET 28830 (2.95 t/ha), IET 28080 (2.94 t/ha) and IET 28084 (2.93 t/ha) *The highest grain yield recorded among checks is under Swarna (2.59 t/ha)	IET 28087 (5.81 t/ha), IET 27730 (5.26 t/ha), IET 28080 (5.03 t/ha), IET 28831 (4.47 t/ha), IET 28081 (4.38 t/ha) and IET 28830 (4.37 t/ha) *The highest grain yield recorded among checks is under Swarna (4.15 t/ha)	IET 28080 (7.31 t/ha), IET 28084 (7.29 t/ha), IET 27730 (7.29 t/ha) and IET 28088 (7.24 t/ha) *The highest grain yield recorded among checks is under TellaHamsa (7.03 t/ha)	IET 28827(8.75 t/ha), IET 28084 (8.03 t/ha), IET 28088 (7.99 t/ha), IET 28080 (7.55 t/ha) and IET 27730 (7.49 t/ha) *The highest grain yield recorded among checks is under TellaHamsa (7.28 t/ha)
PAU, Ludhiana		IET 28087 (4.99 t/ha), IET 28827 (4.98 t/ha), IET 28084 (4.98 t/ha), IET 28088 (4.84 t/ha), IET 28828 (4.81 t/ha) and IET 28086 (4.78 t/ha) *The highest grain yield recorded among checks is under Varadhan (4.71 t/ha)	IET 28087 (5.93 t/ha), IET 28827 (5.51 t/ha), Varadhan(5.48 t/ha) and IET 28826 (5.37 t/ha) *The highest grain yield recorded among checks is under Varadhan (5.48 t/ha)	
Ranchi	IET 28828 (2.33 t/ha), IET 28088 (2.30 t/ha), IET 28832 (2.24 t/ha), IET 28084 (2.23 t/ha) and *The highest grain yield recorded among checks is under Rasi (2.22 t/ha)	IET 28828 (4.05 t/ha), BPT 5204 (4.02 t/ha), IET 28831 (3.96 t/ha), IET 27730 (3.94 t/ha) and TellaHamsa (3.92 t/ha) *The highest grain yield recorded among checks is under BPT 5204 (4.02 t/ha)	IET 27730 (4.82 t/ha), IET 28831 (4.62 t/ha), Rasi (4.61 t/ha), IET 28827 (4.56 t/ha) and BPT 5204 (4.55 t/ha) *The highest grain yield recorded among checks is under Rasi (4.61 t/ha)	

Location	High grain yielding entries/cultivars (descending order) under without application of nitrogen (0 kg/ha)	High grain yielding entries/cultivars (descending order) under 50% of recommended nitrogen dose	High grain yielding entries/cultivars (descending order) under 100% of recommended nitrogen dose	High grain yielding entries/cultivars (descending order) under 150% of recommended nitrogen dose
Maruteru	IET 28831 (3.0 t/ha) IET 28828 (2.83 t/ha), IET 28832 (2.71 t/ha), IET 28079 (2.68 t/ha) and IET 28086 (2.58 t/ha) *The highest grain yield recorded among checks is under Improved Samba Mahsuri (2.63 t/ha)	IET 28831 (6.52 t/ha), IET 28828 (5.87 t/ha), Improved Samba Mahsuri (5.53 t/ha), IET 28079 (5.52 t/ha) and IET 28086 (5.43 t/ha)	IET 27730(6.96 t/ha), IET 28831 (6.52 t/ha), *The highest grain yield recorded among checks is under Improved Samba Mahsuri (6.25 t/ha)	

Based on yield advantage under 50% nitrogen application across the locations, nine entries viz., IET 28087, IET 27730, IET 28080, IET 28831, IET 28081, IET 28830, IET 28827, IET 28084 and IET 28828 are promoted to second year of testing. At higher level of nitrogen application (150%) three entries viz., IET 28827, IET 28084 and IET 28088 recorded higher yield than the check hence suitable for higher dose of nitrogen (150% RDF).

Table 12.1: Composition of entries in Initial Variety Trial – Low Phosphorus Tolerance (IVT-LPT), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
4301	28066	RP 5973-13-1-6-67-129-57	MTU 1010*2 / Swarna	LS
4302	28073	RP 5971-23-121-46-12-7-18	Improved Samba Mahsuri*2 / Vandana	MS
4303	28063	RM 102-10-3-2-1	MTU 7029 / NLR 3042	MS
4304	28069	RP 6112-MS-M-166-7-9-2-5-1-32-12	BPT 5204 Mutant	MS
4305	28059	RP Bio 5477-NH-787	N 22 Mutant	SB
4306	28071	RP 6317-S35-BC2F4-49-25-5-10	MTU 1121*2 / Swarna	LS
4307	28816	MTU 1329 (MTU 2513-24-2-2-1)	BPT 5204 / NLR 34449	LS
4308	28065	RP 5972-13-1-6-67-129-266	MTU 1010*2 / Vandana	LS
4309	28061	RP 5970-2-6-19-16-24-1	Improved Samba Mahsuri*2 / Swarna	MS
4310	Rasi (Positive Check)			
4311	28817	RP Bio 6167-A 299	Swarna / O.rufipogon	MB
4312	28818	RP 6317-S35-BC2F4-49-25-6-21	MTU 1121 / Swarna	LS
4313	27641	RP Bio 4919-B-B-NSR 86	KMR3 / O. rufipogon	SB
4314	28076	RP Bio 4918-B-B-166-30	Swarna / O. nivara	SB
4315	28063	MTU 1229 (RM 102-10-3-2-1)	MTU 7029 / NLR 3042	MS
4316	28819	RP 5973-20-9-8-24-6-5	MTU 1010*2 / Swarna	LS
4317	28820	RP Bio 4918-269K	Swarna / O.nivara	MS
4318	28062	RP 5973-20-9-8-24-6-3	MTU 1010*2 / Swarna	LS
4319	Swarna (Positive Check)			
4320	28821	RP 5964-82	KMR 3R / Swarna*1	SB
4321	28822	RP 5971-13-2-8-38-255-53	Improved Samba Mahsuri*2 / Vandana	MS
4322	28067	RP Bio 5477-NH-686	N 22 Mutant	SB
4323	28060	RP 6112-MS-13-15-16-4-1-6-9	BPT 5204 Mutant	LS
4324	28070	RP Bio 4919-B-B-13-7	KMR 3 / O. rufipogon	SB
4325	28823	RP Bio 5477-NH 4810	N22 Mutant	MB
4326	28074	RP 6112-MS-M-26-5-27-8-4-9-2-3	BPT 5204 Mutant	LB
4327	28064	RP Bio 5477-NH-363	N22 Mutant	SB
4328	28078	RP 5971-19-6-14-11-21-46	Improved Samba Mahsuri*2 / Vandana	MS
4329	28072	RP 5973-13-1-6-67-129-36	MTU 1010*2 / Swarna	LS
4330	28776	RP 6166-47	MTU 1010 / O.rufipogon	MS
4331	28824	RP 5970-2-6-19-16-24-2	Improved Samba Mahsuri*2 / Swarna	MS
4332	28075	RP Bio 5477-NH-663	N 22 Mutant	SB
4333	28077	RP 5972-13-1-6-67-129-268	MTU 1010*2 / Vandana	LS
4334	28825	RP 5972-13-1-6-67-129-42	MTU 1010*2 / Vandana	LS
4335	Improved Samba Mahsuri (Negative Check)			
4336	BPT 5204 (Sensitive Check)			

Table 12.2: Composition of entries in Initial Variety Trial – Low Nitrogen Tolerance (IVT-LNT), Kharif 2019

Entry No.	IET No.	Designation	Cross combination	Grain Type
4401	28081	CR 3783-3-2-1-1-1-2	Surendra / Abhaya	MS
4402	28080	RP 5977-MS-M-18-4-9-2-5-7-22-11	BPT 5204 Mutant	MS
4403	28084	CR 3549-6-1-1-3-1-1	ADT 43 / Annapurna	MB
4404	28086	RP 6321-GSR IR1-21-S16-Y1-SU1-D3	Huang-hua-zhan*2 / Feng-ai-zhan	LS
4405	28087	CR 3511-1-1-1-4-1	IR 36 / Surendra	MS
4406	28083	RP 6112-MS-M-93-5-22-8-4-2-9-5	BPT 5204 Mutant	MS
4407	27730	MTU 1286 (MTU 2546 A-12-13-3-10)	MTU 7029* 3 / MTU II 110-9-1-1-1-1	MS
4408	28088	RP 6322-GSR IR-1-DQ136-Y3-Y2	GSR IR 1-8-S6-S3-Y2 / GSR IR 1-5-D7-Y3-S1	LS
4409	Rasi Check			
4410	28085	RP 6252- 300-217-3-6-4-21-10	Varadhan / BPT 5204	SB
4411	28079	RP 6112-MS-3-155-16-32-1-3-6-1	BPT 5204 Mutant	LS
4412	28082	RP 6252-300-17-2-7-14-6-6	Varadhan / BPT 5204	SB
4413	28826	CR 3561-5-2-1-1-1-2	Surendra / Annapurna	SB
4414	28827	MTU 1328 (MTU 2515-42-1-3)	MTU 7029 / MTU 1031	
4415	28828	RP 6302-RAF-16-GSR-IR1-DQ130-L13-D2	GSR IR 1-8-S6-S3-Y2 / GSR IR 1-12-S2-Y3-Y2	LS
4416	Improved Samba Mahsuri Check			
4417	28829	RP 6253-MV/RIL	MTU 1010 / Varadhan	LS
4418	28830	CR 3750-1-2-3-2-1-1	Indravati / Vijetha	MS
4419	28831	RP 6257-ST/RIL	Sampada / Jaya	LB
4420	28832	CR 3516-11-22-1-1-1-1	Birupa / Pusa 44	MS
4421	28833	RP 6358-RAF-31-GSR-IR2-1-R5-N1-Y3	Weed Tol rice / Haoannong	SB
4422	Varadhan Check			
4423	BPT 5204 (Sensitive Check)			
4424	Swarna (Tolerant Check)			
4425	Tella Hamsa Check			

LIST OF BREEDERS

ICAR-Indian Institute of Rice Research, Rajendranagar, Hyderabad-500 030		
Dr. S.R.Voleti, Director		
Crop Improvement Division		
Plant Breeding		
Dr. L.V. Subba Rao	:	Principal Scientist & PI, IIRR
Dr. A.V.S.R.Swamy	:	Principal Scientist
Dr. G. Padmavathi	:	Principal Scientist
Dr. J.Aravind Kumar	:	Senior Scientist
Dr. C.Gireesh	:	Senior Scientist
Dr. K.Suneetha	:	Senior Scientist
Dr. Jyothi Badri	:	Senior Scientist
Dr. M.S.Anantha	:	Senior Scientist
Dr. R. Abdul Fiyaz	:	Scientist
Dr. Divya Balakrishnan	:	Scientist
Dr. Ch.Suvarna Rani	:	Scientist
Hybrid rice		
Dr. A.S. Hari Prasad	:	Principal Scientist
Dr. P. Senguttuvel	:	Senior Scientist
Dr. P. Revathi	:	Senior Scientist
Dr. K.B.Kemparaju	:	Senior Scientist
Mrs. K.Sruthi	:	Scientist
Biotechnology		
Dr. S.M.Balachandran	:	Principal Scientist
Dr. C.N.N.Neeraja	:	Principal Scientist
Dr. R. M.Sundaram	:	Principal Scientist
Dr. M.Sheshu Madhav	:	Principal Scientist
Dr. S.K.Mangrauthia	:	Senior Scientist
Dr. Divya P. S.	:	Senior Scientist
Dr. Kalyani Kulkarni	:	Scientist
Dr.. Santosha Rathod	:	Scientist (Agril. Statistics)

List of Technical Personnel

Mr. M.Vijay Kumar	Senior Technical Officer	Mr. A.Venkataiah	Sr. Technical Asst.
Mr. P.Vittalaiah	Technical Officer	Mr. P.Koteswara Rao	Sr. Technical Asst.
Mr. E.Nagarjuna	Technical Officer	Mr. Bidya Sagar Mandal	Sr. Technical Asst.
Mr. Md. Tahseen	Technical Officer	Mr. R. Sathamaiah	Field Technician
Mr. Sadath Ali	Technical Officer		

Cooperators

S.No.	Location	Name & Designation /Organization & Addresses / Tel. No/ Mobile No./ email
1	Aduthurai	Dr.D.Sassi kumar, Associate Professor (Plant Breeding & Genetics), TRRI, Aduthurai – 612101, Tamil Nadu, 9942482210(M), 0465- 2472098 (O), 0435- 2472881 (F), dsassikumar@gmail.com , sassiku@rediffmail.com
2	Aduthurai	Dr.R.Suresh, Assistant Professor (Plant Breeding & Genetics), TRRI, Aduthurai – 612101, Tamil Nadu, 91-9578305324 (M), sureshpbq@gmail.com
3	Allahabad	Dr. G. Suresh Babu, Professor & Head, Dept. of Genetics and Plant Breeding, Naini Agricultural Institute, SHUATS, Naini, Prayagraj-221 007, Uttar Pradesh, 08887127606 (M), sureshpb03@gmail.com
4	Almora	Dr. J. P. Aditya, Scientist, ICAR-VPKAS, Mall Road, ALMORA – 263601, Uttarakhand 09410795850 (M), jpaditya4011@rediffmail.com , jayaprakashaditya@gmail.com
5	Ambikapur	Ms. Kiran Tigga, Scientist (Genetics & Plant Breeding), R. M. D. College of Agriculture & Research Station, Ajirma, Ambikapur (C.G.) 497001, kiranascoraipur@gmail.com

S.No.	Location	Name & Designation /Organization & Addresses / Tel. No/ Mobile No./ email
6	Annamalainagar	Dr. K.R. Saravanan, Asst. Professor, Dept. of Genetics and Plant Breeding, Faculty of Agriculture, Annamalai University, Annamalaiagar- 608 002, Cuddalore Dist, Tamilnadu, 09940031431 (M), saravan_rangan@rediffmail.com
7	Arundhutinagar	Dr. Atanu Kumar Pal, Plant Breeder, HOD, Plant Breeding Division, State Agriculture Research Station, Arundhutinagar, Agarthala-799003, Tripura, 0381-2370249 (O), 0381-2379535, 7005281152, 09436126792, 9774307079 (M), email: dratanukpb60@gmail.com dratanu@hotmail.com
8	Bankura	Dr. Vivekananda Mandi, Assistant Botanist, Rice Research Station, Nutanchati P.O., Bankura – 722101, West Bengal, 03242-251306 (O), 9564697908 (M), rsbankura@gmail.com
9	Banswara	Rice Breeder, Plant Breeding & Genetics Department, Agricultural Research Station, (Maharana Pratap University of Technology), Dohad Road, P.B. No. 25, Borwat Farm, Banswara - 327001, Rajasthan; 02962-260070 (O), 02962-260013 (F).
10	Bapatla	Dr. B. Krishna Veni, Scientist (Breeding), Rice Research Unit, (ANGRAU). Agricultural College farm Campus, Bapatla, Guntur (Dt.)- 522 101; 08643225901 (Telefax), 9441721120 (M), bkv_lam@yahoo.co.in
11	BEDF, Modipuram	Dr. Ritesh Sharama, Principal Scientist, Basmati Export Development Foundation, Roorkee Road, Modipuram, MEERUT – 250 110, Uttar Pradesh 09412705048 (M), 0121-2888554 (O) riteshbedf5048@gmail.com
12	Bhubaneswar	Dr. D. N. Bastia, Professor & Rice Breeder, Dept. of Plant Breeding & Genetics, College of Agriculture, O.U.A.T, Bhubaneswar-751 003, 0674-2397780 (F), 09861106427(M), debendranath.bastia@gmail.com
13	Bikramganj (Patna)	Dr. Ashok Kumar Singh, Sr. Scientist-cum Assoc. Professor, (Rice Breeding), Botanical Research Unit (BRU), BAU, DHANGAIN-802 212 P.O.-Bikramganj, Distt.-Rohtas, Bihar, 09835906354 (M), aksinghrau@gmail.com aicripricebrudhangain@gmail.com
14	Bilaspur	Dr. D.J. Sharma, Scientist, Dept. of Genetics & Plant Breeding, C.A.R.S., IGKV, Bilaspur-495 001, Chhattisgarh, (O) 07752-254379, 07752- 254380, djs@rediffmail.com
15	Brahmavar	Dr. Shridevi A Jakkerla, Junior Rice Breeder (AICRIP), Zonal Agricultural & Horticultural Research Station, Kunjal Road, Brahmavar-576 213, Karnataka ;0820-2561011 (O), 9611780850 (M) gowrishrigpb@gmail.com
16	Canning	Dr. S.K. Sarangi, Principal Scientist (Agronomy); ICAR- Central Soil Salinity Research Institute, Regional Research Station, Canning Town - 743329, South 24 Parganas, West Bengal 03218-255084 (F), 09609930909 / 09434709516 (M), sksarangicanning@gmail.com cssri.canning@mail.com
17	Chakdha	Dr. B. K. Senapati, Professor & Head, Dept. of Plant Breeding, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur Nadia, West Bengal - 741252, 03473-22273 (F), 09433841648 (M), bksbckv@yahoo.co.in
18	Chatha	Dr. Bupesh Kr Sharma, Junior Scientist (PBG) –AICRIP, Division of Plant Breeding Genetics, SKUAST-J, Chatha, Jammu-180009 (J&K) 09419171543(M), bupeshsharma@gmail.com
19	Chinsurah	Dr. Partha Roy Chowdhury, Joint Director of Agriculture (Rice Development), Rice Research Station, Govt. of West Bengal, Chinsurah, Hooghly-712102, West Bengal, 033-26861149, 033-26862484 (O), jdarice1932@gmail.com parthaenergy@gmail.com
20	Chinsurah	Dr. Bijan Adhikari, Senior Rice Breeder, Rice Research Station, Govt. of West Bengal, Chinsurah, Hooghly-712102, West Bengal, 09433643509(M), adhikaribijan@gmail.com
21	Chinsurah	Dr. Rajib Das, Asst. Botanist, Rice Research Station, Govt. of West Bengal, Chinsurah, Hooghly-712102, West Bengal.
22	Chinsurah	Mr. Sumit Murmu, Assistant Botanist, W.B.A.S. (Research) I/C, S & FRPRS, Rice Research Station, Govt. of West Bengal, Chinsurah, Hooghly-712 102, West Bengal, 09007256755 (M), murmu.sumit@gmail.com
23	Chinsurah	Dr. Mitali Chatterjee, Assistant Botanist, W.B.A.S. (Research), Rice Research Station, Govt. of West Bengal, Chinsurah, Hooghly-712 102, West Bengal, mitali.mchatterjee@gmail.com
24	Chinsurah	Dr. Suman Debnath, Assistant Botanist, W.B.A.S. (Research), Rice Research Station, Govt. of West Bengal, Chinsurah, Hooghly-712 102, West Bengal, 09933739365 (O), sumandebnath.agri@gmail.com
25	Chinsurah	Dr. Suparna Gupta, Assistant Botanist, W.B.A.S. (Research), Rice Research Station, Govt. of West Bengal, Chinsurah, Hooghly-712 102, West Bengal drsuparnagupta12@gmail.com

S.No.	Location	Name & Designation /Organization & Addresses / Tel. No/ Mobile No./ email
26	Chiplima	Dr. Bhimasen Naik, Rice Breeder & Officer-Incharge, AICRIP Regional Research and Technology Transfer Station, O.U.A.T., Chipima, Sambalpur-768025 Odisha, 0663-2460515 09437151316(M), bsnaikouat@rediffmail.com bsnaikouat1@gmail.com
27	Coimbatore	Dr. K.Ganesamurthy, Professor (Plant Breeding) & Head, Department of Rice, Centre for Plant Breeding and Genetics, Tamil Nadu Agricultural University, Coimbatore-641 003, Tamil Nadu, 0422-2474967 (O), 0422-6611415 (F), 09360339737(M), rice@tnau.ac.in
28	Coimbatore	Dr. R.Saraswathi, Professor, Hybrid rice breeder, Department of Rice, TNAU, Coimbatore-641 003, TN, 09894561745 (M), sarasrice2004@yahoo.co.in
29	Coimbatore	Dr. R. Pushpam, Associate Professor, Department of Rice, TNAU, Coimbatore-641 003, TN, 09790471067 (M), rice@tnau.ac.in pushpamtnau@gmail.com
30	Cuttack	Dr. B.C. Patra, Principal Scientist & I/c, Crop Improvement Division, ICAR- Central Rice Research Institute, Cuttack-753 006, Odisha, 09937171699 (M), bcpatracri@yahoo.com
31	Cuttack	Dr. S. K. Pradhan, Principal Scientist, Crop Improvement Division, ICAR-National Rice Research Institute (NRRRI), Cuttack -753006, Odisha, 0671-2367788-83, Extn-2219, 09937750353 (M), pradhancrri@gmail.com
32	Cuttack	Dr. Meera Kumari Kar, Principal Scientist, Crop Improvement Division, ICAR-National Rice Research Institute (NRRRI), Cuttack-753006, Odisha. 94380 82075 (M), meera_kar@hotmail.com
33	Cuttack	Dr. K. Chattopadhyay, Principal Scientist, Crop Improvement Division, ICAR-National Rice Research Institute (NRRRI), Cuttack -753006, Odisha 9178248015(M), krishnenducrri@gmail.com
34	Cuttack	Dr. S.K.Dash, Principal Scientist, Crop Improvement Division, ICAR-National Rice Research Institute (NRRRI), Cuttack -753006, Odisha, 07978691066/09040384910(M), skdash139@gmail.com
35	Cuttack	Dr. L.K. Bose, Principal Scientist, Crop Improvement Division, ICAR-National Rice Research Institute (NRRRI), Cuttack -753006, Odisha, 09437670122 (M), lotankbose@yahoo.com
36	Cuttack	Dr. A. Anandan, Principal Scientist, Crop Improvement Division, ICAR-National Rice Research Institute (NRRRI), Cuttack -753006, Odisha, Office Tele: 0671-2367768-783 (extension.2227), 09178830981 (M), anandanau@yahoo.com
37	Cuttack	Dr. B.C. Marndi, Scientist (SG), Crop Improvement Division, ICAR-National Rice Research Institute (NRRRI), Cuttack -753006, 07008186979(M), bcmarndicrri@gmail.com
38	Cuttack	Dr. J. Meher, Scientist (SS), Crop Improvement Division, ICAR-National Rice Research Institute (NRRRI), Cuttack -753006, Odisha, 9937437459 (M) jmehercrri@gmail.com
39	Cuttack	Dr. S. Sarkar, Scientist, ICAR-National Rice Research Institute (NRRRI), Cuttack-753 006, Odisha, 09437142920 (M), sutapasarkar1310@gmail.com
40	Dabhoi	Dr. R.L.Chotalia, Assistant Research Scientist, Paddy Research Station, AAU Modal Farm, Anand Agril University, Dabhoi – 391110, (Dist - Vadodra) 02663-290 233, 9974707782(M) prsdabhoi@gmail.com
41	Danti	Dr. H.Joshi, Asst. Research Scientist, CSSRS Soil and Water Management Research Institute, (Navsari Agricultural University), DANTI- 396 450, Gujarat.
42	Derol	Dr. R.G. Machhar, Assoc. Res. Scientist, Agricultural Research Station (Anand Agricultural University) Derol-389320, Tq. Kalol, Dist. Panchmahal Gujarat, 02676- 235528 (O), 09427019132 (M), arsderol@gmail.com arsderol@aau.in
43	Dhaulakuan	Dr. Dhirendra Singh, Principal Scientist (Plant Breeding) CSK HPKV, HAREC, Dhaulakuan, Himachal Pradesh, singh1dhirendra@rediffmail.com
44	Gangavati	Dr. Mahantashivayogayya K Hiremath, Scientist (Plant Breeding), AICRP-Rice, Agricultural Research Station, Gangavati -583 227, Dist. Koppal, Karnataka 08533-270143 (O), 09845639892 (M) mahant.shivayogayya2@gmail.com
45	Gangtok	Dr. Chandan Kapoor, Scientist (Plant Breeding), ICAR-National Organic Farming Research Institute (NOFRI), (formerly ICAR Research Complex for NEH Region, Sikkim Centre), Tadong, Gangtok, Sikkim-737 102, 7583904638, 8988433168 (M), chandannaarm@gmail.com
46	Garhkhatanga	Dr. Vijaipal Bhadana, Principal Scientist, ICAR-Indian Institute of Agricultural Biotechnology, PDU Campus, IINRG, Namkum, Ranchi-834010, 9490729918 (M), bhadanavijai@gmail.com
47	Gerua	Dr. R. Bhagawati, Principal Scientist & Officer In-charge, ICAR-NRRI RRLRRS, Gerua, Hajo, Kamrup -781102, Assam, 0361-2820334 (O), 0361-2820370(F), rbhagawati@rediffmail.com

S.No.	Location	Name & Designation /Organization & Addresses / Tel. No/ Mobile No./ email
48	Gerua	Mr. Surendra Kumar Ghritlahre, Scientist (PB & G), Regional Rainfed Lowland Rice Research Station, Gerua, P.O. – Hajo, Assam-781102; 91-361-2820334 (O), 91-361-2820370 (F), 07670099132 (M), surenpb2008@gmail.com
49	Ghaghraghat	Dr. Nitendra Prakash, Rice Breeder, Crop Research Station, P.O. Jarwal Road, Bahraich, Ghaghraghat-271901, Uttar Pradesh 05251-225481 (O), 05262-224669 (R), 09415160709 (M), nitendra63@yahoo.co.in
50	Goa	Dr. K.K. Manohara, Scientist (Plant Breeding), ICAR-Central Coastal Agricultural Research Institute, Ela, Old Goa, Goa – 403402, 0832-2284678 (O), 0832-2284607 (R), 07507943679 (M), 0832-2285649 (F) manohar.qpb@gmail.com
51	Gurdaspur	Dr. Arvinder Kaur, Asstt. Plant Breeder, PAU Regional Research Station, Gurdaspur, Punjab, 08146742651 (M), arvindertoor@pau.edu
52	Hathwara	Dr. Uday Sankar Ray, Assistant Botanist, Zonal Drought Resistant Paddy Research Station, Dept. of Agriculture, Govt. of West Bengal, Hathwara, P.O : V. Nagar, Purulia-723 147, West Bengal, 03252-201191 (O), 08900606271(M) zdrprs@gmail.com uday_rmp@rediffmail.com
53	Hazaribagh	Dr. N. P. Mandal, Principal. Scientist (Plant Breeding), CRURRS (ICAR-NRRI), Post Box- 48, Hazaribag-825 301, Jharkhand 06546-222263 (O), 06546-224506 (R) 09430391164(M), 06546-223697 (F) npmandal@hotmail.com , nimai.mandal@gmail.com
54	Imphal, CAU	Dr. (Mrs.) Sonika Yumnam, Scientist (Plant Breeding), AICRIP on Chickpea & I/c AICRIP (Rice), Directorate of Research, Central Agricultural University, Lamphelpat, PIN- 795004, Imphal, Manipur, 8730007376 / 8787674900 (M), sonikayumnam@gmail.com drcau@yahoo.com
55	Imphal, CAU	Dr. Kh. Pramesh, Jr, Plant Breeder, AICRIP on Groundnut & Assoc. Scientist AICRIP (Rice), Directorate of Research, Central Agricultural University, Lamphelpat, PIN- 795004, Imphal, Manipur, 7005196639 (M) pramesh_kh@rediffmail.com drcau@yahoo.com
56	Jabalpur	Dr. Sanjay Kumar Singh, Rice Breeder (Scientist), Department of Plant Breeding & Genetics, J.N.K.V.V., Jabalpur. Madhya Pradesh-482004, 0761-2681020 (O), 9407884019, 9424676726 (M), sanjayivr@gmail.com
57	Jagdalpur	Dr. Sonali Kar, Scientist (PB), SG College of Agricultural and Research Station (IGKV) Kumhrawand, JAGDALPUR – 494 001, Bastar District., Chhattisgarh, 07782-229360 (O), 09424282716(M), sonalika31@gmail.com
58	Jagdalpur	Sh. Raja Ram Kanwar, Scientist (PB), SG College of Agricultural and Research Station (IGKV) Kumhrawand, JAGDALPUR – 494 001, Bastar Dist., Chhattisgarh,
59	Jagtial	Dr. B.Srinivas, Scientist (Plant Breeding), Rice Scheme, Regional Agricultural Research Station (PJ TSAU), Polasa, Jagtial – 505 529, Telangana State, 09618391562, 09866585767 (M), srinu.bdd@gmail.com
60	Jeyapore	Sri Mihir Ranjan Mohanty, Junior Breeder-cum-Officer-In-Charge, RRTSS (OUAT), M.G.Road, Jeyapore-764001, Koraput, Odisha 06854-240569(O), 09078154995(M) mihirgenetics@gmail.com ojcjayapore.ouat@gmail.com ojcaycpricejey.ouat@gmail.com
61	Kalimpong	Dr. Bandhan Thapa, Assistant Professor, Dept. of Genetics and Plant Breeding, In-Charge AICRP on Medicinal and Aromatic Plants & Betelvine, Uttar Banga Krishi Vishwavidyalaya Regional Research Station (Hill Zone), Kalimpong, Darjeeling-734301 bandhan.thapa@gmail.com
62	Kampasagar	Dr. G. Shiva Prasad, Scientist (Plant Breeding), Agricultural Research Station, (PJ TSAU), Kampasagar, Babu Sai Pet (Post) Nalgonda District. Pin 508 207 Telangana, 09912534831 (M), headarsnlg@rediffmail.com shiva0843@gmail.com
63	Kanpur	Dr. P. K. Singh, Professor, Genetics & Plant Breeding, Officer-in Charge, AICRIP, C.S. Azad. University of Agriculture and Technology, Kanpur – 208002, Uttar Pradesh, 9415172323, 7355751246 (M), pk_singh65@yahoo.com , pksingh@csauk.ac.in
64	Karaikal	Dr.S.Thirumeni, Professor (PBG), Pandit Jawaharlal Nehru College of Agriculture and Research, Karaikal- 609603, Puducherry (U.T). 09443573371 (M), 091- 4368-261372 (O), 091-4368-261260(F), 09443573371 (M), s_thirumeni@rediffmail.com
65	Karjat	Dr. R. L. Kunkerkar, Rice Breeder (AICRIP), Regional Agricultural Research Station, (Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth), Dist. Raigad. Karjat– 410 201, Maharashtra 02148-223254 (O), 02148-222035 (F), 08879034388 (M), rlkramesh@rediffmail.com
66	Karjat	Dr. Mahendra P Gawai, Jr. Rice Breeder (AICRIP), Regional Agricultural Research Station, (Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth), Dist. Raigad. Karjat– 410 201, Maharashtra, 09423454447, 07588155257 (M), mahendragawai76@gmail.com

S.No.	Location	Name & Designation /Organization & Addresses / Tel. No/ Mobile No./ email
67	Karnal	Dr. Krishna Murthy, S. L., Scientist (Plant Breeding), Division of Crop Improvement , ICAR-Central Soil Salinity Research Institute (CSSRI), Kachwa Road, Karnal-132001, Haryana 0184-2291218 Ext.216 (O), 08053726399 (M), krishnagene@gmail.com kmurthy@cssri.ernet.in ,
68	Kaul	Dr. Khushi Ram, Sr. Rice Breeder; CCS HAU Rice Research Station, Kaul (Kaithal)-136 021, Haryana, 01746-254550 (O),01746-254946 (F), 09813136867(M), khushirambattan60@yahoo.com
69	Kaul	Dr. Rakesh Kumar, Jr. Rice Breeder, CCS HAU Rice Research Station, Kaul (Kaithal)-136 021, Haryana
70	Khudwani	Dr. N.R. Sofi, Sr. Scientist, PBG AICRIP, Rice, Mountain Research Centre for Field Crops (SKUAST-K), Khudwani, Anantang – 192 102 Kashmir. (F) 01931-238246. 09419040582 (M) najeeb_sofi@rediffmail.com
71	Kota	Dr. Manoj Kumar, Asst. Professor & Rice Breeder, Dept. Of Plant Breeding & Genetics, Agricultural Research Station, Agriculture University, Ummedganj farm, PB. No. 7, G.P.O. Nayapura, Kaithoon Road, Kota-324001, Rajasthan, 0744-2844369 (O), 8005919994 (M) manoj.vishnoi108@gmail.com
72	Kunaram	Dr. Sreedhar Siddi, Scientist (Plant Breeding) & Head, Agricultural Research Station, Kunaram 505174, Kalva Srirampur Mandal, Karimnagar Telangana State, 09849635235 (M), arskunaram@yahoo.com siddu.35@gmail.com
73	Kurumbapet	Dr. R. Narasimman, Rice Breeder i/c, Perunthalaivar Kamaraj Krishi Vigyan Kendra, Kurumbapet, Puducherry – 605 009, 0413-2271292 (F), 0413-2279758, 09442502107(M), naras65@gmail.com pondicherrykvk@yahoo.co.in
74	Lamphelpat	Dr. Konsam Sarika, Scientist (Genetics and Plant Breeding), Manipur Centre, ICAR Research Complex for NEH Region, Manipur Centre, Lamphelpat, Imphal-795 004, 0385-2414654 (O), 0385-2414749 (F), 8787401857 (M) konsams@gmail.com
75	Lembucherra	Dr. S. P. Das, Principal Scientist, Division of Plant Breeding, ICAR-Research Complex for NEH Region, Tripura Centre, Lembucherra-799210 - West Tripura, 0381-2865203 (O), 0381-2865537 (F), 09436450747 (M), drspdas@gmail.com
76	Lucknow	Dr. Y.P Singh, Principal Scientist (Agronomy), ICAR-CSSRI Regional Research Station, Old Jail Road, Opp. Kanshiram Smarak, P.O.Dilkusha, Lucknow -226002, Uttar Pradesh, +91-7309563010 (M), ypsingh.agro@gmail.com ypsingh_5@yahoo.co.in
77	Ludhiana	Dr. G. S. Mangat, Senior Rice Breeder & Head, Dept. of Plant Breeding & Genetics, Rice Section, Punjab Agricultural University, Ludhiana-141 004, Punjab 0161-2401960 extn 423 (O), 0161-2409891 (F),0161-2400770 © 09814516464 (M), mangatgs2005@yahoo.co.in gsmangat-pbg@pau.edu
78	Ludhiana	Dr. R.S.Gill, Senior Rice Breeder, Rice Section, Dept. of Plant Breeding & Genetics, PAU, Ludhiana -141 004, Punjab, 09888310070 (M), ramvirgillz@gmail.com
79	Ludhiana	Dr. Rupinder Kaur, Rice Breeder, Rice Section, Dept. of Plant Breeding & Genetics, PAU, Ludhiana-141 004, Punjab, 08146560105 (M), kaurrupinder-pbg@pau.edu , rupinder.kaur@rediffmail.com
80	Ludhiana	Dr. Renu Khanna, Asst. Plant Breeder, Rice Section, Dept. of Plant Breeding & Genetics, PAU, Ludhiana -141 004, Punjab, 9855552034 (M), renukhanna-pbg@pau.edu
81	Ludhiana	Dr. Navjot Sidhu, Assistant Plant Breeder, Rice Section, Dept. of Plant Breeding & Genetics, PAU, Ludhiana-141 004, Punjab, 09914714690 (M), navjotsidhu-pbg@pau.edu
82	Machilipatnam	Dr. M. Girija Rani, Senior Scientist (Pl.Br) & Head; Agricultural Research Station, Machilipatnam-521002, Krishna District, Andhra Pradesh 08672-223266 (O), 9490195904 (M), arsmtm@gmail.com girija_apri@yahoo.co.in
83	Malan	Dr. D.P. Pandey, Principal Scientist (Plant Breeding), Rice & Wheat Research Centre, CSK-HPKV, Malan (Kangra) -176 047, HP 01892-252306 (O), 09418149787 (M), pandeydp04@yahoo.co.in
84	Malan	Dr. Neelam Bhardwaj, Scientist, Rice & Wheat Research Centre, CSK-HPKV, Malan (Kangra) -176 047, HP, 9816743729 (M), neenabhardwaj@gmail.com
85	Mandya	Dr. M. P. Rajanna, Senior Rice Breeder & Head, AICRIP (Rice), Zonal Agricultural Research Station, V.C.Farm, Mandya – 571 405, Karnataka, 08232-277923 (O),09945900893 (M), 08232-277945 (F), mprajanna@rocketmail.com , mprajanna2@gmail.com
86	Mandya	Dr. N. Shiva Kumar, Associate Professor (Hybrid Rice), ZARS, VC Farm, Mandya – 571405, Karnataka, 08232-221166 ©, 09448528481 (M), shivu2356@gmail.com

S.No.	Location	Name & Designation /Organization & Addresses / Tel. No/ Mobile No./ email
87	Mandya	Dr. C.A. Deepak, Jr. Rice Breeder, AICRP (Rice) Zonal Agril. Research Station, V.C.Farm, Mandya-575405, Karnataka, 09945757507(M), deepuca@gmail.com
88	Maruteru	Dr. P.V. Satyanarayana, Principal Scientist (PB), AICRIP on Rice & PS (Rice), Regional Agricultural Research Station, Maruteru-534122, West Godavari District, Andhra Pradesh, 08819-246848 (R), 9490545888 (M), satya_rice@yahoo.com , rarsmtu@yahoo.com , adr.godavarizone@gmail.com
89	Maruteru	Dr. B.N.V.S.R. Ravi Kumar, Senior Scientist (PB), AICRIP on Hybrid Rice, RARS, Maruteru-534122, West Godavari District, A.P., 9866649495(M) ravinbvsr@gmail.com
90	Maruteru	Dr. P. Venkata Ramana Rao, Senior Scientist (PB), AICRIP on Rice, RARS, Maruteru-534122, West Godavari District, A.P, 09440441922 (M), pvr gene@gmail.com
91	Maruteru	Dr. N. Chamundeswari, Senior Scientist (PB), RARS, Maruteru-534122, West Godavari District, A.P, 09440275608 (M), nam e_chamundeswari@rediffmail.com
92	Masodha	Dr. D.K.Dwivedi, Office Incharge/ Professor (Genetics & Plant Breeding), Crop Research Station, Masodha (NDUA &T), Dabhasemar, Faizabad, PIN- 224 133, U.P, 07706884188, 07992075842 (M), aicripmasodhafzd@gmail.com
93	Masodha	Dr. Saurab Dixit, Senior Rice Breeder, Crop Research Station, NDUA&T, Masodha, P.O. Dabhasemar, Faizabad, PIN- 224 133, UP 05278-254153 (O), 09450763002 (M) saurabhnduat@gmail.com
94	Medizipheema	Dr. Harendra Verma, Scientist, Dept. of Plant Breeding & Genetics, ICAR Research Complex for NEH Region, Nagaland Centre, Medizipheema-797106, Dimapur dist. 8787348162, 918876739227(M), harendraicar@gmail.com
95	Meerut	Dr. L.K. Gangwar, Professor & Head, Dept. of Genetics & Plant Breeding, College of Agriculture, SVPUAT, Meerut-250110, Uttar Pradesh, 0121-2888518(O), 0121-2888505 (F), 9411957307 (M), gangwarlk@gmail.com , hod.gpb.svbp@gmail.com
96	Moncompu	Smt.Ambily A.K, Assistant Professor (Plant Breeding & Genetics), Rice Research Station, Moncompu-688503, Thekkekkara, Alleppey District-688503, Kerala, 0477-2702245 (O), 9495424961(M), ambily.ak@kau.in
97	Mugad	Dr. S.C.Talekar, Asst. Professor (GPB), AICRP on Rice, Agricultural Research Station, Mugad-580 007, Karnataka 0836-2786643 (O), 9741105926 (M), talekarsc@uasd.in , aicripmugad@uasd.in , siddu.talekar@gmail.com
98	Nagina	Dr. Rajendra Singh, PI & Rice Breeder (AICRIP), SVPUA&T Rice Research Station, Nagina, Bijnor, Uttar Pradesh-246762, (O) 01343-250271, 01343-250271 (F), 07017089688(M), malik_zrsnagina@rediffmail.com , maliknng@gmail.com
99	Navsari	Dr. P.B Patel, Associate Research Scientist & PI of AICRIP on Rice, Main Rice Research Centre, Navsari Agricultural University, Aru Cross Road, Vijalpore, Navsari – 396450, Gujarat 02637-282772-75 Ex-113 (O), 02637-283794 (F), 09725023750, 9106678851(M) pbgp_swm@nau.in , patihk_pbg@yahoo.com
100	Navsari	Dr. K.S. Mungra, Assistant Research Scientist, Main Rice Research Centre, Navsari Agricultural University, Aru Cross Road, Vijalpore, Navsari-396450, Gujarat.
101	Nawagam	Dr. M. B. Parmar, I/c. Research Scientist (Rice) & Unit Head, Main Rice Research Station, Anand Agricultural University, Nawagam-387540, (District Kheda), Gujarat, 02694-284278 (O), 07573013548, 08160688494 (M) rsrice_mrrs@yahoo.com , maheshparmar@aau.in , maheshparmar07@gmail.com
102	Nawagam	Dr. D. B. Prajapati, Associate Research Scientist, Main Rice Research Station, Anand Agricultural University, Nawagam-387540, (Dist-Kheda), Gujarat, 09429384207(M), dbprajapati207@gmail.com
103	Nawagam	Dr. S.G. Patel, Assistant Research Scientist, Main Rice Research Station, Anand Agricultural University, Nawagam-387540, (Dist-Kheda), Gujarat, 09879140413 (M), sgpatel1965@gmail.com
104	Nawagam	Shri. A. G. Pampaniya, Assistant Research Scientist, Main Rice Research Station, Anand Agricultural University, Nawagam-387540, (Dist-Kheda), Gujarat.
105	Nellore	Dr. P. Ramesh Babu, Principal Scientist (Breeding); Agricultural Research Station, (ANGRAU), NCF post, Muthukur Road, Nellore-524004, Andhra Pradesh, 0861-2327803 (Telefax), 09885392215 (M), ramesh_ars2004@yahoo.com
106	Nellore	Dr. Ch. Sreelakshmi, Scientist (Plant Breeding), Agricultural Research Station (ANGRAU), NCF post, Muthukur Road, Nellore – 524004, Andhra Pradesh, 09885527227 (M), sreelakshmi.angrau@gmail.com , arsnellore@gmail.com

S.No.	Location	Name & Designation /Organization & Addresses / Tel. No/ Mobile No./ email
107	New Delhi	Dr. Gopala Krishnan, Senior Scientist (Rice Breeding) Division of Genetics, ICAR-Indian Agricultural Research Institute (IARI), Pusa, New Delhi-110012, 011-25843550 (R), 09873545505 (M), gopal_icar@yahoo.co.in krish.icar@gmail.com
108	New Delhi	M. Nagarajan, PS and In-Charge, IARI Regional Station, Aduthurai, Tamil Nadu, 09952805363 (M), iaridt@gmail.com
109	Palampur	Dr. Daisy Basandrai, Principal Scientist (Plant Breeding) CSK-HPKV, Palampur-176 062, Himachal Pradesh, 09816179192/ 09418467275(M) bunchy@rediffmail.com ashwanispp@gmail.com
110	Palghar	Dr.S.B.Gangawane, Officer - Incharge, Agricultural Research Station (Dr BS KKV), Palghar-401 404, District Palghar, Maharashtra, 02525 241048 (O), 9922927646 (M), nandishala@gmail.com
111	Pantnagar	Dr. Indra Deo Pandey, Professor/ Principal Rice Breeder, Department of Genetics and Plant Breeding, College of Agriculture, GBPUA&T, Pantnagar-263 145, Distt.- U.S. Nagar, Uttarakhand 05944-233210 (O), 05944-233473 (F), 05944-235279 (R), 08755790584, 07467032941 (M), idpandey2005@rediffmail.com
112	Pantnagar	Dr. D.C. Baskheti. Junior Scientist (Rice Breeding), Department of Genetics and Plant Breeding, College of Agriculture, GBPUA&T, Pantnagar-263 145, Dist.- U.S. Nagar, Uttarakhand.
113	Parvel	Dr. S.B. Dodake, Khar Land Scientist, Khar Land Research Station, Parvel – 410206, Dist. Raigad, Maharashtra state, 022-27452775, 09423296274 (M), kirs59@rediffmail.com suresh_dodake64@rediffmail.com
114	Parbhani	Dr. S.B.Borgaonkar, Rice Breeder, Upland Paddy Research Scheme, Sayala A block, V.N.M.K.V. Parbhani-431402, Maharashtra. 007588082166 (M), borgaonkars@rediffmail.com uprsmkv@rediffmail.com
115	Patna (ICAR)	Dr. Santosh Kumar, Senior Scientist (Plant Breeding), Drought & Aerobic Rice, Division of Crop Research, ICAR Research Complex for Eastern Region, ICAR Parisar, PO. Bihar Veterinary College, Patna – 800014, Bihar, 0612-2223962, Extn. 117 (O), 0612-2223956 (F), 09973113026 (M), santosh9239@gmail.com
116	Patna (ICAR)	Dr. Narayan Bhakta, Principal Scientist (Plant Breeding), ICAR Research Complex for Eastern Region, ICAR Parisar, PO. Bihar Veterinary College, Patna – 800014, Bihar, 09471004797 (M), nbhakta65@rediffmail.com
117	Pattambi	Dr.K.R. Biji, Assistant Professor, Dept. of Plant Breeding & Genetics, Regional Agricultural Research Station (KAU), Mele Pattambi – 679 306, Palakkad, Kerala, 9946912674(M), biji.kr@kau.in
118	Pattambi	Dr.Vidhu Francis, Assistant Professor, Dept. of Plant Breeding & Genetics, Regional Agricultural Research Station (KAU), Mele Pattambi – 679 306, Palakkad, Kerala, 9847236616(M), vidhu.francis@kau.in
119	Phondaghat	Prof. V.N. Shetye, Agronomist; (Dr. Balasaheb Sawant Konkan Krishi Vidhyapeeth, Dapoli) Agricultural Research Station, Phondaghat-416601, Dist. Sindhudurg, Maharashtra 02367 – 245236 (O) , 02367-245105(F), 09421343562(M), arsphondaghat@rediffmail.com arsphondaghat@gmail.com
120	Ponnampet	Dr G.N. Hosagoudar, Junior Rice Pathologist, Agricultural & Horticulture Research Station, Ponnampet- 571216, Kodagu (Dist), Karnataka-571216, 08274249156 (O), 9480838987 (M), gnhosagoudar@rediffmail.com
121	Port Blair	Dr. P.K. Singh, Principal Scientist (Plant Breeding), Division of Field Crops Improvement and Protection, ICAR- Central Island Agricultural Research Institute, Port Blair-7441051, Andaman and Nicobar Islands 03192-250238, 250239, Extn. 162(O), 09474273099 (M), pksingh1975@gmail.com pksing99@rediffmail.com
122	Pundibari	Dr. Bidhan Roy, Professor & Head, Dept. of Seed Science and Technology, Uttar Banga Krishi Viswavidyalaya, Pundibari, Cooch Behar-736 165, West Bengal, 08637072242, 9434117057 (M) bcroy10@yahoo.com
123	Pusa	Dr. N.K. Singh, Chief Scientist (Rice), Dept of Plant Breeding, Dr. Rajendra Central Agril. University, Pusa-848125, Samastipur, Bihar 06274-240255 (F), 06274-240947 (R), 09431834065 (M) , nksingh_1958@yahoo.com
124	Pusa	Dr. M.K.Singh, Assistant Professor, Dept. of Plant Breeding & Genetics, Co-PI, AICRIP, Dr. Rajendra Prasad Central Agricultural University, Pusa, Samastipur-848125, Bihar, 8986590206, 7983312594 (M). mithileshgpb@gmail.com

S.No.	Location	Name & Designation /Organization & Addresses / Tel. No/ Mobile No./ email
125	Radhanagari	Prof. C. D. Sarawate, Officer-In-Charge, Agricultural Research Station, (MPKV) Radhanagari, Dist. Kolhapur, Maharashtra- 416 212, 02321 – 234041 (O), 02321-234041 (F), 09421101364 (M), arsradha@yahoo.com , sarawatecd@yahoo.co.in
126	Ragolu	Dr. K. Madhu Kumar, Scientist (Plant Breeding), Agricultural Research Station,(ANGRAU), Ragolu-532484, Srikakulam district, 08942-279836 (O), 9618186286, 9440149488 (M), madhuagrico1998@gmail.com arsragolu@yahoo.co.in
127	Raipur	Dr. A.K .Sarawgi, Professor & Head, Dept. of Genetics and Plant Breeding, College of Agriculture, Indira Gandhi Krishi Vishwavidyalaya, Krishak Nagar, Raipur- 492 012, 09425507284(M), sarawgi1@yahoo.co.in
128	Raipur	Dr. S.K.Nair, Senior Scientist & Biodiversity, Dept. of Genetics and Plant Breeding, College of Agriculture, Indira Gandhi Krishi Vishwavidyalaya, Krishak Nagar, Raipur- 492012 Chhattisgarh, 9826192630 (M), sunil_rvp@yahoo.com sunil.aadya@gmail.com
129	Raipur	Dr. Deepak Gauraha, Scientist (GPB), AICRIP on Rice, Department of Genetics & Plant Breeding, College of Agriculture, Indira Gandhi Krishi Vishwavidyalaya, Krishak Nagar, Raipur- 492 012, Chhattisgarh, 0771 2442352 (O), 09424217252 (M) dgauraha@yahoo.co.in
130	Raipur	Dr. Abhinav Sao, Scientist (GPB), Dept. of Genetics & Plant Breeding, College of Agriculture, Indira Gandhi Krishi Vishwavidyalaya, Krishak Nagar, Raipur-492012, Chhattisgarh, 08839199972 (M), saoabhi27@yahoo.co.in
131	Raipur	Dr. Girish Chandel, Professor/ NE Borlaug Fellow 2006, Dept. of Plant Molecular and Biology and Biotechnology, Indira Gandhi Krishi Vishwavidyalaya, Krishak Nagar, Raipur -492012, Chhattisgarh, 0771-2442069(O), 09406382169 (M) ghchandel@gmail.com
132	Rajendranagar	Dr. M.Venkata Ramana, Principal Scientist (Rice) & Head, Rice Research Centre, Agricultural Research Institute, PJTSAU, Rajendranagar, Hyderabad – 500 030, Telangana, 040-24015817 (O), 07337399470, psrice2009@gmail.com
133	Rajendranagar	Dr Ch Damodar Raju, Principal Scientist (Rice Breeding), Rice Research Centre, ARI, PJTSAU, Rajendranagar, Hyderabad-500030, Telangana, 9440225385 (M), cdraju2008@gmail.com
134	Rajendranagar	Dr. Y. Chandra Mohan, Senior Scientist, Rice Research Centre, ARI, PJTSAU, Rajendranagar, Hyderabad-500 030, Telangana, 09908577040(M), 08724-277283(F), dycmohan@yahoo.co.in
135	Rajendranagar	Dr. L. Krishna, Senior Scientist, Rice Research Centre, ARI, PJTSAU, Rajendranagar, Hyderabad-500 030, Telangana
136	Rajouri	Dr. Deepak Kumar, Assistant Professor/. Junior Scientist (Plant Pathology), Regional Agricultural Research Station, SKUAST- Jammu, Tadwal, Rajouri – 185131, Jammu & Kashmir, 09419774531 (M), deepakksrivastava@rediffmail.com
137	Ranchi	Dr. Krishna Prasad, Rice Breeder, Dept. of Plant Breeding & Genetics, Birsa Agricultural University, Kanke, Ranchi, Jharkhand- 834006, 06151-2450625 (O), 09934199128 (M), krishna_dumka@yahoo.co.in krishnachamera@gmail.com
138	Rewa	Dr. P. Perraju, Senior Rice Breeder, College of Agriculture (JNKVV), Rewa-486004, Madhya Pradesh, 07662-220732(O), 07662-221014(R), 09827681203 (M), perraju.p@rediffmail.com
139	Rudrur	Miss. Ramya Rathod, Scientist (Plant Breeding), Regional Sugarcane and Rice Research Station, Rudrur-503188, Nizamabad district, Telangana State, 08179525139 (M), ramyarathod.5@gmail.com
140	Sabour	Dr. Suresh Prasad Singh, Rice Breeder, Dept. of Plant Breeding and Genetics, Bihar Agricultural College, Bihar Agricultural University, Sabour, Bhagalpur-813 210, Bihar, 0641-2451254 (O), 9472060575 (M) sps2007bau2011@gmail.com
141	Sakoli	Dr. G.R. Shamkuwar, Senior Rice Breeder, Agriculture Research Station (Dr. PDKV), Sakoli –441802, Bhandara District, Maharashtra, 07186- 236343 (O), 09403049472 (M), srb_skl@rediffmail.com
142	Sakoli	Dr. M.P. Meshram, Junior Rice Breeder, AICRIP, Agriculture Research Station (Dr. PDKV), Sakoli –441802, Bhandara District, Maharashtra, 09422819327 (M), mpmeshram358@gmail.com
143	Shirgaon	Dr. B.D. Waghmode, Professor (CAS) GPB & Officer Incharge, Agricultural Research Station, Shirgaon-415 629, District Ratnagiri, (Konkan); Maharashtra, 02352-232179 (O), 08262830227 (O), 02352-232179 (F), 09404580416 (M), bharat_breed@yahoo.com , arsshirgaon@rediffmail.com

S.No.	Location	Name & Designation /Organization & Addresses / Tel. No/ Mobile No./ email
144	Sindewahi	Dr. M.R. Wandhare, Assistant Professor of Agriculture Botany, Agricultural Research Station (Dr.PDKV), Sindewahi- 441 222, District Chandrapur, Maharashtra, 09604323973 (M), madanwandhare@rediffmail.com adrsyezarspkv@rediffmail.com
145	Sirsi	Dr. P. Surendra, Principal Scientist (GPB), Agricultural Research Station, Banavasi Road, Sirsi- 581 401, Uttara Kannada, Karnataka, 092422 81402 (M), psurendra63@gmail.com
146	Tirur	Dr. A.Sheeba, Assistant Professor (PB&G), Rice Research Station, Tirurkuppam, Tirur (Post), Tiruvallur District, Tamil Nadu-602 025, 044-27620233(O), 044-27620383 (F), 09842005221(M), sheebateddy@gmail.com
147	Titabar	Dr. Sanjay Kumar Chetia, Principal Scientist, Regional Agricultural Research Station, (Assam Agricultural University) Titabar, Assam – 785630, 03771-248453(O), 09435096506 (M), sanjaykumarchetia@gmail.com
148	Titabar	Mr. Janardan Das, Jr. Scientist, PBG, RARS (AAU), Titabar, Assam-785630, 9577373867 (M), janardan.das@aau.ac.in janardand03@gmail.com
149	Trichy	Dr. T.Thirumurugan, Asst. Professor (PBG), Dept. of Plant Breeding & Genetics, Anbil Dharmalingam Agricultural College & Research Institute, Tamil Nadu Agricultural University, Trichy-620027, Tamil Nadu, 9626777444 (M), tthirumurugan@gmail.com
150	Uniam – CAU	Dr. Mayank Rai, Rice Breeder, School of Crop Improvement, College of Post Graduate Studies, Central Agricultural University, Uniam (Barapani) Meghalaya-793 104, 9436336008 (M), mrai.cau@gmail.com
151	Uniam-ICAR	Dr. Amit Kumar, Scientist (Plant Breeding) ICAR Research Complex for NEH Region, Uniam (Barapani)– 793103, Meghalaya, 8974630789 (M), amit4118@gmail.com
152	Upper Shillong	Dr. R. B. Myliem Umlong, Asst. Director of Agriculture, AICRIP, Dept. of Agriculture, Govt. of Meghalaya, Upper Shillong, East Khasi Hills district, Meghalaya-793006. 9436164483 (M), ritamyliem@gmail.com
153	Vadgaon	Dr. T.J. Bhor, Asst. Professor of Botany, Agricultural Research Station, Vadgaon-412106, Maval, District Pune, Maharashtra, 02114-235229 (O), 02114235229 (F), 09422560142 (M), ars_vadgaonmaval@rediffmail.com
154	Varanasi	Prof. R.P.Singh; Principal Rice Breeder, AICRIP, Dept. of Genetics and Plant Breeding, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi-221005, Uttar Pradesh, 0542-6702545 (O), 0542-2369036 (F), 08004930515 (R), 09838464343 (M), , ravi_piyush@rediffmail.com
155	Varanasi	Dr. S.Jayasudha, Assistant Professor, Dept. of Genetics and Plant Breeding, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi-221005, 09880034400 (M), jkomalaster@gmail.com
156	Vyara	Dr. Vipul P. Patel, Associate Research Scientist (PB), Regional Rice Research Station, Navsari Agricultural University, Vyara-394650, District Tapi, Gujarat, 02626-220212 (O) , 02637-651344 (R), 08469417374 (M), 02626220212 (F), vppatel13@gmail.com , rrsvyara@yahoo.in
157	Vyttila	Dr. Veena Vighneswaran, Asst. Professor (PBG), 09447961586 (M), Dept. of Plant Breeding & Genetics , Rice Research Station (KAU), Vyttila, Cochin-682 019, Kerala, 09447961586 (M), veenarars@gmail.com
158	Wangbal	Dr. K.H. Ngamreishang, Rice Breeder, Rice Research Station, Govt. of Manipur, Wangbal-795138 Thoubal, Manipur, 08731869011 (M), ngamreishang777@gmail.com rrswangbal@rediffmail.com rrswangbal1@gmail.com
159	Warangal	Dr. B.Satish Chandra, Scientist (Plant Breeding), Regional Agricultural Research Station (PJ TSAU), Mulugu Road, Warangal – 506 007, Telangana State, 09948990788 (M), 0870-2975223, (O) chandragene@gmail.com adrrars_vgl@yahoo.co.in ricerarswarangal@gmail.com
160	Warangal	Dr. K. Rajendra Prasad, Scientist (Plant Breeding), Regional Agricultural Research Station (PJ TSAU), Mulugu Road, Warangal – 506 007, Telangana State, 09010192629 (M), krprasad456@gmail.com
161	Waraseoni	Dr. Uttam Bisen, Scientist (PB), Regional Agricultural Research Station, JNKVV, Waraseoni-481331, Balaghat, Madhya Pradesh, 09424999321/7999321276(M) uk_bisen@rediffmail.com

Private Companies - Hybrid Rice

Company	Name & Address
Advanta Limited	Dr. V. Satya Dev , Crop Research Lead - Hybrid Rice, Advanta Limited, Krishnama House, # 8-2-418, 3rd Floor, Road No -7, Banjara Hills, Hyderabad- 500 034. Ph # 040-66284000, Fax # 27890137, E-mail: satyadev@advantaseeds.com Dr. Prabhu Gouda Patil , Email: prabhugouda.patil@advantaseeds.com
Ankur Seeds Pvt. Ltd	Shri R.M. Kashikar , Chairman & Research Director, Ankur Seeds Pvt. Ltd., 27, New Cotton Market Lay-out, Opp. Bus Station, Nagpur - 440 018, Maharashtra. Ph # 0712-2725117, 2726148, Fax # 0712-2723455, E-mail: rmkashikar@ankurseeds.com Dr V.P. Khedkar , Mobile: 09850329757, E-mail: vpkhedkar@ankurseeds.com
Bayer Bio-Science Pvt Ltd	Dr S. Babu , Senior Manager (Agronomy), Bayer Bio-Science Pvt Ltd, Plot No:13, Survey No: P64/2 , Software Units Layout, Madhapur, Hyderabad - 500 081, Telangana Mobile : +91 96038 92134; E-Mail: s.babu1@bayer.com Dr. O.S. Kanwar , Mobile: +91 98499 89752, E-Mail: omvir.skanwar@gmail.com Dr. Yogaraj Sharma , Mobile : +91 98499 89753, E-Mail : yog.raj@bayer.com
Bioseed Research India	Dr. Paresh Varma , Director Research, Bioseed Research India, 234, B-Block, Kavuri Hills, Phase II, Hyderabad - 500 033. Ph # 040-67066666, Fax # 040-67066606, E-mail: paresh.verma@bioseed.com Dr. R. Vijaya Kumar , Principal Breeder (Rice), E-mail : vijay.kumar@bioseed.com Dr Bahskara Reddy , Email: bhaskara.reddy@bioseed.com
Bisco Bio-Sciences Pvt Ltd	Dr. Vinod Kumar Yadav , Breeding Coordinator - India, Bisco Bio-Sciences Pvt Ltd, Ashoka My Home Chambers, H.No. 1-8-201 to 203, Flat no. 208 & 209, S.P. Road, Secunderabad - 500 003, Telangana. Mobile: 07702888289, Tel: 040 30004050/60, Fax: 040 27841299, E-mail: vinodyadav@limagrains.in Dr. Manender Singh , Sr. Breeder-Paddy, Email: Manender.Singh@limagrains.in, Mob. +91-9100119466
Charoen Pokphand Seeds (India) Pvt Ltd	Dr. Wirat Rerksiri , Hybrid Rice-Specialist, R&D-Department Manager, Charoen Pokphand Seeds (India) Pvt Ltd, 4th Floor, 12/1 Srinidhi Landmark, Opp. New Thippasandra Post Office, H.A.L III Stage, Bangalore- 560075, Karnataka. Email: wirat.r@cpseeds.in, Tel: (91-80) 25210808, 818, 828, 838; Fax: 25210848 Dr. Prasad Garapati , Department Manager-Admin, Mobile: 83744 44455, Email: gpc.cps@gmail.com, prasad.g@cpseeds.in
Crystal Crop Science	Mr. O. Krishna , Mobile: 096181 33544, Email: oggu.krishna@crystallcrop.com; oggu23@gmail.com
Delta Agrigenetics Pvt.Ltd	Dr. R.N. Rao , Research Head, Delta Agrigenetics Pvt. Ltd., Plot Nos: 99&100, Greenpark Avenue, NH-7 Road, Jeedimetla Village, Behind Surabhi Hotel, Hyderabad- 500055, Telangana. Mob: 0766002927 (O); 09492547300 (P), Email: rn@deltaseeds.in, rnrao14@yahoo.com Sri. A.S.N. Reddy , Chief Executive Officer, Email: asn@deltaseeds.in, Mobile :09908900003
Dupont Pioneer Pvt Ltd	Dr. Mahantesh Gangashetti , EZ Lead, Dupont Pioneer, 3 rd & 4 th Floor, Babukhans Millennium Centre, 6-3-1099/1100, Raj Bhavan Road, Somajiguda, Hyderabad - 500082. Mobile: 9880535533, Email: mahantesh.g@corteva.com Dr. T.G. Prabhu , Principal Scientist, Dupont Pioneer, Hyderabad. Mobile: 9000711037, Email: tg.prabhu@corteva.com Dr. Rudresh, N.S. , Principal Scientist, Dupont Pioneer, Raipur. Mobile: 9000844130, Email: rudresh.sugandharajappan@corteva.com
Ganga Kaveri Seeds Pvt. Ltd	Dr. Sai Murali , Ganga Kaveri Seeds Pvt. Ltd, # 1406, Babukhan Estate, Basheerbagh, Hyderabad -500 001. Mobile: 7732062224, Email: sai.murali@gangakaveri.in
Indo-American Hybrid Seeds (I) Pvt. Ltd	Dr. S.N. Ratho , Indo-American Hybrid Seeds (I) Pvt. Ltd., Villa # 29, Pavani Petals, Hydershakote, Hyderabad - 500 091, Telangana. Ph # 08413-200086 (O); 94400 20855 (M); E-mail: snratho@indamseeds.com

Company	Name & Address
	Dr A V Kini , Mobile: xxx Email: avkini@indamseeds.com
JK Agri Genetics Ltd	Dr. Sunil Kumar Bhatt , Head Research & Development (Field crops & Cotton), JK Agri Genetics Ltd., 1-10-177, 4th Floor, Varun Towers, Begumpet, Hyderabad - 500 016, Telangana. Tel: +91 (040) 66316858, Fax: +91 (040) 27764943, Mobile: +91 6302750755, Email: sunilbhatt@jkagri.com Dr. Nadiram Saha , Principal Breeder-Rice, Mobile: 9100722334, Email: nadiramsaha@jkagri.com Dr. Saikumar , Mobile: 9100722335, Email: saikumars@jkagri.com
Kaveri Seed Company Ltd	Dr. P. Santosh , Manager Rice Breeding, Kaveri Seed Company Ltd, 513-B, V Floor, Minerva Complex, S.D. Road, Secunderabad – 500 003, Telangana. Mobile: 9866076378, Email: santosh.p@kaveriseeds.in, paikarao_santosh@yahoo.co.in Dr B.P. Ravi Kumar , General Manager (Rice), Email: ravikumar.bp@kaveriseeds.in Dr. G.S. Satish , Chief Operating Officer, Email: satish.g@kaveriseeds.in
Longping India Seeds Pvt Ltd.,	Mr. Zhang Xiao , #102, 1 st floor, Varuna towers, Sri Vensai, Komapally, Hyderabad-500014, Telangana. Email: Maoxueqvan@lpht.com.cn, Zhangx@lpht.co.cn, Kiranlal@lpht.com.cn
Mahindra Agri Solutions Ltd	Dr. Ponnusamy Umashankar , Head: R&D, Mahindra Agri Solutions Ltd, H.No: 02-076/3/302, 3 rd Floor, Sai Baba Complex, Pet Basheerabad, Qudbullapur Mandal, Secunderabad - 500055, Telangana. Email: Ponnusamy.umashankar@mahindra.com, Mobile: +91-9701611152 Dr. Sharat Sonnad , Principal Breeder (Rice), Email: sonnad.sharatbabu@mahindra.com ; Mobile: 99081 74156
Mahyco	Dr. M S Ramesha , Mobile: +91 9441496778, Email: m.ramesha@mahyco.com Dr. Raman , Email: cjv.raman@mahyco.com, rams4janaki@gmail.com
Mali Agri Tech Pvt Ltd	Dr. Rajarshi Kundu , Managing Director, Mali Agri Tech Pvt Ltd, 80/1 Subhash Avenue, Ranaghat 741201, Email: maliseeds@yahoo.co.in ; Mobile: 9332182940
Metahelix Life Sciences Pvt. Limited	Dr. Sunil Naik , Metahelix Life Sciences Pvt. Limited, Plot No. 3, KIADB 4 th Phase, Bommasandra, Bangalore - 560 099, Karnataka. Mobile: +91 9100991095, Email: sunil.naik@rallis.com, Tel # 080-7870236, 7836086; Fax # 080-7836084 Dr Pradip Kumar , Email: pradip.kumar@rallis.com Dr Upendrs Kumar , Email: upendra.kumar@rallis.com
Namdhari Seeds Pvt. Ltd	Dr. N. Anand , Director-Research, Namdhari Seeds Pvt. Ltd., Sri Sai Arcade, No. 8, 12th Cross, 1st Phase, Ideal Homes Township, Rajarajeshwari Nagar, Bangalore - 560 098, Karnataka. Ph # 080-28602167/69, Fax # 080-28602168, Mobile: 9845310057. Dr. V.K. Jayaramaiah , Senior Breeder, Email: jayaramaiah@namdhariseeds.com, Tel: 09845471271/72, Mobile: 9845641651
Nath Bio-Genes (I) Ltd	Dr. Ish Kumar , Email: ish.kumar@nathseeds.com, Mobile: 90002 77764 Dr. S.U. Baig , Director - Technical, Nath Bio-Genes (I) Ltd., Nath House, Nath Road, P.B. No. 318, Aurangabad - 431 005, Maharashtra. Ph # 2376314 – 17; 2376686, 2376687, Fax # 0240-2376188, E-mail : baig@nathseeds.com
Nirmal Seeds Pvt. Ltd	Dr. I.S. Halakude , Research Manager, Nirmal Seeds Pvt. Ltd., Bhadgaon Road, Pachora - 424 201, Dist. Jalgaon, Maharashtra. Tel # 02596-244366/244396, Fax # 02596-244045, Email: ishalakude@nirmalseedsindia.com Dr Rajesh Shelke , Email: rnshelke@nirmalseedsindia.com
Nu Genes Pvt Ltd	Dr. K. Raghupathi Reddy , Director - Research, Nu Genes Pvt Ltd., Plot No. 18, 1 st Floor, NCL Enclave, Jeedimetla, NH-7, Medchal Road, Secunderabad-500055, Telangana. Ph # 040-27165569, Mobile # 9989623122, Email : nityaseeds@yahoo.com raghukotla15@gmail.com
Nuziveedu Seeds Limited	Dr. G.S. Varaprasad , Consultant (R&D), Survey No. 69, Kandlakoya, GundlaPochampally Village, Medchal Mandal, Ranga Reddy -501 401, Telangana. Mobile: +91 8886061385, Email: varaprasad.g@nuziveeduseeds.com

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Company	Name & Address
	Dr. S. Rama Krishna , Sr. Rice Breeder, Email: suraramakrishna@gmail.com , ramakrishna.dr@nuziveeduseeds.com , Mobile: 9581412503
Pallishree Limited	Dr. Pritam Das , Rice Breeder, Pallishree Limited, Merline Infinite, DN 51, Salt Lake, Sector V, Kolkata 700 091, West Bengal. Mobile: +91 92315 65383, Email: pritam.das@pallishree.com
PAN Seeds Private Limited	Dr. Alok Marodia , Director, PAN Seeds Private Limited, Suite 15, 2nd floor, 2N.C. Dutta Sarani, Kolkata - 700 001. Mobile: 98300 59473, E.mail : aloke@panseeds.in Mr. Debraj Kanrar , Sr. Rice Breeder, Email: debraj@panseeds.in , Mobile: 9474863116 Sri Ramashray Singh , Rice Breeder, Email: ramaashray@panseeds.in , Mobile: 94904 13293
Prabhat Agri Biotech Ltd	Dr. P. Sankar Rao , Prabhat Agri Biotech Ltd, #8-2-227/45, 1st Floor, UBI Colony, Road No. 3, Banjara Hills, Hyderabad - 500 034. Mobile: 9581412481, Ph: 040-23606616
Pravardhan Seeds Pvt. Ltd	Dr. V.N. Deshpande , Pravardhan Seeds Pvt Ltd, #8-2-227/45, Ground Floor, UBI Colony, Road No. 3, Banjara Hills, Hyderabad-500034. Mobile: 9581412481, Ph: 040-23541503
Rasi Seeds (P) Ltd	Dr. Jaya Prakash , Rasi Seeds (P) Ltd, Hyderabad Office: Sri Sai Silica, Plot No. 1-98/K#19, Krithica Layout, Near Nisum Technologies, Arunodaya Colony, Madhapur, Hyderabad - 500081, Telangana. Ph# 04282-241007, 242007, 40024725, Mobile: 8008101038; Fax # 04282-242558, Email: jayaprakash.t@rasiseeds.com
Savannah Seeds Pvt Ltd	Dr. Venkatesh Hubli , Director (Research), Savannah Seeds Pvt Ltd, PH-1A, 10 th Floor, Tower-A, Digital Greens, Golf Course Extn. Road, Sector-61, Gurgaon-122 102. Mobile: 9703918282, Email: vhubli@savannahseeds.com
Seed Works India Private Limited	Dr. Balaji Nukal , Managing Director, Seed Works India Private Limited, 437, Avenue 4, Banjara Hills, Hyderabad - 500 034. Ph # 040-23356354; Fax # 040-23356359, Mobile # 98494534535, Email : bnukal@prodigy.net Dr. Jagadeesha Gouda , Sr. Plant Breeder - Rice, Email: jagadeesha.gouda@seedworks.com Dr. Virupaxagouda Patil , Crop Breeder: Rice Email: Patil.virupaxagouda@seedworks.com , Mobile: +91-9553384891
Shakthi Seeds Pvt. Ltd	Dr. S. Rajeeva Reddy , Director, Shakthi Seeds Pvt. Ltd., 3-6-439/A, Himayathnagar, Hyderabad - 500 029. Ph # 040-27632373/27634390; 27562020(O), Email: shakthiseeds@gmail.com , vidyanath@hotmail.com Dr. Fiaj Mohammad , Breeder - Rice, Ph # 040-55504646; Fax # 040-27634390, Mobile# 09848920554, Email: faiz_km@rediffmail.com
Signet Crop Sciences India Pvt Ltd	Dr. Kuldeep Tyagi , Plot No. 1/P & 2, Rainforest, Bhel Vista (Near Dandamundi Enclave Main Gate), Petbasheerabad, Quthbullapur, Ranga Reddy Dist., Hyderabad, Telangana. Mobile: +91 9133300749, Email: kuldeeptyagik@gmail.com
Siri Seeds (India) Pvt Ltd	Mr. K. Rakesh Reddy , Director Marketing, Siri Seeds (India) Pvt Ltd, # 505, 5th Floor, 6-3-1099/1100, Babukhan's Millenium Centre, Raj Bhavan Road, Somajiguda, Hyderabad - 500 082. Te: 040 66630762; Fax: 040 23412670, Mobile: 7702966681, E-mail: koripally.rakesh@gmail.com Dr. Surendra Kumar , Director Research, Email: suren.kumar@siriseeds.com , eskay365@rediffmail.com , Mob: 9989451004
Syngenta India Limited	Dr. S. Sundar , Head of Rice Breeding, Syngenta India Limited, Survey No. 660 & 661, Nuthankal Village, Medchal Mandal, RR Dist 501401, Telangana. Email: sundar.s@syngenta.com , Mobile: +91-8008072390, Tel: +91-8418304500, Fax: +91-8418304595 Dr Thippeswamy , Email: Thippeswamy.Sanka@syngenta.com

Company	Name & Address
Tierra Seed Science Pvt Ltd	Dr. C.H.M. Vijayakumar , Director (Rice Research), Tierra Seed Science Pvt Ltd, Malaxmi Courtyard, Khajaguda, Golconda Post, Hyderabad-500 008. Email: vijayakumar@tierraagrotech.com, Mobile: 90009 88903; 96522 55366 Work: 040 4850 6656
TriMurti Plant Sciences Pvt Ltd	Dr. S.K. Ghosh , Vice President & Head (R&D), TriMurti Plant Sciences Pvt Ltd, # 101, MGR Estates, Dwarakapuri Colony, Panjagutta, Hyderabad - 500 082. Tel: 040 30611989; Fax: 040 2335567, Mobile: 83746333388, Email: ghosh@trimurti.in Dr. Amit Shukla , Sr. Rice Breeder, Email: ashukla@trimurti.in, Mob: 8374933388
Vikky's Agrisciences Pvt. Ltd	Dr. Y. Yogeswara Rao , Executive Director, Vikky's Agrisciences Pvt. Ltd, Plot No. 5, Sagar Society, Road No. 2, Banjara Hills, Hyderabad - 500 034. Ph # 040-23550251/52; Fax # 040-23550253, Mobile # 9642311120, Email: yogeswararao.vikkys@gmail.com
VNR Seeds Pvt. Ltd	Dr. K.C. Upadhaya , Head R&D, VNR Seeds Pvt. Ltd., First floor, Ratnagiri, Opp: RajKumar college, G.E. Road, Raipur - 492 001, (C.G) Mobile: 08008261509, E-mail: kc_upadhyay@yahoo.com.au, kc@vnrseeds.com

WEATHER DATA – KHARIF 2019

ANNAMALAINAGAR							
Latitude:	110.24' N		Longitude:	790.41' N		Elevation:	5.79 msl
Soil type:	Clay		Soil pH:	8.4		Soil texture:	Clay loam
	July	Aug	Sep	Oct	Nov	Dec	Total / Range
No. of rainy days	5	7	3	10	15	5	45
Total rainfall (mm)	68	195.0	26.9	302.4	375	84.2	1051.5
Avg. Max Temperature (°C)	36.1	35.3	34.2	31.1	29.5	29.1	29.1-36.1
Avg. Min. Temperature (°C)	26.1	25.0	24.9	24.8	23.7	22.3	22.3-26.1
* Avg. Sunshine hours	7.7	4.8	6.1	4.4	4.6	5.0	5.43
* Avg. wind velocity (Km/h)	6.1	5.3	3.2	2.2	2.0	2.6	3.56

ALMORA							
Latitude:	29° 36' N		Longitude:	79° 40' E		Elevation(m):	1250
Soil type:	Clay loam		Soil pH :	6.5		Soil texture:	Clay
	May	June	July	Aug.	Sep.	Oct.	Total / Range
No. of Rainy days	4	7	15	16	8	3	53
Total Rainfall (mm)	18.2	53.45	119.25	234.95	59.25	16.5	83.59
Avg. Max. Temp. (°C)	32.7	32.9	29.2	28.8	29.1	27.2	27.2-32.9
Avg. Mini. Temp. (°C)	11.3	16.9	19.2	20.3	19.1	11.2	11.2-20.3
Avg. Sunshine hours	8.13	7.63	3.83	4.40	5.12	7.00	6.01

BHUBANESWAR								
Latitude:	20° 15' N		Longitude:	85° 20' E		Elevation:		25.9 msl
Soil type:	Sandy		Soil pH :	5.9		Soil texture:		Sandy loam
	(June)	(July)	(Aug)	(Sept)	(Oct)	(Nov)	Dec	Total/Range
No. of Rainy days	13	20	21	15	11	1		81
Total Rainfall (mm)	144.6	341.7	319.3	406.5	312.6	5.3		255
Avg. Max. Temp. (°C)	35.5	32.8	32.1	32.1	32.2	30.2	28.1	28.1-35.5
Avg. Mini. Temp. (°C)	26.6	26.0	26.0	25.7	24.2	20.0	16.2	16.2-26.6
Avg. wind velocity (Km/hr)	2.0	1.4	0.9	0.8	0.3	0.7	0.5	0.94
Avg. Sunshine hours	6.2	4.4	2.7	4.0	6.3	6.1	5.6	5.04

BRAHMAVAR							
Latitude:	13° 25' N		Longitude:	75° 45' E		Elevation	10 msl
Soil type:	Laterite		Soil pH:	5.5		Soil texture	Light Textured
	July	August	Sep	Oct	Nov	Dec	Total / Range
No. of rainy days	20	30	29	24	15	2	120
Total rainfall (mm)	512.2	1128.6	1345.2	659.7	644.4	33.9	720.6
Avg. Max Temp. (°C)	32.36	29.59	29.04	30.18	31.36	33.44	29.04-33.44
Avg. Min. Temp. (°C)	23.21	21.88	21.63	21.91	21.75	21.54	21.54-23.21
* Avg. Sunshine hours	2.60	1.55	1.79	3.72	5.15	8.80	3.93
* Avg. wind velocity	5.26	4.99	4.90	3.79	4.01	3.10	91.1

CANNING							
Latitude	22° 15' N		Longitude	88° 40' E		Elevation (m)	3.0
Soil type	Coastal saline		Soil pH	6.5		Soil texture	Heavy
	July	Aug	Sept	Oct	Nov	Dec	Total/ Range
No. of rainy days	10	23	13	7	2	1	56
Total Rainfall (mm)	213.6	458.3	324.1	195.0	230.2	12.0	238.8
Avg. Max. Temp. (°C)	34.3	32.6	31.8	32.2	29.6	25.3	25.3-34.3
Avg. Mini. Temp. (°C)	27.1	26.5	26.5	24.9	20.3	14.9	14.9-27.1
* Avg. Sunshine hours	3.4	4.6	4.7	5.7	4.7	6.6	4.95
* Avg. wind velocity (KMPH)	6.2	5.4	4.2	2.6	1.5	2.1	

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

CHATHA							
Latitude:	32° 40' N		Longitude:	74° 48'E		Elevation:	293
Soil type:			Soil pH:	7.0		Soil texture:	Clay loam
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of Rainy days	4	11	8	7	3	3	36
Total Rainfall (mm)	24.2	322.8	172.7	168.2	30.6	77.4	132.65
Avg. Max. Temp. (°C)	40.5	34.7	33.7	33.0	29.4	24.0	24.0-40.5
Avg. Mini. Temp. (°C)	24.1	26.3	25.9	24.6	17.2	13.0	13.0-26.3
Avg. Sunshine hours	8.1	4.5	7.0	5.2	7.0	4.2	6
Avg. wind velocity	5.4	4.5	3.1	2.2	1.9	2.0	3.18

CHINSURAH							
Latitude:	22° 52' N		Longitude:	88° 24' E		Elevation:	8.62 msl
Soil type:	Clay Loam		Soil pH:	7.3		Soil texture:	Alluvium
	June	July	Aug.	Sep.	Oct.	Nov	Total / Range
No. of Rainy days	9	16	12	22	12	2	73
Total Rainfall (mm)	74.4	183.6	285.6	162.2	121.2	87.3	152.3
Avg. Max. Temp. (°C)	36.53	35.10	33.66	33.97	31.68	29.79	29.79-36.53
Avg. Mini. Temp. (°C)	25.38	24.40	24.24	24.72	18.15	10.99	10.99-25.38

CHIPLIMA							
Latitude:	20°21'N		Longitude:	80°55'E		Elevation:	178.8 m MSL
Soil type:	Mixed Red, Black & Lateritic		Soil pH:			Soil texture:	
	(June)	(July)	(August)	(September)	October)	(November)	Total/Range
No. of Rainy days	09	10	09	04	-	-	32
Total Rainfall (mm)	217.8	241.3	357.9	116.5	-	-	233.3
Avg. Max. Temp. (°C)	35.2	31.9	31.6	33.0	32.5	28.8	28.8-35.2
Avg. Mini. Temp. (°C)	24.6	24.6	24.7	23.5	20.4	14.3	14.3-24.7

COIMBATORE							
Latitude	11° N	Longitude:	77° E			Elevation (m):	426.72 m
Soil type	Clay	Soil pH	7.8			Soil Texture:	Heavy
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of Rainy days	5	9	12	15	17	-	58
Total Rainfall (mm)	21.0	8.5	221.3	57.3	246.9	-	111
Avg. Max. Temp. (°C)	33.5	31.8	30.0	30.9	30.7	-	30.0-33.5
Avg. Mini. Temp. (°C)	32.1	23.7	23.1	23.4	22.7	-	22.7-32.1
Solar radiation (CAL/CM ²)	365.4	314.9	267.2	317.4	302.3	-	313.4
Avg. Sunshine hours	7.2	4.7	3.9	5.3	6.0	-	5.42
Avg. wind velocity	11.2	11.7	9.2	7.7	4.8	-	8.92

CUTTACK							
Latitude:	20.5° N		Longitude:	86.0° N		Elevation(m) :	23.8 MSL
Soil type:	Clay loam		Soil pH:			Soil Texture:	
	Aug.	Sep.	Oct.	Nov.	Dec.	-	Total / Range
No. of Rainy days	16	15	12.0	1.0	0.0	-	44
Total Rainfall (mm)	522	529	746.8	6.4	0.0	-	360.8
Avg. Max. Temp. (°C)	31.94	31.69	31.55	29.61	27.01	-	27.01-31.94
Avg. Mini. Temp. (°C)	25.51	25.09	24.07	20.52	16.70	-	16.70-25.51
Avg. Sunshine hours	3.06	3.41	5.7	6.1	5.5	-	4.75
Avg. wind velocity						-	

DABHOI							
Latitude:	22° 08'		Longitude:	73° 26'		Elevation (m):	43.128
Soil type:	Medium Black		Soil pH:	7.9		Soil texture:	Medium
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of Rainy days	04	05	15	15	02	-	41
Total Rainfall (mm)	103.40	120.20	458.20	207.20	46.00	-	155.8
Avg. Max. Temp. (°C)	38.8	34.8	31.1	31.6	33.4	32.0	31.1-38.8
Avg. Mini. Temp. (°C)	26.1	26.5	25.4	25.2	21.9	20.18	20.18-26.5
Avg. Sunshine hours	7.1	3.9	5.6	5.0	8.8	7.1	6.25
Avg. Wind Velocity	7.7	7.8	5.6	2.4	2.7	2.3	4.75

DEROL							
Latitude:	22° 36'		Longitude:	73° 27'		Elevation (m):	83.14
Soil type:	Sandy Loam		Soil pH:	7.3		Soil texture:	
	July	Aug.	Sep.	Oct.	Nov.	Dec	Total / Range
No. of Rainy days	8	17	14	2	1	-	42
Total Rainfall (mm)	145.0	698.4	208.8	29.8	21.4	-	220.6
Avg. Max. Temp. (°C)	33.8	30.0	31.2	32.2	31.4	-	30.0-33.8
Avg. Mini. Temp. (°C)	26.0	25.4	24.5	20.6	17.2	-	17.2-26.0
Avg. Sunshine hours	4.0	2.4	2.8	6.8	6.9	-	4.58
Avg. Wind Velocity	6.3	3.4	1.7	5.8	5.4	-	4.52

GANGAVATI									
Latitude:	15° 15' N			Longitude:	76° 31' E		Elevation:	419m msl	
Soil type:	Medium Black			Soil pH/EC	6.5-7.5		Soil texture:	Fine	
	July	Aug.	Sep.	Oct.	Nov.	Dec			Total / Range
No. of Rainy days	9	5	14	12	1	2	-	-	43
Total Rainfall (mm)	57.00	37.90	251.40	160.90	6.10	6.3	-	-	103.9
Avg. Max. Temp. (°C)	32.19	29.87	29.73	30.58	30.00	28.71	-	-	28.71-32.19
Avg. Mini. Temp. (°C)	23.58	22.51	22.80	21.90	19.56	17.58	-	-	17.58-23.58

GERUA								
Latitude:	26° 14' N	Longitude:	91° 33' E		Elevation (m):			49.0 MSL
Soil type:	Alluvial	Soil pH:	5.7-5.9		Soil texture:			Clay Loam
	June	July	Aug.	Sep.	Oct.	Nov.	Dec	Total / Range
No. of Rainy days	10	15	09	12	06	01	-	53
Total Rainfall (mm)	210.9	415.9	204.1	266.8	134.3	8.6	-	177.2
Avg. Max. Temp. (°C)	34.4	33.3	35.6	31.9	30.5	29.49	23.03	23.03-35.6
Avg. Mini. Temp. (°C)	24.0	25.6	26.1	24.5	21.7	18.25	11.5	11.5-26.1

GHAGHRAGHAT									
Latitude:	27° 50' N			Longitude:	81° 20' E		Elevation:	112 msl	
Soil type:	Sandy loam						Soil texture:		
	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec	Total / Range
No. of Rainy days	-	03	17	18	15	01	-	02	56
Total Rainfall (mm)	-	53.4	482.4	250.4	424.4	5.6	-	24.0	697.7
Avg. Max. Temp. (°C)	41.48	40.20	32.80	32.32	30.47	30.61	28.73	21.48	21.48-41.48
Avg. Mini. Temp. (°C)	25.87	28.10	26.39	25.65	24.57	19.71	15.93	9.13	9.13-28.10

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

HATHWARA									
Latitude:	23° 20' N			Longitude:		86° 25' E		Elevation:	255
Soil type:	Light			Soil pH:		5.8		Soil texture:	Sandy Loamy
	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec	Total / Range
No. of Rainy days	6	7	12	17	17	7	-	2	68
Total Rainfall (mm)	135.0	113.4	181.4	285.5	296.3	138.6	-	11.8	145.2
Avg. Max. Temp. (°C)	38.4	37.4	33.1	31.7	31.0	29.6	29.2	23.9	23.9-38.4
Avg. Mini. Temp. (°C)	23.5	25.0	24.3	24.2	23.6	20.2	15.2	11.0	11.0-25.0
Avg. Sunshine hours	9.6	7.0	4.8	4.6	4.1	4.1	6.2	4.9	5.66
Avg. wind velocity (Km/h)	2.7	1.6	1.3	1.1	1.5	0.5	0.2	0.2	1.13

JAGDALPUR							
Latitude:	19.05°N			Longitude:		82.02°	
Soil type:	Alfisol			Soil pH:		6.5	
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of rainy days	9	21	22	16	11	0	79
Total Rainfall (mm)	221	622.5	582.2	499	237.8	0.4	360.4
Avg. Max. Temp. (°C)	34.8	28.9	28.7	29.4	30.2	29.5	28.7-34.8
Avg. Mini. Temp. (°C)	24.6	22.6	22.4	22.5	20.9	14.8	14.8-24.6
Avg. Sunshine hours	4.3	1.9	2.4	2.7	5.0	7.1	2.9
Avg. wind velocity (km/h)	5.8	5.5	4.8	3.3	1.4	1.4	3.7

JEYPORE								
Latitude:	18.60° N			Longitude:		82.44° E		Elevation:
Soil type:	Acidic			Soil pH:		6.6		553
	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total / Range
No. of rainy days	13	29	26	22	19	1	0	110
Total Rainfall (mm)	215.50	681.10	755.00	399.00	297.80	48.40	0.00	254.8
Avg. Max. Temp. (°C)	40	34	32	33	32	31	30	30-40
Avg. Mini. Temp. (°C)	21	20	20	21	19	13	9	9-21

KARJAT							
Latitude:	18° 55' N			Longitude:		73° 18' E	
Soil type:	Medium black			Soil pH:		6.2	
	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total / Range
No. of Rainy days	11	28	26	25	14	1	105
Total Rainfall (mm)	536.80	1985.20	1111.50	1267.40	293.70	2.60	86.6
Avg. Max. Temp (°C)	34.79	29.53	29.54	29.10	32.28	33.61	29.53-34.79
Avg. Mini Temp (°C)	25.91	24.19	24.41	23.61	22.65	20.94	20.94-25.91
Avg. Sunshine hours	3.48	1.45	2.74	2.00	4.64	6.76	3.51

KHUDWANI								
Latitude:	34° N			Longitude:		73° E		Elevation(m):
Soil type:	Clay loam			Soil pH:		Neutral		1560 msl
	April	May	June	July	Aug	Sep	Oct	Total / Range
No. of rainy days	2	3	4	2	4	0	1	16
Total Rainfall (mm)	50.2	89.0	104.1	104.8	117.8	0	32.6	56.2
Avg. Max. Temp. (°C)	21.9	23.2	26.0	30.5	29.4	30.7	21.9	21.9-30.5
Avg. Mini. Temp. (°C)	6.94	8.2	10.7	16.5	16.2	12.3	5.95	8.2-16.5
Avg. Sunshine hours	5.7	6.7	7.5	7.6	7.0	8.0	5.5	8
Avg. wind velocity (Km/h)	1.2	1.2	1.4	1.1	0.65	0.9	0.8	1.20

KAUL							
Latitude:	29° 51' N			Longitude:		76° 39' E	
Soil type:	Clay loam			Soil pH:		7.8	
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of Rainy days	2	9	5	1	0	1	18
Total Rainfall (mm)	19.8	326.9	215.8	20.2	0.00	16.4	99.8
Avg. Max. Temp. (°C)	41.1	33.6	32.4	32.3	31.1	26.7	26.7-41.1
Avg. Mini Temp. (°C)	23.5	25.1	25.0	23.5	16.5	11.4	11.4-25.1
Avg. Sunshine hours	8.9	5.1	5.9	6.4	7.1	-	16.2
Avg. wind velocity (Km/h)	7.4	5.1	3.5	2.7	2.4	3.4	4.08

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

KURUMBAPET								
Latitude:	11° 45' N			Longitude:	79° 35' E		Elevation:	26 msl
Soil type:	Clay loam			Soil pH:	6.2		Soil texture:	Clay loam
	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total / Range
Total rainfall (mm)	1.6	137.6	201	212	135.2	278.7	44.4	101.5
Avg. Max. Temp. (°C)	38	35.67	34.5	33.93	32.5	31.11	29.64	29.64-38
Avg. Mini Temp. (°C)	28.31	26.34	25.11	23.62	23.94	22.83	20.92	20.92-28.31

LUCKNOW								
Latitude:	26° 47' N			Longitude:	80° 46' E		Elevation:	120 msl
Soil type: - Typic Natrustalfs	Soil EC: 1.2			Soil pH:	9.7		Soil texture:	Sandy loam
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range	
No. of Rainy days	4	15	16	11	2	0		48
Total Rainfall (mm)	20.86	254.4	316.4	286.10	3.88	0		146.9
Avg. Max. Temp. (°C)	45.0	38.5	35.0	35.5	34.1	30.5		30.5-45.0
Avg. Mini Temp. (°C)	25.5	25.0	24.5	24.5	20.0	13.0		13.0-25.5

LUDHIANA								
Latitude:	30°54' N			Longitude:	75° 48' E		Elevation:	247 msl
Soil type:	Loamy Sand			Soil pH:	7.7		Soil texture:	
	May	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of Rainy Days	2	1	10	8	7	0	-	28
Total rainfall (mm)	10.0	29.9	218.4	331.4	264.8	0	2.6	122.4
Avg. Max. Temp. (°C)	38.0	40.0	34.0	33.8	33.2	30.6	26.80	26.8-40.0
Avg. Mini Temp. (°C)	22.1	26.9	26.9	31.4	25.5	18.4	11.80	11.80-31.4
Avg. Sunshine hours	9.8	10.2	4.2	6.5	6.1	6.4	5.76	6.99
Avg. wind velocity	4.6	6.0	5.7	3.5	3.3	2.1	2.48	3.95

MACHILIPATNAM								
Latitude:	8.150 E			Longitude:	16.170N		Elevation:	14
Soil type: Sandy Loams	Coastal sandy loam			Soil pH:	9.17		Soil texture:	Sandy loam
	July	August	Sep.	Oct.	Nov	Dec	Total / Range	
No. of Rainy days	14	10	13	17	1	-		55
Total Rainfall (mm)	244.1	160.6	142.0	383.5	2.8	-		155.5
Avg. Max. Temp. (°C)	34.6	34.3	33.3	30.9	29.0	27.8		27.8-34.6
Avg. Mini Temp. (°C)	26.8	26.7	26.4	24.9	22.1	19.8		19.8-26.8

MALAN								
Latitude:	32° 1' N			Longitude:	76° 20' E		Elevation:	950 m
Soil type:	Alfisol			Soil pH:	5.6- 5.8		Soil texture :	Silty clay loam
	May	June	July	August	Sept.	Oct.	Total / Range	
No. of Rainy days	2	4	15	12	6	1		40
Total Rainfall (mm)	33.4	25.6	438.5	407.1	203.7	18.4		187.7
Avg. Max. Temp. (°C)	33.1	35.3	31.1	30.2	30.1	24.8		24.8-35.3
Avg. Mini Temp. (°C)	15.9	18.2	18.6	16.2	15.0	13.9		13.9-18.6

MANDYA								
Latitude	12.45°- 13.57° N			Longitude	76.48°- 78.24° E		Elevation (m):	695
Soil type	Sandy Loam			Soil pH	6.5- 7.1		Soil texture:	Sandy loam
	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total / Range	
No. of Rainy days	02	14	06	15	01	00	-	38
Total Rainfall (mm)	14.20	121.20	151.50	330.80	16.90	2.00	-	106.1
Avg. Max. Temp. (°C)	33.0	28.9	31.3	31.4	30.9	27.8	-	27.8-33.0
Avg. Mini. Temp.(°C)	21.5	18.7	19.0	18.8	18.2	17.3	-	17.3-21.5
Avg. Sunshine hours	4.47	3.10	4.52	7.12	7.58	5.97	-	5.46
Avg. wind velocity (Km/h)	5.64	4.93	3.86	2.17	2.05	2.47	-	3.52

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

MARUTERU							
Latitude	16.38° N		Longitude:	81.44° E		Elevation (m)	
Soil type	Black alluvial clay		Soil pH:	6.5- 7.5		Soil Texture:	Delta alluvial
	July	Aug.	Sep.	Oct.	Nov.	Dec	Total / Range
No. of Rainy days	4	12	11	12	12	0	51
Total Rainfall (mm)	42.1	297.3	142.3	259.9	181.8	0	184.6
Avg. Max. Temp. (°C)	35.00	31.77	30.39	31.42	31.16	30.95	30.39-35.00
Avg. Mini. Temp. (°C)	21.63	21.52	21.73	27.62	22.61	22.61	21.52-27.62
Avg. Sunshine hours	5.13	3.74	4.33	3.79	4.68	6.80	4.74
Avg. wind velocity (Km/h)	2.94	4.63	8.21	4.72	1.91	2.24	4.10

MODIPURAM							
Latitude	29.088		Longitude:	77.702		Elevation(m)	232 MSL
Soil type	Black		Soil pH:	8.0		Soil Texture:	Clay Loam
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of Rainy days	-	9	12	2	1	2	26
Total Rainfall (mm)	2.1	250.7	207.2	104.7	22.9	30.0	102.9
Avg. Max. Temp. (°C)	41.13	37.13	34.0	33.4	31.2	28.78	28.78-41.13
Avg. Mini. Temp. (°C)	26.29	24.52	25.0	24.0	18.3	13.26	13.26-26.29
* Avg. Sunshine hours	9.17	5.61	5.2	7.2	7.6	6.80	6.93
* Avg. wind velocity	13.73	12.93	4.6	0.7	0.9	6.23	6.51

MUGAD							
Latitude:	15° 15' N		Longitude:	75° 40' E		Elevation:	697 MSL
Soil type:	Red Laterite		Soil pH :	6.4		Soil texture:	Silty Clay Loam
	June	July	Aug.	Sep.	Oct.	Nov.	Dec
No. of Rainy days	10	24	19	12	16	03	00
Total Rainfall (mm)	168.2	369.2	811.0	124.6	455.4	105.0	0.0

NAVSARI							
Latitude:	20° 57'		Longitude:	72° 24'		Elevation:	10 msl
Soil type:	Clayey		Soil pH	7.5		Soil texture:	Clayey
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of Rainy days	7	15	17	20	4	3	66
Total Rainfall (mm)	262.0	491.0	535.0	750.0	95.0	37.0	361.6
Avg. Max. Temp. (°C)	33.5	31.4	29.9	30.9	33.4	33.2	29.9-33.5
Avg. Mini Temp (°C)	25.4	24.2	23.5	22.9	21.5	19.1	19.1-25.4
Avg. Sunshine hours	6.1	2.3	2.7	2.8	5.9	7.0	4.46
Avg. wind velocity (Km/h)	6.7	5.1	5.0	3.2	2.2	1.1	3.88

NAWAGAM							
Latitude:	22° 48'		Longitude:	71° 3'		Elevation:	32.4 msl
Soil type:	Medium black		Soil pH:	7.8		Soil texture:	Sandy Clay Loam
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of Rainy days	04	05	15	15	02	-	41
Total Rainfall (mm)	103.40	120.20	458.20	207.20	46.00	-	187
Avg. Max. Temp. (°C)	38.8	34.8	31.1	31.6	33.4	32.0	31.1-38.8
Avg. Mini Temp (°C)	26.1	26.5	25.4	25.2	21.9	20.18	20.18-26.5
Avg. Sunshine hours	7.1	3.9	5.6	5.0	8.8	7.1	6.25
Avg. wind velocity (Km/h)	7.7	7.8	5.6	2.4	2.7	2.3	4.75

NAGINA							
Latitude:	29° 28' N		Longitude:	78° 32' E		Elevation:	450 msl
Soil type:	Sandy loam		Soil pH:	7.5		Soil texture:	-
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of Rainy days	2	16	10	9	0	2	39
Total Rainfall (mm)	18.2	494.6	400.2	120.6	00.0	13.4	174.5
Avg. Max. Temp. (°C)	39.0	32.9	33.0	32.8	30.0	26.3	26.3-39.0
Avg. Mini Temp. (°C)	25.0	25.0	25.4	24.6	17.0	10.8	10.8-25.4
Avg. Sunshine hours	9.5	5.3	6.3	6.6	6.7	6.3	6.78
Avg. wind velocity (Km/h)	5.7	4.1	3.7	3.0	1.8	2.8	3.51

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

PALAMPUR							
Latitude:	32.11° N		Longitude:	76.53° East		Elevation:	1268 msl
Soil type:	Alfisol		Soil pH:	5.5		Soil texture:	Silty Clay loam
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of rainy days							
Total Rainfall (mm)	7	396.9	588.3	359.4	70.1		284.3
Avg. Max. Temp. (°C)	31.6	27.6	26.4	26.88	23.98		23.9-31.6
Avg. Mini Temp. (°C)	20.2	19.7	19.5	17.96	11.76		11.76-20.2

PANVEL							
Latitude:	18° 59' N		Longitude:	73° 10' E		Elevation(m):	5 msl
Soil type:	Coastal Saline		Soil pH:	7-8		Soil texture:	Silty Clay
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of rainy days	8	29	25	24	10	2	98
Total Rainfall (mm)	593	2079	740.2	1211.56	176.2	23.0	557.0
Avg. Max. Temp. (°C)	33.33	28.80	29.64	29.03	32.84	33.35	29.03-33.35
Avg. Mini Temp. (°C)	26.33	24.29	24.37	24.94	24.19	21.11	21.11-26.33
* Avg. Sunshine hours	4.49	1.37	2.12	1.70	4.52	6.16	3.39
Avg. wind velocity (Km/h)	7.13	6.91	8.40	4.62	1.59	2.39	5.17

PARBHANI							
Latitude:	19° 16' N		Longitude:	76° 47' E		Elevation(m):	409 msl
Soil type:	Black Cotton Soil		Soil pH:	7.7		Soil texture:	Clay
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of rainy days	09	11	07	14	10	02	53
Total Rainfall (mm)	91.1	135.1	187.9	287.8	248.9	11.8	123.1
Avg. Max. Temp. (°C)	38.5	32.4	31.3	30.4	30.7	30.4	30.4-38.5
Avg. Mini Temp. (°C)	24.9	22.7	21.9	21.4	20.1	16.1	16.1-24.9
Avg. Sunshine hours	7.0	4.8	5.0	4.3	6.2	8.2	5.91
Avg. wind velocity (Km/h)	6.8	6.8	5.6	4.3	3.3	2.4	4.86

PATNA -ICAR							
Latitude:	25.30° N		Longitude:	85.15° E		Elevation(m):	52 msl
Soil type:	Alluvial		Soil pH:	7.5		Soil texture:	Clay loam
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of Rainy days	04	14	10	12	00	00	40
Total Rainfall (mm)	61.7	322.6	117.3	550.4	2.2	00	175.7
Avg. Max. Temp. (°C)	38.5	33.2	33.3	31.5	30.2	28.6	28.6-38.5
Avg. Mini. Temp. (°C)	28.6	27.1	27.07	26.18	23.0	17.1	17.1-28.6
Avg. Sunshine hours/day	2.89	3.93	4.90	3.48	4.04	4.17	3.90
Avg. wind velocity	9.93	8.40	7.32	7.79	2.28	1.99	6.28

PATTAMBI							
Latitude:	10° 48' N		Longitude	76° 12' E		Elevation:	25.36 msl
Soil type:	Sandy loam		Soil pH:	5.3		Soil texture:	-
	July	August	Sep	Oct	Nov	Dec	Total / Range
No. of Rainy days	24	16	19	4	1	0	64
Total Rainfall (mm)	1090.3	386.6	455.1	48.6	6.0	0	331.1
Avg. Max. Temp. (°C)	29.3	30.7	31.6	32.3	31.9	31.0	29.3-32.3
Avg. Mini. Temp. (°C)	21.1	21.8	21.0	21.1	20.8	19.6	19.6-21.8
Avg. Sunshine hours/day	2.1	4.4	5.7	6.6	7.1	7.9	5.63
Avg. Wind velocity	7.32	5.52	5.14	6.91	7.45	4.45	6.13

RANCHI							
Latitude:	27° 17' N		Longitude:	88° 19' E		Elevation:	625
Soil type:	Sandy Loam		Soil pH:			Soil texture:	
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of Rainy days	2.0	14.0	16.0	18.0	8.0	0.0	58
Total Rainfall (mm)	90.0	254.9	332.3	290.5	261.2	0.0	245.7
Avg. Max. Temp. (°C)	38.3	32.2	30.2	30.2	28.0	27.0	27.0-38.3
Avg. Mini. Temp. (°C)	24.5	23.3	23.3	22.6	19.7	12.8	12.8-24.5
Avg. Sunshine hours	231.5	131.0	78.4	129.2	188.6	236.4	165.8
Avg. wind velocity	3.3	3.1	2.9	3.0	2.7	2.7	2.95

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

RAIPUR							
Latitude:	21.2514° N		Longitude:	81.6296° E		Elevation:	298
Soil type:	Red-yellow soil		Soil pH:	7.1-7.3		Soil texture:	Loamy clay
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of Rainy days	5	10	9	13	4	0	41
Total Rainfall (mm)	75.8	211.5	301.6	451.1	81.6	0	224.3
Avg. Max. Temp. (°C)	40.5	32.4	30.4	31	30.6	30.2	30.2-40.5
Avg. Mini. Temp. (°C)	28.5	25.6	25.2	24.9	23	17.2	17.2-28.5
Avg. Sunshine hours	6	3.3	2.4	4.6	5.5	7.5	4.88
Avg. wind velocity	6.7	7.6	7.6	5.2	3	1.6	5.28

REWA							
Latitude:	24° 30' N		Longitude:	81° 2' E		Elevation(m):	360 msl
Soil type:	Clay Loam		Soil pH:	7.3		Soil texture	Silty Clay Loam
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of Rainy days	2	15	19	17	4	0	57
Total Rainfall (mm)	40.6	364.4	517.2	335.6	42.8	0.0	260.12
Avg. Max. Temp. (°C)	42.3	34.9	33.2	33.1	31.1	30.5	30.5-42.3
Avg. Mini. Temp. (°C)	26.9	25.5	25.8	24.9	20.0	14.4	14.4-26.9

SAKOLI							
Latitude:	20° 04' 01 N		Longitude:	79° 59' 17 E		Elevation (m):	243 msl
Soil type:	Lateritic		Soil pH:	6.57 - 7.02		Soil texture:	Clay loam
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of Rainy days	03	19	18	18	03	03	64
Total Rainfall (mm)	38.00	418.6	491.3	252.8	32.4	38.00	211.8

SHIRGAON							
Latitude:	17° 50' N		Longitude	73° E		Elevation(m):	10
Soil type:	Laterite		Soil pH:	6.7		Soil Texture:	Porous
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of Rainy days	17	31	26	20	11	0	105
Total Rainfall (mm)	674.1	1281.3	774.9	875.9	269.9	1.2	646.21
Avg. Max. Temp. (°C)	32.7	30.8	30.3	30.2	32.1	34.1	30.2-34.1
Avg. Mini. Temp. (°C)	25.7	24.0	24.5	23.9	23.2	22.3	22.3-25.7
Avg. Sunshine hours	4.7	1.5	0.2	2.9	5.7	8.2	3.86
Avg. wind velocity	4.5	4.9	4.7	3.4	2.2	1.8	3.58
Humidity (%)	Morning	86.5	90.6	90.0	93.8	93.0	89.8
	Evening	75.6	84.1	81.6	81.5	73.8	59.0

TITABAR							
Latitude:	26° 35' N		Longitude:	90° 10' E		Elevation:	99.4 msl
Soil type:	Old alluvial		Soil pH:	5.2		Soil texture:	Clay loam
	July	Aug.	Sep.	Oct.	Nov	Dec.	Total / Range
No. of Rainy days	18	17	23	15	22	0	95
Total Rainfall (mm)	265.8	408.6	171.2	346.4	166.6	0	271.7
Avg. Max. Temp. (°C)	33.1	32.4	34	32.1	30.1	28.5	28.5-34
Avg. Mini. Temp. (°C)	24	24.1	23.9	22.3	20.1	15.4	15.4-24.1

VARANASI							
Latitude	25° 20' N		Longitude	23° 03'E		Elevation (m)	75.7
Soil type	Medium		Soil pH	7.2		Soil texture	Sandy loam
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of Rainy days	03	07	15	12	03	00	40
Total Rainfall (mm)	21.9	279.9	232.8	474.9	52	00	212.3
Avg. Max. Temp. (°C)	41.2	34.9	34.1	32.3	30.9	29.5	29.5-41.2
Avg. Mini. Temp. (°C)	29.6	27.6	27.1	26.4	23.4	17.6	17.6-29.6
RH (%)	50.13	76.66	84.47	87.2	85.3	81.3	
Avg. Sunshine hours	8.45	4.69	5.67	4.3	4.7	6.2	5.66
Avg. wind velocity	5.37	4.03	3.97	4.5	1.5	1.0	3.39

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

WARASEONI							
Latitude:	21°45' N		Longitude:	80°50' E		Elevation:	301 msl
Soil type:	Sandy loam		Soil pH:	7.5		Soil texture:	
	June	July	Aug.	Sep.	Oct.	Nov	Total / Range.
No. of rainy days	4	16	20	21	1		62
Total rainfall (mm)	55.3	344.6	524.5	333.8	19		255.4

WARANGAL							
Latitude	17.58° N		Longitude	17.28° N		Elevation (m)	260
Soil type	Sandy loam		Soil pH	7.5-8.0		Soil texture	Sandy
	June	July	Aug.	Sep.	Oct.	Nov.	Total / Range
No. of Rainy days	15	14	13	10	1	-	53
Total Rainfall (mm)	232.6	366.2	361	229	22.6	-	1211.40
Avg. Max. Temp. (°C)	33.1	30.3	30.1	30.4	30.2	28.6	28.6-33.1
Avg. Mini. Temp. (°C)	24.0	23.5	23.2	22.3	19.2	17.2	17.2-24.0
Avg. Sunshine hours	3.96	2.30	4.23	3.05	4.93	5.4	3.98

Trials Sent and Data Receipt

Funded Locations - 2019

Region	State	Location	Trials Sent	Data receipt	Failed/late receipt
Zone I-Hills	<i>Himachal Pradesh</i>	Malan	11	9	
	<i>Jammu Kashmir</i>	Khudwani	10	7	
	<i>Meghalaya</i>	Upper Shillong	8	8	
	<i>Manipur</i>	Wangbal	9	9	
Zone II-Northern	<i>Uttarakhand</i>	Pantnagar	10	10	
	<i>Punjab</i>	Ludhiana	13	13	
	<i>Haryana</i>	Kaul	14	11	
	<i>Uttar Pradesh</i>	Nagina	3	3	
		Kanpur	2	2	
	<i>Jammu Kashmir</i>	Chatha	6	6	
	<i>Rajasthan</i>	Kota	4	4	
	<i>Odisha</i>	Jeypore	16	16	
Zone III-Eastern		Chiplima	7	6	
	<i>Bihar</i>	Bikramganj (Patna)	9	8	
		Pusa	14	14	
	<i>Jharkhand</i>	Ranchi	14	14	
	<i>West Bengal</i>	Bankura	7	7	
		Chinsurah	24	20	
	<i>Uttar Pradesh</i>	Masodha	24	17	
		Ghaghraghat	6	6	
Zone IV-North Eastern		Varanasi	19	11	2
	<i>Assam</i>	Titabar	16	5	
	<i>Tripura</i>	Arundhutinagar	9	5	
Zone V- Central	<i>Madhya Pradesh</i>	Rewa	8	8	
	<i>Chhattisgarh</i>	Raipur	18	15	
		Jagadapur	15	15	
	<i>Maharashtra</i>	Sakoli	12	12	
Zone VI- Western	<i>Maharashtra</i>	Karjat	10	10	
	<i>Gujarat</i>	Nawagam	10	10	
		Navsari	12	12	
Zone VII-Southern	<i>Andhra Pradesh</i>	Maruteru	15	15	
	<i>Telangana</i>	Rajendranagar	8	8	
		Warangal	11	11	
	<i>Tamil Nadu</i>	Aduthurai	11	11	
		Coimbatore	17	14	
	<i>Kerala</i>	Moncompu	5	5	
		Pattambi	8	8	
	<i>Karnataka</i>	Mandya	11	11	
		Mugad	10	10	
		Brahmavar	10	10	
		Ponnampet	7	7	
		Gangavati	7	7	
	<i>Puducherry</i>	Kurumbapet	6	6	
		Total	466	416	2

Voluntary Locations-2019

Region	State	Location	Trials Sent	Data receipt	Failed/late receipt
Zone I-Hills	Jammu & Kashmir	Rajouri	6	3	
		Pombay (Khudwani)	6	6	
		Wadlura (Khudwani)	6	6	
	Himachal Pradesh	Dhaulakaun	6	6	
		Palampur	3	3	
	Uttarakhand	Almora-ICAR	9	9	
		Bageswar (Almora)	2	2	
	Meghalaya	Umiam-ICAR	6	3	
		Umiam-CAU	6	4	
	Manipur	Lamphelpat-ICAR	5	5	
		Imphal-CAU	8	3	
	Sikkim	Gangtok	3	3	
	West Bengal	Kalimpong	2	0	
Zone II-North Western	Delhi	IARI- New Delhi	3	2	
	Punjab	Gurdaspur	2	2	
		Rauni	2	2	
		Kapurthala	4	4	
	Haryana	Kamal (CSSRI)	7	7	
		Palwal (CSSRI)	2	2	
		Kurukshetra (CSSRI)	2	2	
		Panipat (CSSRI)	2	2	
	Rajasthan	Banswara	4	0	
	Uttar Pradesh	BEDF, Modipuram	2	2	
Zone III-Eastern	Odisha	Bhubaneswar	18	7	
		NIRRI (Cuttack)	29	22	
	Bihar	Patna-ICAR	7	7	
		Sabour	11	9	
	Jharkhand	Hazaribagh	8	8	
		Garhkhatanga	6	0	
	West Bengal	Pundhbari	7	5	
		Canning-ICAR	3	3	
		Hathwara	3	3	
		Chakdaha	2	0	
	Uttar Pradesh	Lucknow-ICAR	2	1	
		Gautam Buda Nagar (CSSRI)	2	2	
Zone IV- North Eastern	Assam	Karimganj	2	0	
		Gerua-ICAR	17	2	
	Tripura	Lembucherra	14	10	
Zone V- Central	Madhya Pradesh	Waraseoni	6	5	
		Jabalpur	8	1	
	Chhattisgarh	Bilaspur	9	3	
		Ambikapur	3	2	
	Maharashtra	Sindewahi	10	10	
Zone VI- Western	Maharashtra	Panvel	3	3	
		Radhanagari	3	0	1
		Shirgaon	7	7	
		Vadagaon	2	2	
		Phondaghat	2	2	
		Parbhani	2	2	
		Palghar	2	0	
	Gujarat	Danti	2	1	1
		Derol	4	4	
		Dabhoi	8	4	
		Vyara	12	10	

IIRR Annual Progress Report 2019 Volume I - Varietal Improvement

Region	State	Location	Trials Sent	Data receipt	Failed/late receipt
	Goa	Goa	3	0	3
Zone VII-Southern	Andaman & Nicobar	Port Blair	3	0	
	Andhra Pradesh	Machilipatnam	3	3	
		Ragolu	2	2	
		Bapatla	2	2	
		Nellore	2	1	
	Telangana	Kunaram	4	3	
		Jagital	4	2	
		Rudrur	6	2	
		Kampasagar	4	4	
	Tamil Nadu	Trichy	2	2	
		Annamalainagar	2	2	
		Tirur	2	0	
	Kerala	Vytilla	5	0	
	Karnataka	Sirsi	12	10	
		Kumta	6	0	
		Kathalgere	8	0	
	Puducherry	Karaikal	5	2	
		Total	387	248	5

Hybrid Rice (IHRT) Kharif-2019 Trials Sent and Data Received

Zone	State	Location	No. of Trials allotted	No. of Trials conducted as per Data received	No & Reasons for the failure of the experiment
Funded Locations					
Zone II Northern	Haryana	Kaul	3	3	0
	Punjab	Ludhiana	3	3	0
	Uttaranchal	Pantnagar	3	3	0
Zone III Eastern	West Bengal	Chinsurah	4	4	0
	Uttar Pradesh	Masodha	4	4	0
Zone VI Western	Maharashtra	Karjat	4	4	0
Zone VII Southern	Andhra Pradesh	Maruteru	4	4	0
	Telangana	IIRR (DRR)	4	4	0
	Karnataka	Mandya	4	4	0
	Tamilnadu	Coimbatore	4	4	0
Total			37	37	0
Voluntary Locations					
Zone I Hilly Areas	Himachal Pradesh	Malan	1	1	0
Zone II Northern	Jammu & Kashmir	Chatha	1	1	0
	Delhi	IARI-New Delhi	2	2	0
Zone III Eastern	Uttar Pradesh	Allahabad	2	2	0
		Varanasi	1	1	0
		Nagina	1	1	0
	Odisha	Cuttack (NRRI)	3	3	0
		Chiplima	1	1	0
	Bihar	Sabour	1	1	0
		Pusa	4	4	0
	Jharkhand	Ranchi	4	4	0
Zone IV North Eastern	Tripura	Arundhatinagar	4	4	0
	Assam	Titabar	4	4	0
Zone V Central	Madhya Pradesh	Jabalpur	4	4	0
		Waraseoni	2	2	0
	Chhattisgarh	Raipur	4	4	0
	Maharashtra	Sindewahi	4	4	0
		Sakoli	2	2	0
Zone VI Western	Gujarat	Navsari	4	4	0
		Nawagam	4	4	0
		Dabhoi	4	4	0
	Maharashtra	Radhanagari	2	2	0
		Shirgaon	2	2	0
		Vadgaon	1	1	0
		Pondaghat	2	2	0
Zone-VII Southern	Andhra Pradesh	Bapatla	1	1	0
	Telangana	Warangal	4	4	0
	Karnataka	Brahmavar	4	4	0
		Mugad	3	3	0
		Malagi	1	1	0
		Sirsi	1	1	0
	Tamilnadu	Aduthurai	2	2	0
	Puducherry	Karaikal	2	2	0
Total			82	82	0

<i>Private Sector Location</i>						
Zone	State	Location	Name of the Seed Company	No. of Trials allotted	No. of Trials conducted as per Data received	No & Reasons for the failure of the experiment
Zone III Eastern	Uttar Pradesh	Barabanki	JK. Agri Genetics Limited	1	1	0
		Barielly	Trimurthi Plant Sciences Pvt Ltd	1	1	0
		Lucknow	Nuziveedu Seeds Pvt. Ltd	3	3	0
	Bihar	Bihar Sharif	Syngenta	4	4	0
		Hajipur	PHI seeds Pvt Ltd.	1	1	0
	Jharkhand	Ranchi	Trimurthi Plant Sciences Pvt Ltd	1	1	0
		Ranchi	PHI seeds Pvt Ltd.	1	1	0
Zone V Central	Chhattisgarh	Durg	VNR Seeds Pvt Ltd	4	4	0
		Raipur	UPL Advanta Seeds Pvt. Ltd	4	4	0
Zone VI Western	Maharashtra	Dighori	Ankur Seeds Pvt. Ltd	4	4	0
Zone VII Southern	Andhra Pradesh	Rajahmundry	Bayer Bio-Science Pvt. Ltd	4	4	0
	Telangana	Hyderabad	Tierra Agrotech Pvt.Ltd	2	2	0
Total				30	30	0

Monitoring Report of AICRIP trials 2019

Group	Locations	Team	Date
Hills	ICAR-VPKAS, Almora, CSK-HPAU, Palampur Rice and Wheat Research Centre, Malan (HP)	Dr. R. Mahendra Kumar, Principal Scientist (Agronomy) Dr. G. S. Laha, Principal Scientist (Pathology) Dr. M. S. Anantha, Scientist (Plant Breeding), Dr. A. Anandan Principal Scientist (Plant Breeding) and Dr. J. P. Aditya (Scientist, Plant Breeding, ICAR-VPKAS, Almora)	24-09-2019 to 29.09.2019
North Western	Ludhiana, CSSRI, Kaul, IARI and Pantnagar	Drs. Suneetha Kota, Senior Scientist (Plant Breeding) Brajendra P, Principal Scientist (Soil Science) and V. Prakasam, Scientist (Pathology) (ICAR-IIRR) and S. C. Shankhdhar, G. B. PUAT, Pantnagar	30-09-2019 to 08-10-2019
Central	Raipur, Rewa and Jagadalpur	Drs. Sridhar Y, Principal Scientist, (Entomology), C. Gireesh, Senior Scientist (Plant Breeding) IIRR, Sonboir (Raipur) and M. Shahid (NRRI, Cuttack)	10.10.2019 to 12.10.2019
Western-1	Nawagam, Dahaboi, Derol, Danti, Navasari and Vyara (Gujarat).	Dr. G. Padmavathi, Principal Scientist (Plant breeding), Dr. V. Jhansilakshmi, Principal Scientist, (Entomology) Dr. G.P. Pandi, (Entomology), ICAR-NRRI, Cuttack	19-10-2019 to 25-10-2019
Western-2	Shirgoan, Karjath, Lonavala and Vadagoan	Dr. Sheshu Madhav, Principal Scientist (Crop Improvement) Dr.MBB Prasad Babu, Principal Scientist (Soil Science), Dr. Kannan C, Principal Scientist (Plant Pathology)	30/10/2019 to 04/11/2019
Southern-1	Moncompu, Pattambi, Coimbatore, Aduthurai, Karaikal and Puducherry	Drs D. Krishnaveni (Principal Scientist, Plant Pathology), and B. Sreedevi (Principal Scientist, Agronomy), ICAR-IIRR and K. Karthikeyan (Assoc. Professor, Entomology, Pattambi)	30-11-2019 to 06-12-2019

Group	Locations	Team	Date
Southern-2	ZARS, Mandya, ARS, Gangavathi and ARS, Ponnampet	Dr.SM Balachandran, Principal Scientist (Crop Improvement) Dr. DVKN Rao Principal scientist (Soil Science), Dr. P. Senguttuvel senior scientist (Crop Improvement), Dr. Ladha Lakshmi Senior Scientist (Plant Pathology)	26-11-2019 to 30-11-2019
	ARS Mugad, ARS Sirsi &ARS, Brahmavar	Dr.SM. Balachandran, Principal Scientist, Biotechnology, IIRR Dr. D. Ladha Lakshmi, Sr. Scientist, Plant Pathology, IIRR, Dr. P. Surendra, Principal Scientist, AICRIP, Sirsi, UAS-D (Nodal Scientist)	20-10-2019 to 23-10-2019
Southern-3	Warangal, Jagtial, Kunaram, Kampasagar, Rajendranagar	Dr B. Jhansirani, Principal Scientist, (Entomology) & Dr P. Revathi, Sr. Scientist, (Plant Breeding), ICAR-IIRR, Dr Malathi, Principal Scientist, (Entomology), RARS - Warangal, Dr Koushik Chakraborty, Scientist, (Plant Physiology), NRRI	02-11-2019 to 07-11-2019
Southern-4	ARS, Ragolu, RARS, Maruteru, ARS, Machilipatnam, ARS, Nellore, ARS, Bapatla	Dr. A.S. Hari Prasad, Principal Scientist (Hybrid Rice), Dr. CH. Padmavathi, Principal Scientist (Entomology), Dr. P.C. Ladha, Principal Scientist (Micro Biology), ICAR-IIRR, Dr. K.R. Rao, Principal Scientist (Entomology), ICAR-NRRI, Cuttack, Dr. BNVS Ravi Kumar, Senior Scientist (Plant Breeding), RARS, Maruteru, (Nodal Scientist)	31-10-2019 to 02-11-2019 & 17-12-2019 to 20-12-2019
Northern	Lucknow, Kanpur, Ghaghraghat, Masodha, Varanasi.	Dr. A.P. Padma Kumari, Principal Scientist, (Entomology) & Dr. R.M. Sundaram, Principal Scientist, (Biotechnology), Dr. Mangal Deep Tuti, Senior Scientist, (Agronomy), ICAR-IIRR, Dr. Rahul Tripathi, Senior Scientist, (Soil Science), ICAR-NRRI and Dr. Vindeshwari Prasad Dubey, Sr. Pathologist, CRS, Masodha (Nodal Scientist)	28-10-2019 to 02-11-2019

Group	Locations	Team	Date
Eastern-1	Ranchi, Hathwara, Bankura and Hazaribagh	Dr. NP Mandal, Principal Scientist, (Plant Breeding), Dr. Kemparaju KB, Senior Scientist (Hybrid Rice), Dr. Annie Poonam, Dr. Basana Gowda and Dr. Ashok Kumar Singh	24-09-2019 to 29-09-2019
Eastern-2	Jeypore, Chiplima, Cuttack and Bhubaneswar	Dr. R. Abdul Fiyaz, Scientist (Plant Breeding) (ICAR-IIRR); Dr. S. D. Mohapatra Principal Scientist (Entomology), Dr. Mridul Chakraborti Scientist (Plant Breeding), Dr. Upendra Kumar, Scientist (Microbiology), ICAR-NRRI, Cuttack and Dr. Atanu Seni, Entomologist, RRTTS (OUAT)	29-10-2019 to 04-11-2019
Eastern-3	Dhangain, Pusa, Sabour, Patna	Drs. LK Bose, PC Rath, Pratap Bhattacharyya (ICAR-NRRI, Cuttack), C. Gireesh Senior Scientist (ICAR-IIRR, Hyderabad) and Mithilesh Kumar Singh (RAU, Pusa)	21.10.2019 to 24.10.2019
Eastern-4	Chinsurah, Pundibari and Canning	Drs Sushanta Dash, Principal Scientist (Plant Breeding), Dr BP Panda, Principal Scientist (Agronomy) and Dr S Lenka, Principal Scientist (Pathology), ICAR-NRRI and Dr Jyothi Badri, Scientist (Plant Breeding) ICAR-IIRR	30-10-2019 to 05-11-2019
North Eastern-2	Lembucherra, Arundhatinagar, Wangbal, Lampelphat, CAU, Imphal.	Dr J Meher – Crop Improvement (NRRI); Dr A K Mukherjee – Crop Protection (NRRI), Dr B S Satapathy – Crop Production (NRRI), Dr Atanu Pal -SARS, Arundhatinagar (Nodal Scientist), Dr C N Neeraja – Crop Improvement (IIRR)	17-10-2019 to 23-10-2019

Hills: Drs. G Katti, R. Mahender Kumar, G. S. Laha and M. S. Anantha from ICAR-IIRR, Dr. A. Anandan from ICAR-NRRI and J. P. Aditya from ICAR-VPKAS, Almora (12th September 2019 and 24.9.2019-29.9.2019)

ICAR-VPKAS, Almora

The centre is located at 1250m above MSL and classified as Medium hills. The centre has conducted 09 trials on Plant Breeding, 11 trials in Plant Pathology (5 trials on leaf blast, 2 trials on neck blast, 3 trials on brown spot and virulence monitoring of rice blast pathogen) and 2 trials on Agronomy (Nutrient response trial on selected AVT-2-MH cultures under high and low input management and Nutrient response trial on selected AVT-2-EH rice cultures under high and low input management). All the trials were laid out as per the plan and the crop conditions were very good. Two trials viz., AVT 1 Upland (Hills) and IVT Upland (Hills) were severely affected by weeds in early stage and drought during later stage. Leaf blast severity was high under uniform blast nursery conditions. Brown spot and neck blast severity was low to moderate.

CSK-HPKV, Palampur:

The university is situated at an elevation of 1250 m and considered as Medium hills. The centre conducted 3 breeding trials viz., AVT-2 Early hills, AVT-1 Early hills and IVT Early hills. All the trials were conducted as per the layout. The crop condition was good. There was wild boar/rat damage in few entries.

Rice and Wheat Research Centre, Malan:

The centre is situated about 30 km away from main CSKHPKV-Palampur centre and situated at an elevation of 950 m above MSL and considered as Lower Hills. The centre has conducted 11 Plant Breeding varietal trials, one Hybrid rice trial (IHRT E), 6 Agronomy trials and 12 Plant Pathology trials (5 trials on leaf blast, 2 trials on neck blast, virulence monitoring of rice blast pathogen, Disease observation nursery, evaluation of fungicides for location specific diseases, IDM and trial on essential oils). All the trials were conducted as per the technical program. Two breeding trials viz., AVT 1 BT and IVT BT were late sown and late planted. These two trials were still in vegetative stage to booting stage. The crop condition was good. Though leaf blast intensity was comparatively low both in UBN and main fields but neck blast severity was high. Dr. G Katti visited this center on 12th September 2019 and monitored entomology trials of the station.

North Western: Drs. Suneetha Kota, Brajendra and V. Prakasam from ICAR-IIRR and S. C. Shankhdhar, G. B. PUAT, Pantnagar (30-9-2019 to 8-10-2019)

Punjab Agricultural University, Ludhiana, Punjab

Total of 16 trials were allotted and conducted. Thirteen trials in plant breeding (AVT 2- E TP, AVT 1- E TP, IVT-E TP, AVT 1- IME, IVT-IME, AVT 1- IM, IVT-IM, AVT 1-BT, IVT-BT, AVT 1-Aerob, IVT-Aerob, IVT-Biofort and AVT -1 MS) and 3 (IHRT-E, IHRT-ME and IHRT-M) hybrid trials were conducted as per the guidelines. Seventeen plant pathological trials and thirteen entomological trials were conducted as per the technical programme. Due to late receipt of trials, the trials viz., AVT 1-E-TP, AVT 1- IME, AVT 1- IM, IVT-IM, AVT 1-BT and AVT -1 MS were at tillering to booting stage. The general crop condition was good for the

timely received trials. Severe incidence of false smut is observed across majority of the trials. In addition to false smut, incidence of BLB, sheath blight and stem borer was noticed.

Central Soil Salinity Research Institute, Karnal, Haryana

Five AICRIP plant breeding trials (AVT 1-BT, IVT-BT, AVT 1-AL&ISTVT, IVT-AL&ISTVT and IVT-Biofortification) were conducted. The crop was at booting to flowering stage. Seed of AI & ISTVT for 6 locations to be conducted in farmer's field but was conducted only at 4 locations. The crop appeared clean for pest and disease as there was no apparent pest/disease damage was observed in the AICRIP trials. However, severe BLB, Bakane and moderate stem borer and false smut infestation observed in farmer's fields. The salinity trials were conducted in microplots with EC 8dSm⁻¹ and pH7.5. Single row of 25 hills in micro plot was adopted for salinity trials. The stress level imposed was able to differentiate the entries for tolerance or sensitivity for salinity as compared to check entries.

Rice Research Station, Kaul, Haryana

Eleven plant breeding trials :AVT 2- E TP, IVT-E TP, AVT 1- IME, IVT-IME, AVT 1- IM, IVT-IM, AVT 1-BT, IVT-BT, AVT 1-Aerob, IVT-Aerob and AVT -1 MS) and 3 hybrid rice trials (IHRT-E, IHRT-ME and IHRT-M) were conducted at this station. Occurrence of moisture stress and due to delayed seeding; many entries were stunted in aerobic trials. All the conducted trials were laid out as per the plan. There was heavy incidence of false smut particularly in hybrid rice trials. Basmati and non-basmati breeding material has been developed and was being evaluated. Two Entomological trials viz., Light trap and Effect of planting dates on pests were conducted. Four pathological trials were conducted instead of five trials allotted to this centre. NHSN and NSN1 trials were not conducted due delay in seed arrival to this centre.

Indian Agricultural Research Institute, New Delhi

Two Basmati trials (AVT 1-BT and IVT-BT) in Plant Breeding and 2 (IHRT-E and IHRT-ME) hybrid rice trials were conducted at this centre. The trials were laid as per the technical programme and the crop growth was good. No incidence of pest and disease was observed in AICRIP trials. Three Entomological trials were conducted at field condition and one trial for screening BPH at glass house condition. Ten Pathological trials were conducted as per technical programme. Sheath blight and blast trials under field conditions with artificial inoculation. BLB screening trials conducted under glass house conditions.

GB Pant University of Agriculture & Technology, Pantnagar, Uttarakhand

The centre was allotted 10 Breeding trials (AVT 2- E TP, AVT 1- E TP, IVT-E TP, AVT 1- IME, IVT-IME, AVT 1- IM, IVT-IM, AVT 1-BT, IVT-BT, and AVT -1 MS) and 3(IHRT-E, IHRT-ME and IHRT-M) hybrid rice trials. All the trials were laid out as per the plan and the crop condition was very good. Even the late received trials, the growth and expression of entries was very good. Ten pathological and twelve entomological trials were conducted as per the technical programme. Sheath blight and BLB pathogens were artificially inoculated at field conditions for all the screening trials. Fungicidal management trials were conducted for sheath blight under artificial inoculation and false smut under natural incidence management. All the trials were well managed according to guidelines prescribed. There was very heavy incidence of false smut and bacterial blight in some trials. The incidence of false smut is severe in hybrid rice trials.

Central: Drs. Sridhar Y, HL, C. Gireesh, from IIRR, Sonboir (Raipur) and M. Shahid (NRRI, Cuttack) 10.10.2019 to 12.10.2019

Rewa

The centre was assigned eight breeding trials namely IVT-EDS, AVT1-EDS, IVT-Aerob, AVT1-Aerob, AVT2-ETP, IVT-ETP, AVT1-ETP and AVT1-NIL drought and all the trials were conducted as per the technical program. Early and upland trials were in flowering condition while late medium and late trials were in booting stage. NIL trials were in tillering and booting stage. Incidence of Gandhi bug, WBPH, blast, brown spot, false smut were reported.

Raipur

The centre was allotted 18 breeding trials viz., IVT-aerob, IVT-EDS, AVT-Aerob, AVT1-EDS, AVT1-NILs drought, IVT-MS, AVT1-MS, IVT-ASG, IVT-IME, IVT-L, IVT-Biofort, AVT1-IME, AVT1-Late, AVT1-IM, IHRT-E, IHRT-ME, IHRT-M and IHRT-MS. Experiments were conducted as technical program and crop was in good condition. Late and NIL trials were in tillering and booting stage.

Jagdarpur

Monitored 15 breeding trials at Jagdarpur namely AVT1-ETP, IVT-IM, IVT-IME, IVT-ETP, AVT1-L, IVT-ASG, IVT-L, AVT2-ETP, AVT1-IME, IVT-Aerob, AVT1-Aerob, AVT1-EDS, IVT-EDS, NILs drought and AVT1-IM. Experiments were conducted as technical program and crop was in good condition.

Western 1: Dr. G. Padmavathi, Principal Scientist (Plant breeding), Dr. V. Jhansilakshmi, Principal Scientist (Entomology), ICAR-IIRR, Dr. G.P. Pandi, (Entomology) and Dr. Kacha (Agronomy), Nawagam 19.10.2019 to 25.10.2019

Nawagam: In general, the conduct of 14 trials was as per the guide lines and crop growth was good. IVT -Biofort trial was at maturity stage at the time of visit with few entries (1705, 1712 and 1715) in vegetative stage. Infestation by planthoppers (5 to 15%) and very late entries were observed in IVT-E. Due to delayed onset of monsoon, AVT-1-E trial was transplanted late in September. In general the incidence of false smut, planthoppers, stem borer and glume discolouration was noticed. Breeder seed production plots of GAR 13 and Gurjari were harvested by the time of visit.

Dabhoi: Dr. R.L. Chotalia from Dabhoi; Dr. Prajapathi and Dr. Kacha from Nawagam joined the monitoring team at Dabhoi. This centre has got the mandate of seed production of HYVs of rice. 10 trials were carried out. Crop was in good condition with luxurious growth. IVT-E was at maturity stage with few exceptions and many early entries were harvested by the time of visit. Wild boar damage was observed in IVT-E and In IVT-IM trial. The hybrid trials were at maturity. Wild boar damage was rampant in IHRT-E. In IHRT-Medium trial stem borer and false smut have affected the entries considerably.

Derol: Mainly rainfed upland trials and aerobic trials are carried out at this centre. Aerobic and EDS trials were conducted as per the guidelines. Stem borer incidence was severe in a few entries and white ear damage was found. Many late entries have been observed which doesn't

deserve to be nominated in a trial like IVT-Aerobic. Severe stem borer infestation occurred causing >50% damage. Segregation was found in advanced trial of early, direct seeded (AVT-1-E-DS) in some of the entries. Many entries showed off types.

Navsari: The monsoon was well on time and maximum amount of rainfall occurred in July (40%) followed by August (20%). A set of 14 trials with 13 at Navsari and one trial (AVT-1-CSTVT) at Danti trials were taken up. In IVT-Aerobic trial stem borer and leaf folder infestation was noticed. Aerobic trials were maintained free of weeds. AVT-1-IM trial was at flowering to maturity stage. In AVT-1-IME trial conduct was excellent and crop was at maturity stage and free from mixtures. In IVT-Biofort, a complex of pest and diseases namely sheath blight, stem borer, sheath mites and leaf folder was observed.

Danti: Due to prolonged rainy season, the overall pest disease scenario was found to be moderate. AVT-1-CSTVT trial was conducted under coastal salinity situation. The crop was in active tillering to flowering stage. Tapi river water is the source of irrigation with low E_C (0.6 to 0.8 dSm⁻¹). Crop got exposed to heavy rainfall till October (1365 mm) due to which the salts have leached down the root zone leaving the crop saline stress free.

Vyara: The allotted 10 variety trials have been conducted. False smut and cut worms were observed affecting the crop. In IVT-MS, sheath mite and sheath rot diseases affected the crop. 4203, 4221 and 4258 entries showed LS grain type which is misfit in the trial. In AVT-1-MS entries were in grain filling stage. In AVT-1-E-TP crop was in grain filling to maturity stage. Due to poor seed germination, trial was conducted with only 2 replications instead of the recommended 4 replications. In AVT-1 aerobic, weed infestation was partial. In IVT-E-DS, many entries were tall and lodged including the local check, Poorna. In AVT-1-DS, the scientist reported about the low quantity of seed sent for conducting the trial and hence plot size adopted was lower than the recommended.



Western 2: Dr M Sheshu Madhav, Principal Scientist (Biotechnology), MBB Prasad Babu, Principal Scientist (Soil Science), Kannan C, Principal Scientist (Plant Pathology) 30/10/2019 to 04/11/2019

Karjat: At Karjat (Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli), total of eleven trials, namely AVT-1-ETP, IVT-MS, AVT-1-IME, AVT-IM, AVT-1 MS, IVT-BIOFORTIFICATION, IVT-IM, IVT-IME, IVT-ASG, I VT-ETP and IHRT-ME were conducted at this Centre by Dr. R.L. Kunkerkar, senior Breeder, Karjat. All the trials were conducted as per the technical program and the crop was in maturity/grain filling stage at the time of visit.

Vadgaon: Agricultural Research Station, Vadgaon of MPKV, Rahuri, total of three breeding trials namely IHRT- E, IVT- E-TP, and AVT-1 ETP were conducted at this Centre by Dr. Bohr,

Professor of Breeding. All the trials were conducted as per the technical program and the crop was in maturity/grain filling stage.

Shirgoan: Agricultural Research Station, Shirgoan of Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, total of five breeding trials namely IVT-MS, IVT- IME, AVT-1 IME, AVT-1 IME and IHRT- MS, were conducted at this Centre. All the trials were conducted as per the technical program and the crop was in maturity/grain filling stage.

Southern 1: Drs D. Krishnaveni (Principal Scientist, Plant Pathology), and B. Sreedevi (Principal Scientist, Agronomy), ICAR-IIRR and K. Karthikeyan (Assoc.Professor, Entomology, Pattambi) 30-11-2019 to 6-12-2019

Moncompu: In Breeding, all the allotted trials were conducted. Conduct, layout and maintenance of all the experiments are good. Roughing was done from time to time and no off-types were observed at the time of visit except for the entries with severe mixtures which have to be dropped. In Agronomy, five trials were conducted in the experimental farm as per the technical program. The trial on yield maximization was conducted in nearby village Ezhykadu and five farmers have conducted the trial in one Padasekaram. Farmers felt that SSNM based on nutrient expert and recommended fertilizer practice are economical and recorded better performance in seedling stage. The long term trial on weed dynamics in mono or double cropped rice system under different establishment methods was conducted in the research farm. Weeding practices according to treatments of the technical program were implemented and more weed infestation was noticed under drum seeding in the initial stage compared to line sowing and normal planting. *Leptochloa spp*, *Fimbristylis spp*, *Ischaemum spp*, *Ludvigia spp* and *Ammania spp* are dominant in un-weeded control plots. In the trial on evaluation of cultivars for weed competitiveness under direct seeded rice system, most of the test varieties are of 120 days duration except Manuratna which is early variety and Shreyas is aerobic one.

In Soil Science program, one trial on Screening of rice genotypes for tolerance to soil acidity and related nutritional constraints was conducted as per the technical program and the crop was harvested on 16-11-2019.

Pattambi: Under Agronomy program, three trials were taken up. The data on fertilizer application, weed population, weed biomass, crop growth parameters viz., tillers/m² dry matter production, yield attributes viz., no. of panicles/m², panicle weight, test weight, filled grain percentage, grain yield and straw yield recorded were seen and checked for treatment performance. Rabi season 2018-19 trials on management practices for enhancing grain yield with green manure and nutrient management in lowland rice completed in April 2019 and recorded data and results were shown. The rice + Green manure along with NPK schedule of 90:45:45 was found promising. The Rabi trials are just sown in one trial and transplanting operation is in progress. Five trials were conducted in Physiology as per the approved technical programme. In the trial of silicon screening and phenotyping of elite genotypes, an additional entry “Jyothi” a popular local variety in addition to the approved entries was included. The crop was at maturity stage at the time of visit. Biometric observations were recorded at tillering, panicle initiation and flowering stages. The trial on drought screening was in maturity stage and phenotypic parameters recorded at flowering stage. The heat tolerance trial was conducted inside a permanent polyhouse. It was noted that the temperature difference between ambient and inside the polyhouse was only < 3.0°C. The polyhouse sides are covered with fine net due to which the temperature increase inside the polyhouse was less. It was suggested to cover the sides also with polythene sheet at PI stage so that the temperature increase will be around 4-

5°C. The centre conducted screening for water stress (1% and 2% mannitol) and salinity (100 and 200 mM NaCl). All the 23 lines were evaluated for germination percentage, seedling vigour index, total chlorophyll content of the leaf, Na and K content in leaf.

Coimbatore: In Agronomy, nine trials are taken up and conducted. The trials included Nitrogen response trial on selected AVT2-Biofortified rice cultures under high and low input management; Nitrogen response trial on selected AVT2- irrigated transplanted rice cultures under high and low input management; Nitrogen response trial on selected AVT2- medium rice cultures under high and low input management; Yield maximization of rice through different sources of nutrients; Efficiency of Neem coated urea in irrigated rice eco-system; Evaluation of new herbicide product in transplanted rice were executed in the research farm as per the technical program. The crop is in PI & Flowering stage. In nutrient management trials significant visual difference in Nitrogen control and 150kg Nitrogen were noticed. Two IPM trials in farmer's fields were monitored and the crop is in tillering stage.

The AICRIP Crop Physiology trials on influence of silicon on improving abiotic stress tolerance in rice genotypes, phenotyping of elite rice genotypes for drought tolerance, screening for submergence tolerance, physiological characterization of selected genotypes for multiple abiotic stress tolerance and screening for salinity tolerance were also monitored in the field, tank and laboratory. The trial on drought tolerance influence of silicon on improving abiotic stress tolerance in rice genotypes are in harvesting stage.

Aduthurai: In Agronomy program, six trials were conducted and all the kharif trials were harvested by the time of visit. The varieties in the trial were ADT 43 and ADT 53. The information on field layout, plot size, calendar of operations, the data on crop growth parameters, yield attributes and yield, the data on weed parameters viz., weed population group wise; weed biomass before imposing the treatments and after imposing the treatments were recorded and shown. Rabi 2019-20 trials on development of package of practices for mechanized transplanting has standing crop in tillering stage. The trial on developing suitable package of practices for wet DSR is also seen in tillering stage in the field. The trial on weed dynamics in mono or double methods is seen in seedling stage in the field. In the weed management trials, the prevailing weeds are identified and recorded. Based on the data of trials, it is found that delayed sowing or planting has no significant influence on weed dynamics at this centre.

Karaikal: Under AICRIP Agronomy, four trials are conducted during kharif 2019 viz., yield maximisation of rice through site specific nutrient management in farmers fields, under management for enhancing water use efficiency in different rice establishment methods (conventional transplanted, mechanized transplanting, wet direct seeding using drum seeders, aerobic rice and semi-dry rice, long term trials on weed dynamics in mono or double cropped rice system under different establishment methods and Analysis of long term meteorological data for identifying the reasons for yield reduction in different rice based cropping systems. The crop is in panicle initiation stage. The trial on yield maximization using Nutrient Expert software is conducted in farmers fields and one set in the university farm, Surakudy. In Soil Science, four trials and in Physiology, two trials were taken up.

Puducherry: Under AICRIP Agronomy, eight trials are conducted. The check variety used in the trials was TKM 13 and in the rice growing areas 80% farmers are doing mechanized transplanting and among the weeding methods. Mechanical weeding using weeder (power operated) seems to be superior. Among the irrigated mid early entries, NC-IR-64 was reported to have more pest and disease incidence. The variety DRR Dhan 52 tested for evaluation of

thiobencarb herbicide has excelled among all other varieties and cultures. The single seedling transplanted resulted in an average 18 productive tillers/hill.

In Soil Science program, two trials were taken up and the crop was harvested in 1st week of November and farmers field trial was in active tillering to panicle initiation stage. It is important to note that ADT-53 has very good rationing ability and now it is recommended to have fertilizer supplementation to get considerable yield without investing much on resources.

Southern 2: Dr.SM Balachandran, Principal scientist (Crop Improvement) Dr.DVKN Rao Principal scientist (Soil Science), Dr.P.Senguttuvel Senior Scientist (Crop Improvement), Dr. LadhaLaxshmi Senior Scientist (Plant Pathology)- ZARS, Mandya, ARS, Gangavathi and ARS, Ponnampet from 26-11-2019 to 30-11-2019

Gangavathi: In total, 9 breeding trials were allotted to the centre. All the trials were conducted as per the layout of technical programme and required plot sizes were maintained. In general, crop stand, though planted late due to heavy rains, was good. No incidence of any major pest and diseases. The team visited seed production plots and also the station trials.

Ponnampet: In total, 4 breeding trials were allotted to the centre. General crop stand was good and the trials were conducted as per the technical programme. However, all the trials were severely affected by leaf, neck blast and false smut. Most of the entries in all the trails were affected by combination of diseases.

Mandya: In total, 11 breeding trials and 4 hybrid rice trials were allotted to the centre. . All the trials were conducted very well and every trail and entry was labeled distinctly and recommended plot sizes were followed. Maintenance of Germplasm collection was excellent. Though planted late, the expression of materials were good.

Southern 3-Dr P. Revathi, Sr. Scientist, Plant Breeding, Dr B.Jhansirani, Principal Scientist, Entomology, Dr Malathi, Principal Scientist, Entomology, RARS -Warangal, Dr Koushik Chakraborty, Scientist, Plant Physiology, NRRI 02.11.2019 to 7.11.2019

WARANGAL: 19 trials were allotted to this centre and all the trials were carried out in proper manner with specifications and plot sizes as recommended. All the trials were in grain filling stage and expression was very good in all the trials. The main pest problems are Gall midge, BPH and leaf folder. The centre is a hot spot for Gall midge incidence. All the allotted trials were taken up, treatments labelled properly and crop stand was good. Plating was done in 3rd week of August. The crop was flowering to grain formation stage when trials were monitored. Infestation of gall midge was low to moderate due to continuous rains. Leaf folder damage was low and BPH though caused hopper burn later the populations reduced due to rains. In screening trials, most of the entries germinated. Two observations on 30 and 50 DAP were completed and several entries in gall midge screening recorded nil damage.

Jagtial: Two trials AVT-1-IM and AVT-1 IME were allotted to this centre and all the trials were carried out as per the instructions received from IIRR in a proper manner with proper specifications. Protocols were followed with proper labels for all the trials. Gall midge incidence was low due to continuous rains. In case of pathology, field monitoring for BLB and screening for neck blast are main trials carried out.

Kunaram: 3 trials were taken by this centre viz., AVT-1 ETP, AVT-1 MS and IVT-1 MS. No plant protection trials were allotted to this centre. The breeding trials were well laid out and expression was very good. In the IVT-MS, many entries grain type was observed to be non MS type. There were no plant protection trials at this centre. However, incidence of panicle mite, BLB and bird damage was noticed.

Kampa Sagar: A total four trials were allotted to this centre viz., AVT-1 MS, IVT-1 MS, IVT-AL & ISTVT and AVT- 1 AL & ISTVT. In IVT- AL & ISTVT many entries were observed to be promising. Though trials expression was good, the recommended plot size for all the four trials was not maintained. The centre is hot spot for hoppers and considerable damage by the pest (hopper burn) was noticed.

Rajendranagar: 8 trials were allotted to this centre and all the trials were carried out in proper manner with proper specifications with recommended plot sizes and the field plots were free of weeds. All trials were properly laid out and protocol was followed. In most of the field screening trials plantings were done in 1st to 2nd week of July and observations on percent damage by various pests in being recorded. Overall, the insect pest incidence was low this year due to continuous rains. PHSS and BLB screening trials were done in green house. In other trials-IBET, EEP, IPMS and EFLSD data on insect populations and disease incidence are being recorded. Besides regular pests, panicle mite and false smut disease were also noticed. In total six agronomic trials were allotted to this station. Out of six trials, five were on field and all of them were well managed with recommended plot sizes and other specifications. In the 'Nutrient response trials on selected AVT-2 rice cultures under high and low input management' one of the check 'Kalanamak' was lodged even under 100% RDF. In the 'Conservation agriculture trial' the plant height under transplanted condition was on an average higher. The scientists requested for timely and sufficient supply of seeds for next seasons experiments.

Southern-4: Dr. A.S. Hari Prasad, Principal Scientist (Hybrid Rice), Dr. CH. Padmvathi, Principal Scientist (Entomology), Dr. P.C. Latha, Principal Scientist (Micro Bilology), Dr. K.R. Rao, Principal Scientist (Entomology), ICAR-NRRI, Cuttack and Dr. BNVS Ravi Kumar, Senior Scientist (Plant Breeding), RARS, Maruteru, (Nodal Scientist)

31.10.2019 – 3.11.2019: Ragolu, Maruteru, Machilipatnam

17.12.2019 – 20.12.2019: Nellore and Bapatla

Ragolu: Two trials viz., AVT 1-IM and IVT-IM were conducted. The team visited these trials and these trials were conducted as per the given technical programme. In Entomology, 9 trials were conducted including PSR, GMS, GMSS, MRST, NSN-1, GMBT, GMPM, IBET and LT studies. Presently, Dr Y Rajasekhar, Entomologist from Amudalavalasa is taking care of the AICRIP, Rice entomology program. All the trials were laid as per the technical program given.

Maruteru: Of the 19 (15 breeding & 4 hybrid rice) trials sent, all the trials were conducted. The team visited these trials viz., AVT 1 RSL; IVT RSL; IVT SDW; AVT 1 ETP; IVT ETP; AVT 1 IME; IVT IME; AVT 1 IM; IVT IM, AVT 1 L; IVT L; IVT Biofort.; AVT 1 MS; IVT MS; AVT 1 NIL (Submergence); IHRT-E; IHRT ME; IHRT M; and IHRT MS and these trails were conducted as per the technical programme. In Entomology, 14 trials were conducted. In the field screening for planthoppers, incidence of BPH was very high during this season resulting in hopper burn in NSN1, NSN2, NHSN, NSNH, PHS and MRST. In GMS trial, incidence of gall midge was low. In IBET trial also, incidence of pests is low. However, in

some exhibition plots at RARS farm, hopper burn was observed. In Pathology 9 trials were conducted. All the diseases are being augmented in screening trials and observations were taken. In this location, sheath blight and BLB during *kharif* season and blast during *rabi* season are important diseases observed in farmers fields. Details of trials conducted and observations are given below:

Machilipatnam: Three trials viz., AVT 1-CSTVT, IVT-CSTVT and AVT 1 NIL (coastal salinity) were conducted. The team visited these trials and these trials were conducted as per the given technical programme (with reduced plot sizes). There are no entomology and pathology trials at this center.

Nellore: Two trials viz., AVT 1-L and IVT-L were conducted. The team visited these trials and these trials were conducted as per the given technical programme (with reduced plot sizes). Majority of entries flowered early at this location and hence not fitting in AVT1-L trial. IVT L was conducted in single replication (with reduced plot size), hence not suitable for analysis. In breeder seed production, NLR 4001 is included, which is not a notified variety; hence it may be dropped from the breeder seed production list. In Entomology, 7 trials were conducted in systematic way as per the technical program. However, the pest incidence was very low in all the trials. In Pathology, 5 trials were conducted.

Bapatla: Three trials viz., AVT 1-MS, IVT-MS and IHRT MS were conducted. The team visited these trials and these trials were conducted as per the given technical programme (with reduced plot sizes). In Entomology, Five trials were conducted. In spite of augmentative release of leaf folder adults, there is not much damage in LFST trial. Low incidence of pests was observed in all the trials. In BIPM trial, early maturity of the crop was observed as compared to farmer practices. Rodent damage was observed in early planting in EPDP trial.

Northern: Dr. A.P. Padmakumari, Principal Scientist, Entomology, Dr. R.M. Sundaram, Principal Scientist, Biotechnology, Dr. Mangal Deep Tuti, Senior Scientist, Agronomy, ICAR-IIRR, Dr. Rahul Tripathi, Senior Scientist, Soil Science, ICAR-NRRI and Dr. Vindeshwari Prasad Dubey, Sr. Pathologist, CRS, Masodha (Nodal Scientist)
28th Oct. 2019 to 2nd Nov. 2019

Lucknow: Only one AICRIP trial (AVT1-AL&ISTVT) and one INGER nursery trial (IRSSTN) were conducted at Shivri farm near Lucknow by this centre. As the seeds for IVT-AL & ISTVT were received by very late, the trial was not carried out. The trial was laid out and carried as per recommendations of AICRIP, except for plot size (9 m²). The effect of stress (pH > 9.2) was visible in both the trials. As there is no breeder at this centre, no breeding lines or populations were developed. One Agronomy trial AVT-2-AL&ISTVT was conducted the other trial was not conducted due to late arrival of seed. The trial was conducted as per the technical programme/guidelines in split-plot design replicated thrice with two main plots (100% and 150% RDF) and 6 subplots (6 entries). Soil pH was 8.9. All entries looked to be good performer under both RDF. In one of the station trials, severe incidence of false smut was observed in Variety Damini. Stray incidence of rice gundhi bug was also observed.

Kanpur : AVT1-AL&ISTVT and IVT-AL&ISTVT were carried out along with an INGER trial (IRSSTN) at Boja farm near Kanpur as per recommended specifications and the effect of stress was visible in most of entries. The centre did not generate any breeding material or mapping populations or segregating populations and also did not nominate any entries for

AICRIP trials for the past five years. Two soil science trials (one on screening of rice germplasm for nitrogen use efficiency (NUE) at Uttaripura farm and another on screening of germplasm for sodicity at Boja farm) were conducted. Trial on NUE was conducted as per the technical programme. However, weed populations were more and there were no bunds between the plots especially between the different fertility levels (i.e. N levels). Sodicity trial was conducted well and there were visible differences of different levels of gypsum application across the entries. Four agronomy trials were conducted at farm near to University campus. However, due to paucity of time, we could not visit the research farm. There was no plant physiology trial in this centre. Slight incidence of Stem borer, gundhi bug was observed in the breeding trials laid out at Bhojja farm.

Ghaghraghat: Six varietal trials and IRLON trial of INGER were laid and carried out as per specifications of AICRIP. Good level of stress was visible in the DW and SDW trials, but not in AVT1-NIL-Sub trials as the seeds were received very late and hence only moderate stress could be imposed during seedling stage and that too for a short period. Some of the entries showed very good level of tolerance in DW trials. The centre has generated several segregating fixed lines and also nominated a few entries in the last five years in AICRIP trials. Five agronomy trials were conducted as per the technical programme. In the weed management trials, effect of pre-emergence herbicide (pendimethalin/pretilachlor) followed by post-emergence application of bispyribac sodium was found encouraging. One soil science trial on residue management in rice based cropping system is in the first year of the experimentation. All the five allotted Entomology trials were carried out. Pink stem borer damage was evident as white heads in all the trials though planting date had an influence on the damage. Gundhi bug has been observed on late maturing entries. Apart from POS, all the 4 major Pathology trials were well laid out and executed. Being a hot spot for leaf blast, screening of the material under natural conditions was very much evident. There were few lines with DS of 1.0. Though brown spot and narrow brown spot were present, the intensity was less in these trials.

Masodha-Faizabad/Ayodhya: Of the 24 varietal and 4 IHRT trials, 17 varietal trials and all the IHRT trials were carried out properly. In the trials, AVT1-E-DS, IVT-E-DS, AVT1-Aerob and IVT-Aerob trials, there was heavy rain during seed germination stage, hence establishment was poor and the plots were full of weeds with poor crop establishment in all the replications. Due to late receipt of seed and/or heavy rain, IVT-DW, IVT-RSL and AVT1-NIL-drought could not be carried out. All the hybrid rice trials and most of the breeding trials were carried out at Masodha farm, while the RSL, DW and SDW trials and the AL&ISTVT trials were carried out in Paglabari and Kumarganj farms of ANDUAT, respectively. Further, the centre is also taking up BSP of the varieties. Six agronomy trials were conducted as per the technical guidelines. Two soil science trials were conducted. One on yield maximization through NE at farmers field (10 farmers) and another one on bridging the yield gap trial also at farmers field (10 farmers). One demonstration trial on NE was also conducted at the research farm. Two plant physiology trials (anaerobic germination and submergence tolerance) were conducted at Kumarganj farm of ANDUAT. Of the 10 allotted Entomology trials, only 8 were conducted. Pink stem borer damage was evident as white heads in all the trials. Light trap with 100w bulb was continued. Gundhi bug has been observed on late maturing entries. Animal grazing was a major problem. Apart from POS, all the 5 major pathology trials were well laid out. Artificial inoculation of BLB and sheath blight was carried out in the respective trials. The natural incidence of sheath blight was high as compared to BLB at this location. IPM (s) trial in association with Entomology scientist was not taken up in farmer's field.

Varanasi: A total of 19 trials breeding trial and one hybrid rice trial were allotted for this centre, of which the hybrid rice trial and 12 breeding trials were properly taken up by this centre. The trials, AVT1-Aerob, IVT-Aerob, AVT1-Late and IVT-Late could not be taken up due to late receipt of the seeds. The trials, AVT1-SDW and IVT-SDW could not be conducted properly due to prolonged submergence during germination (> 20 days submergence). Most the entries in the early trials and hybrid trials were harvested during the visit of the monitoring team. The trial, AVT1-NIL-drought trial was conducted properly, the entries were in flowering stage and there was no apparent effect of drought stress on the recurrent parents, during the visit of the monitoring team.

Five agronomy were conducted as per the technical guidelines. Biofortification trial was conducted with 2 replications instead of 3 replications. Drum seeding establishment method had significant effect on growth of the crop. Similarly, mechanical weeding and chemical weeding also found equally effective in controlling the weeds. In water management trial, alternate wetting and drying has a positive result on growth of the plants. Of the 3 Pathology trials allotted, only one on “evaluation of fungicides for false smut” was taken up in a seed production plot of Improved Samba Mahsuri. The fungicidal treatments were imposed after the natural infection of the disease. The trial is in progress. The other trials could not be taken up in the main field due to lack of tractor.



Eastern II: Dr. R. Abdul Fiyaz (ICAR-IIRR); Dr. S. D. Mohapatra, Dr. Mridul Chakraborti, Dr. Upendra Kumar, ICAR-NRRI, Cuttack and Dr. Atanu Seni, RRTTS (OUAT), Chiplima (29.10.2019 to 04.11.2019)

Jeypore: Total 16 trials were allotted and all the 16 trials were conducted namely IVT-E-TP, IVT-IM, IVT-IME, IVT-MS, IVT-L, IVT-RSL, IVT-Biofort, IVT-E-DS, AVT-1-MS, AVT-1-IME, AVT-1-E-DS, IVT-ASG, AVT-1-IM, AVT-1-RSL, AVT-1-L and AVT-1TP. Overall the experiments were good, well maintained, all the trials were conducted as per specifications given in the instruction sheet. No apparent pest or disease damage was reported.

Chiplima: A total of seven varietal trials and one hybrid trial were allotted to centre and all the trials namely IVT-MS, IVT-IME, IVT-IM, AVT-1-IME, IVT-ASG, AVT-1-MS, AVT-1-IM and IHRT-ME were conducted. Overall the experiments were good, well maintained, all the trials were conducted as per specifications given in the instruction sheet.

ICAR-NRRI: A total of 24 breeding, three hybrid rice and four INGER nurseries trials were allotted to this centre. Monitored trials AVT-1-IM, IVT-E-TP, AVT-1-E-TP, AVT-1-MS, IVT-MS, IVT-IME, AVT-1-SDW, IVT-DW, AVT-1-RSL, AVT-1-L, IVT-RSL, IVT-SDW, AVT-1-IME, IVT-Biofort, IVT-ASG, IVT-IM, AVT-1-NIL, IRHT-ME, IHRT-M, IHRT-MS, IRON, IRLON, IRSSTN and IURON. Overall the experiments were good, well maintained;

only few trials were conducted as per specifications given in the instruction sheet. Required water level was not maintained in semi deep water trial. Most of the trials were affected due to submergence twice during the crop growth period. Incidence of stem borer, false smut, bacterial blight, grain discolouration and brown spot was observed. The centre has generated significant breeding material suited for early, medium and late duration.

Bhubaneswar: Total of 18 trials and one INGER nursery was allotted to the centre but only 7 trials and IRBBN were conducted. AVT-1-L, AVT-1-RSL, AVT-1-SDW, IVT-SDW, AVT-1-IM, AVT-IME, AVT-1-MS and IRBBN were monitored. It has been observed that only advanced trails were conducted at the centre. Overall the experiments were good, well maintained, all the trials were conducted as per specifications given in the instruction sheet.

Eastern-III: Drs. LK Bose, PC Rath, Pratap Bhattacharyya (ICAR-NRRI, Cuttack), C. Gireesh (ICAR-IIRR, Hyderabad) and Mithilesh Kumar Singh (RAU, Pusa) 21.10.2019 to 24.10.2019

Dhangain, Bikramganj, Bihar Agricultural University

Nine breeding trials namely IVT –RSL, AVT1-RSL, IVT –aerob, AVT1- aerob, AVT1- ETP, IVT-ETP, AVT1- IM, IVT-IM and IHRT-M were allotted and conducted as per the technical program except for experimental layout. Most of trials were in flowering and booting stage in good condition. Incidence of brown spot, sheath blight and stem borer was noticed. Six agronomy trials were conducted. YET-3; YET-5 trials were not conducted as there is no facilities for soil analysis and the same was communicated to IIRR. Five pathology trials were allotted and conducted all the trials namely field monitoring of virulence (Xoo) NSN-1, NSN-2, DSN and NHSN. Grasshopper, False smut, BLB, Blast were found to be the major pests and diseases followed by Gundhi bug as minor pest. Experiments are well maintained and crop growth was very good.

PUSA, Rajendra Prasad Central Agricultural University, Bihar

A total of 15 breeding trials viz., viz., IVT-DW, AVT-SDW, IVT-SDW, AVT1-NIL(sub), AVT1-RSL, IVT-RSL, IVT-MS, AVT1-MS, IVT-aerob, AVT1-aerob, AVT1-EDS, IVT-EDS, IHRT-M, IHRT-ME and IHRT-E were allotted and most trials were conducted. However, layout of experiment of all trials was not as per technical program. Further, several trials were conducted in less plot size than required. The sufficient population size of entries in several trials not observed due to less plot size. In case of lowland land trials, water stagnation (submergence) was not observed at appropriate stage, hence may not suitable for evaluation of entries for lowland condition. In case of NIL (sub), the trial was submerged for longer period soon after the planting hence got affected and crop was not in good condition, not suitable for consideration. Most of the trials were in booting and flowering stage, however some trials (NIL sub) were in tillering and booting stage. Incidence of stem borer, brown spot and sheath blight were noticed. Five agronomy and three soil science trials were conducted. The agronomy trials need to be improved with proper treatment imposition, and demonstration; supporting data need to be validated carefully. Six entomology trials and five pathology trials were monitored. Brownspot, blast and sheath rot are the major disease followed by false smut. YSB and leaf folder are the major insect pests of that area.

Bihar Agricultural University, Sabour, Bihar

Nine breeding trials were allotted and all the trials were conducted as per the technical program. Required management practices were followed and crop was in good condition. One agronomy

trial was conducted, i.e. AVT-2 (E) TP- nutrient management trial as the guidelines prescribed. The Gundhi bug was the only insect pest reported in small patches. Seven pathology trials allotted to them and all are conducted. All the pathological trials were well maintained. No entomological trial was conducted in the centre

ICAR-RC for Eastern Region, Patna, Bihar

Seven trials viz., IVT-aerob, AVT1-aerob, AVT1-ETP, IVT-E, IVT-IM, AVT1-IM and NIL (drought) were conducted as per the technical program. Required management practices were followed and crop was in good condition. NILs (drought) was in booting, flowering and grain filling stage, test were compared with corresponding recurrent parent. However, due higher and continuous rainfall during season, water stress was not observed during crop growth. Incidence of sheath blight, brown spot and stem borer noticed. There was no agronomy and soil science trials conducted.

Eastern 4: Drs Sushanta Dash, Principal Scientist (Plant Breeding), Dr BP Panda, Principal Scientist (Agronomy) and Dr S Lenka, Principal Scientist (Pathology), ICAR-NRRI and Dr Jyothi Badri, Scientist (Plant Breeding) ICAR-IIRR
30.10.2019 to 5.11.2019

Chinsurah: Rice Research Station, Chinsurah is being operated by Department of Agriculture, West Bengal State Government. Drs Bijan Adikari, Suparna, Mitali and Suman are involved in the conduct of trials. A total of 28 AICRIP trials in Plant Breeding that includes 24 varietal and 4 hybrid trials were conducted at this location. Conduct of the trials was as per the technical programme given by IIRR following the required plot size, management practices and arrangement of field boards. However, entries were not labelled.

About 1700 germplasm and 60 early duration varieties are being maintained at this centre. During this season, about 115 promising breeding lines were evaluated. At this centre, it is interesting to observe the evaluation of 16 newly released varieties of other states to assess their suitability for cultivation in West Bengal. The promising entries from this trial will be recommended for West Bengal state release. About 9 t of breeder seed production is taken up for 10 varieties. Savitha, popular in lowland situation was observed with good kneeing ability. Sujala is mainly indented by Indian Seed Association (MP) and last year about 12 t was indented however only 240 kg was only lifted. There is not much indent for Sujala in West Bengal. IVT-DW didn't flower at the time of the visit. 12 agronomy, 3 soil science and 2 physiology trials were conducted at Chinsurah.

In case of Pathology, out of 13 trials excluding Production Oriented Survey (POS) allotted to the station, all were conducted. All the experiments were laid out as suggested in the AICRIP manual for Plant Pathology trials, 2019-20. Under Entomology, 14 trials were conducted in which the crop was in grain filling stage.

Pundibari: This centre is supervised by Uttar Banga Krishi Viswavidhyalay (UBKV) and Dr Bidhan Roy is concerned with the conduct of ACIRIP trials at Pundibari. Of the seven trials allotted to this centre, only 4 were received and conducted. The expression of the entries in late duration trials (AVT1-L and IVT-L) is poor due to late receipt/late sowing-planting, hence data for these trials should not be considered for analysis. IVT-E TP, though received late was not affected with receding of monsoon in Sep and good expression in the entries was observed. Entries were at flowering to grain filling stage at the time of visit. In the Research Farm of Pundibari, no Pathology and Entomology trials were conducted.

Canning: This is a regional station of ICAR-CSSRI and Dr SK Sarangi, Agronomist at the centre conducted three salinity trials [AVT1-SCTVT, IVT-CSTVT and AVT1-NIL (CS)]. Excellent conduct of the trials with appropriate field management, standard field boards and labelling of the entries was observed. Entries were at flowering to grain filling stage at the time of visit. Observations in the NIL (CS) trial were recorded and NIL report was signed by all the team members.

North Eastern -2: Dr J Meher – Crop Improvement (NRRI); Dr A K Mukherjee – Crop Protection (NRRI), Dr B S Satapathy – Crop Production (NRRI), Dr Atanu Pal-SARS, Arundhatinagar (Nodal Scientist), Dr C N Neeraja – Crop Improvement (IIRR) 17.10.2019 to 23.10.2019

Lembucherra: Trials were conducted at Mirza Village of Gomathi district in the farm land of Progressive farmer Shri Shiv Sakha Ghosh, a member of Aurobind Farmer's Club. Number of trials conducted: 11. IVT IM not conducted as seed was not received. Pest Disease Scenario: Brown spot and mild BLB were observed

Arundhatinagar: Trials conducted: Four trials (IVT-E-TP, AVT1 MS, IHRT MS, IHRT E) were conducted at Arundhatinagar and two trials (IHRT ME and IHRT M) were conducted at Nalchar Seed Multiplication farm. IVTASG could not be conducted because of the damage by floods at allotted centre KVK Gomati. IVT Aerobic couldn't be conducted because the complete set was not received. Only one box containing 32 entries was received AVT1 Aerobic and IVT MS trials were conducted at KVK Dhalai and KVK North Panisagar, hence couldn't be visited. Number of Trials: 6 trials were monitored and 2 trials couldn't be monitored as the trials were conducted at different locations away from the centre. Pest Disease Scenario: Leaf folder and rodent problem. Pathology: IDM trial was conducted very late. No significant differences were observed among treatments. Entomology: Effect of botanical pesticides was quite visible with less incidence of plant hopper. Severe bird damage was observed in entomology trials.

Wangbal: Number of Trials conducted: Nine. Moisture stress was observed in two trials. Prioritized research areas for station: Suitable for Manipur situation viz., earliness, BPH and GM resistance/tolerance and local quality preference. Pathology: Severe incidence of leaf blast was observed in the susceptible check. Score was verified with the record but suggested to take final score after applying one dose of nitrogen. Agronomy: NMT AVT2 culture irrigated trial conducted but suitable for analyses because of proper experimental design was not followed and treatment was not properly imposed

Lampelphat: Number of trials conducted: Five. Three irrigated trials were well conducted at Lampelphat and two upland trials at Langol farm. Severe moisture stress was observed in upland trials. Pest Disease Scenario: Moderate incidence of stem borer was observed. Pathology: After the verification of NSN pathology trials with the data of already recorded by the co-operator at early stages of the crop for rice blast, it was observed that the disease scoring was over estimated and should not be considered for analyses.

CAU, Imphal: The trials were conducted at Andro farm. Number of trials conducted: Five. Severe drought was observed and the district has been declared as drought affected district. Pest Disease Scenario: Severe leaf blast and neck blast was observed.

Insect pest and disease reaction of entries in National Screening Nurseries, Kharif 2019

Trial Name and IET No.	Pests and Disease reaction
AVT 1-E DS	
27514	MR-RTD
27525	MR-GD
27531	MR-BS
27517	MR-BS, MR-ShR
26635	MR-NB, MR-BS, MR-ShR
27530	MR-BS
27518	MR-NB, MR-ShR, MR-GD
26633	MR-ShR
27532	P-GM
27523	MR-NB
27513	MR-NB
27528	MR-NB, MR-ShR, MR-GD,
27526	P-GM, P-SBDH, P-SBWE
27521	P-SBDH, P-SBWE
27512	MR-NB, MR-ShR, P-SBDH, P-SBWE
26351	MR-GD, P-SBDH, P-SBWE
27534	MR-RTD
28834	MR-NB, MR-GD
28835	P-SBDH, P-SBWE
28836	R-RTD, P-SBDH, P-SBWE
28837	P-SBDH, P-SBWE
26753	P-SBDH, P-SBWE
IVT-E DS	
28243	MR-LB, P- GMB1
28244	MR-LB, P- GMB1
28245	MR-LB, P- SB
28246	MR-LB
28247	MR-LB, P- GMB1
28248	MR-LB, P-GMB1
28249	MR-LB
28250	MR-LB, P- GMB1, P-WM
28251	MR-LB, P- GMB1
28252	MR-LB, P- GMB1
28253	MR-LB
28254	P-SB
28255	MR-LB, R-NB, MR-ShB
28256	MR-LB
28257	MR-BS
28258	MR-LB
28259	MR-LB, MR-NB
28260	MR-LB
AVT 1-RSL	
27538	R-NB, MR-ShR, P-SBWE

Trial Name and IET No.	Pests and Disease reaction
27541	MR-NB, MR-ShR, R-GD, P-SBWE,
27537	MR-NB, MR-ShR
27555	MR-NB, MR-ShR
27547	MR-NB, MR-ShR, P-SBDH, P-SBWE
26692	MR-NB, MR- ShB, MR-ShR
26744	MR-NB, MR-ShR, P-PH
IVT-RSL	
28264	MR-NB
28268	MR-NB, P- SB
28271	MR-LB, P-SB
28272	P- GMB1
28274	R-RTD
28275	MR-LB
28276	R-NB, P- GMB1
28277	P-SB
28278	MR-LB, P-WM
28279	MR-LB
28281	MR-LB, R-NB, P- SB
28284	MR-LB, R-NB, P-SB
28285	MR-LB, P-SB
28286	MR-LB
28287	P-SB
28289	MR-LB, R-NB
28290	MR-LB, R-NB
AVT 1-SDW	
25912	MR-NB, MR- ShB, MR-ShR, P-SBWE
27574	MR-NB, MR-ShR, P-SBWE
27583	MR-NB, MR-ShR, P-PH, P-SBWE
27578	MR-NB, MR-RTD, P-BPH, P-SBWE
26684	MR-NB, MR- ShB, MR-ShR, P-SBWE,
25212	MR-NB, MR- ShB, MR-ShR
27576	MR-ShR
IVT-SDW	
28292	MR-LB, MR-NB
28293	R-NB, MR-ShB
28294	MR-LB, P-BPH
28295	MR-LB, R-NB
28296	MR-LB, MR-NB
28297	MR-LB, P-SB
28298	MR-LB
28299	MR-LB, MR-NB, P-SB
28300	MR-LB, R-NB, MR-ShB
28301	MR-LB, R-NB
28302	MR-LB, MR-NB, P-SB
28303	P-PH, P- SB

Trial Name and IET No.	Pests and Disease reaction
28304	MR-LB, R-NB, MR-ShB
28305	MR-LB, R-NB, MR-ShB
28306	R-NB
28307	MR-LB, MR-NB
28309	R-NB, P-GMB1, P-SB
28310	MR-LB, R-NB
28311	R-NB, MR-BLB, P-SB
28312	MR-BS, P-PH, P- SB
28313	P-SB
28314	MR-NB, P-GMB1
28316	MR-LB, MR-NB, R-RTD, P- GMB1
28317	R-NB
IVT-DW	
28318	P- GMB1
28321	P-WM
26741	MR-LB, MR-NB
AVT 2-E TP	
26468	MR-ShR, P-SBDH
26803	P-SBDH
26767	MR-GD
26477	MR-NB
AVT 1-E TP	
27882	P-SBDH
27874	MR-NB
27885	P-GM
27907	MR-RTD, P-SBDH
27914	P-SBDH, P-SBWE,
27920	MR-GD
27887	MR-GD, P-GM
27871	MR-ShR
27923	MR-ShR, P-SBDH
27328	MR-NB
27332	MR-ShR, MR-GD, P-GM, P-SBWE
27342	P-SBWE,
27343	MR-NB
27340	MR-ShR, MR-RTD
26464	MR-NB,
27880	MR-ShR, P-PH
26763	P-PH
27919	P-BPH
27913	MR-NB
28039	P-GM
28038	P-GM
28040	P-GM
28037	P-GM, P-SBDH
IVT-E TP	
28323	MR-LB, MR-BS

Trial Name and IET No.	Pests and Disease reaction
28326	MR-LB, R-RTD, P-GMB1
28327	MR-LB
28328	MR-NB
28329	MR-LB, MR-BS
28330	MR-LB
28331	MR-BS, P-BPH, P-SB
28332	MR-LB
28333	MR-LB
28334	MR-LB, P-GMB1
28335	MR-LB
28336	MR-LB
28337	MR-LB
28338	MR-LB
28339	MR-LB
28340	MR-LB
28341	MR-LB
28342	MR-LB
28343	MR-LB, R-NB, MR-BS, P- SB
28344	MR-LB
28345	MR-LB
28347	MR-LB
28348	MR-LB, R-NB
28349	MR-LB
28350	MR-LB
28351	MR-LB, MR-BS
28352	MR-LB
28353	MR-LB, MR-NB
28354	MR-LB, MR-BS
28355	MR-LB, MR-NB
28356	MR-LB
28357	MR-LB, MR-NB
28359	MR-LB
28361	MR-LB, P- PH, P- SB
28362	MR-LB, MR-NB
28363	MR-LB
28364	P-GMB1
28365	MR-LB
28366	MR-LB, MR-NB
28367	MR-LB
28369	MR-LB, R-RTD
28371	MR-LB
28372	MR-LB, MR-NB, MR-BS
28374	MR-NB
28376	MR-LB
28378	MR-LB, MR-NB
28380	MR-LB
AVT 1-IME	

Trial Name and IET No.	Pests and Disease reaction
27736	MR-NB, MR-ShR, P-SBDH, P-SBWE
26936	P-SBDH, P-SBWE
26861	MR-NB, MR-BS, MR-ShR, P-SBDH, P-SBWE
27739	MR-NB, P-SBWE
27746	MR-NB
27747	MR-NB, MR-ShR
27750	MR-NB, MR-ShR
27773	MR-NB
27772	MR-NB, P-SBWE
27768	MR-NB, P-SBDH, P-SBWE
27762	MR-NB, MR-ShR, MR-BB
27758	MR-NB
27743	MR-NB
27737	MR-GD
27782	MR-ShR
27752	MR-NB
27775	MR-NB
27346	MR-NB
27358	P-BPH, P-SBDH, P-SBWE
27364	MR-NB, P-SBDH, P-SBWE
27356	MR-NB, P-SBDH, P-SBWE
27357	MR-NB, P-SBDH, P-SBWE
27369	MR-BS
27256	MR-NB, P-SBDH, P-SBWE
27764	P-SBDH, P-SBWE
27785	P-GM
26961	MR-NB
27267	MR-NB, P-SBDH, P-SBWE
27353	MR-ShR, P-SBDH, P-SBWE
27362	MR-NB, MR-BB
24967	MR-NB
27781	MR-NB, MR- ShB,MR-ShR
27360	MR-NB, MR-ShR, P-PH, P-SBDH, P-SBWE
27763	MR-NB, MR-ShR
27755	MR-ShR
27748	MR-NB
27770	P-GM
28011	MR-GD, P-SBWE
28008	P-BPH
28007	MR-BS
28010	MR-ShR
28033	MR-BS
IVT-IME	
28383	MR-LB, MR-NB, P-GMB1
28384	MR-LB
28385	MR-LB

Trial Name and IET No.	Pests and Disease reaction
28386	P-GMB1
28388	MR-LB, P-GMB1
28389	MR-LB
28390	MR-LB
28391	P-GMB1
27668	MR-LB, MR-NB, MR-BS, P-GMB1
28392	P-GMB1
28396	MR-LB, MR-NB, MR-BLB, P-SB
28397	R-NB, P- GMB1
28399	P- GMB1
28400	MR-LB, R-NB, P-SB
28401	MR-NB
28402	MR-LB
28403	MR-LB, R-NB
28404	MR-LB
28408	MR-LB, MR-NB
28411	MR-NB
28412	MR-NB
28414	P- GMB1
28415	MR-LB
28416	MR-LB, P-SB
28417	MR-LB, R-NB
28418	MR-LB
28419	MR-LB, R-NB, P-SB
28421	MR-LB, MR-NB
27695	MR-LB
28424	MR-LB, P-SB
28425	MR-LB, MR-NB
28426	MR-LB
27896	MR-LB
28427	MR-LB, MR-NB
28432	MR-LB, MR-BLB
27908	R-NB, R-RTD
28434	MR-LB
28435	MR-LB
27876	MR-LB, MR-NB
28436	MR-LB
28437	MR-LB
28438	MR-LB
AVT 1-IM	
26418	MR-NB, P-SBWE
26118	MR-NB, MR-BS, MR-RTD
27263	P-SBDH, P-SBWE
26086	MR-NB, P-BPH, P-GM, P-SBWE
26420	MR-ShR, R-RTD, P-GM
27384	R-RTD
27386	MR-BS, MR-RTD, P-GM

Trial Name and IET No.	Pests and Disease reaction
27390	MR-NB,
26847	MR-NB, MR-ShR, P-GM, P-SBWE
27686	MR-NB, MR-ShR, MR-RTD, MR-GD, P-SBWE
27689	MR-ShR, P-GM
27662	MR-NB, MR-RTD
27667	MR-ShR, P-BPH, P-SBDH
27389	MR-NB, P-BPH, P-GM
27378	MR-NB, MR-ShR, MR-BB, MR-RTD
26819	MR-NB, MR-ShR, MR-RTD
27661	MR-NB
27703	MR-RTD, MR-GD
27712	MR-ShR
27705	MR-NB
27387	MR-ShR, MR-GD, P-GM
27385	MR-ShR
27380	MR-NB, MR-RTD, P-GM
26535	MR-ShR, P-GM
28792	MR-ShR
28783	MR-ShR
28790	MR-NB, MR-ShR, P-PH,
28791	MR-NB, MR-ShR,
28789	MR-NB, MR-ShR, MR-BB, P-SBWE
28017	MR-ShR
IVT-IM	
28439	MR-NB
28442	MR-NB
27749	P- GMB1
27877	P- GMB1, P-SB
28443	R-RTD, P-GMB1
28444	MR-LB, MR-NB, P-WBPH, P-GMB1
28445	R-NB, MR-ShB, P- SB
28446	P- GMB1
28447	MR-LB, R-NB, P- GMB1
28448	P-GMB1
27776	MR-LB, MR-NB
28449	MR-NB, P-GMB1, P- SB
28450	P-LF
28451	MR-LB, MR-NB
28452	MR-LB, MR-NB, GMB1, P-SB
28453	MR-LB, R-NB
28454	MR-LB, MR-BS
28455	MR-LB, MR-BS
28456	MR-LB
28458	MR-LB
28461	MR-NB, MR-BLB, P-PH
28462	MR-LB, R-NB
27771	R-NB

Trial Name and IET No.	Pests and Disease reaction
28463	MR-NB, P-PH
28464	MR-LB, P-BPH
28465	MR-NB
28467	MR-BS, MR-BLB
28468	MR-NB
28469	MR-NB, P-SB
28470	MR-LB
28471	MR-LB, MR-BS
28472	MR-NB
27900	MR-LB
28473	MR-LB
28474	MR-LB
28477	P-GMB1
28480	P-GMB1
28478	R-NB, MR-BLB, P-GMB1, P- LF
28481	MR-LB, R-NB
28482	MR-LB, MR-NB, MR-BS, P- GMB1, P- SB
28483	MR-LB
28485	MR-LB
28486	MR-LB, R-NB
28487	P- GMB1
28488	MR-LB, MR-NB, P-SB
28489	MR-LB, P- GMB1
28491	MR-BS, MR-BLB, P-GMB1
28492	MR-LB, P-GMB1
28493	MR -LB, MR-BLB
AVT 1-L	
27637	MR-NB, MR- ShB, P-SBWE
27632	MR-NB, P-GM, P-SBWE
27610	MR-NB, MR-GD, P-SBDH, P-SBWE
27646	MR- ShB, P-SBWE
27621	MR-GD
25945	MR-NB
27262	MR-ShR
26974	MR-NB, P-SBDH, P-SBWE
25948	MR-NB, P-SBDH, P-SBWE
26927	MR-NB, P-SBWE
26948	MR-NB, MR-ShR, P-SBDH, P-SBWE
28794	P-GM
28793	P-GM, P-SBDH, P-SBWE, P-LF
28784	MR-NB
IVT-L	
28496	MR-LB, MR-NB
28497	MR-LB, R-NB
28498	MR-LB, MR-NB, P- SB
28500	R-NB, P-SB
28501	MR-NB, MR-BLB

Trial Name and IET No.	Pests and Disease reaction
28502	MR-LB, R-NB
28503	MR-BLB
28504	MR-NB
28505	MR-LB, R-NB
28506	MR-LB, P- SB
28507	MR-NB, P- GMB1
28509	MR-NB
28510	MR-LB, R-NB
28511	P-LF
28512	MR-LB, MR-NB
28513	MR-LB, R-NB
28514	MR-LB, R-NB, P-BPH
28515	MR-LB
28516	MR-LB, MR-NB
28517	MR-ShB
28518	MR-LB, MR-NB
28519	MR-NB
28520	MR-NB
28521	MR-LB, R-NB, MR-BLB, P-GMB1
28524	R-NB
28525	MR-LB, R-NB
28526	P-WM
28527	MR-LB, R-NB
28528	MR-LB, MR-NB, MR-BLB, P-LF
28531	MR-LB
28532	MR-LB, R-NB
28536	MR-NB
28537	MR-NB
28538	MR-NB
28541	P-GMB1
28542	MR-LB, R-NB
28543	P-BPH
28544	MR-LB, P-PBH
28545	MR-LB, R-NB
28548	MR-LB
28549	MR-LB, MR-NB
28553	MR-BS
IVT-ASG	
28554	MR-NB
28556	MR-LB
28559	MR-LB
28561	MR-LB
28562	MR-LB
28566	P-GMB1
28568	MR-LB
28571	P-GMB1
28024	MR-LB

Trial Name and IET No.	Pests and Disease reaction
AVT 1-BT	
27734	MR-NB, MR-ShR
27733	MR-ShR, P-SBDH
27728	MR-BS
27732	MR-NB, MR-BS
27723	MR-NB, MR-ShR
26999	MR-NB, P-SBDH
26995	MR-NB
28787	MR-ShR
28788	MR-NB, MR-RTD, MR-GD,
28812	MR-ShR
IVT-BT	
28572	MR-LB, MR-NB
28573	MR-LB, P-PH
28574	MR-LB
28575	MR-LB, MR-NB
28576	P- SB
28577	MR-NB, P-SB
28579	MR-LB, R-NB
28582	MR-NB
28583	MR-LB, MR-NB
28584	MR-LB
28585	MR-BLB
28586	MR-LB, P- GMB1
28587	P-GMB1
28588	MR-LB, MR-NB, P-SB
AVT 2-E (H)	
26565	MR-NB, P- BPH, P-SB
25819	MR-NB
AVT 1-E (H)	
27463	MR-NB
27472	R-ShR
27465	MR-ShR
27461	R-RTD, P-SB
IVT-E (H)	
28188	MR-NB, MR-ShR
28193	MR-LB, MR-BS
28194	P-BPH
28196	MR-NB
28198	MR-ShB, MR-ShR
28199	R-ShR
28203	MR-NB, P-SB
28204	MR-ShR
AVT 2-M (H)	
26580	MR-LB, MR-NB, MR-ShR
26594	MR-BS, R-ShR
26588	MR-NB

Trial Name and IET No.	Pests and Disease reaction
26579	MR-NB, MR-ShR, R-RTD
26596	MR-NB, MR-ShR
AVT 1-M (H)	
27491	MR-LB, MR-ShR, P- GMB1
27496	MR-ShR, MR-NB, P- GMB1
IVT-M (H)	
28208	MR-LB, MR-ShR
28210	MR-ShR
28211	MR-LB, MR-BLB
28212	MR-ShB, R-ShR
28214	MR-NB
28215	P- GMB1
28217	MR-ShB
28219	MR-ShR
28220	MR-NB
28221	MR-ShR
28222	MR-LB, MR-NB, MR-ShR
28223	MR-NB, MR-ShR
28225	MR-NB, MR-ShR
28227	P-SB
AVT 1-U (H)	
27506	MR-LB
27501	P-GMB1
27498	MR-LB, MR-ShB, MR-ShR, P-GMB1
IVT-U (H)	
28229	MR-ShR
28230	MR-NB, MR-ShR
28231	MR-NB
28234	P-SB
28235	MR-ShR, P-SB
28237	MR-NB, MR-ShR
28238	MR-NB
28239	MR-NB
AVT1-AL& ISTVT	
27077	MR-NB, MR-BS, MR-ShR, MR-BB, P-SBWE
27823	MR-BB
27807	P-GM
27809	MR-NB, P-SBDH
27804	MR-NB
IVT- AL& ISTVT	
28591	MR-LB, P-SB
28592	MR-LB
28593	MR-LB, R-NB
28597	MR-LB, P- GMB1
28599	P-GMB1
28600	MR-LB
28601	MR-LB, MR-NB, P- GMB1

Trial Name and IET No.	Pests and Disease reaction
28602	MR-LB
28603	MR-LB, R-NB
28604	MR-LB
28606	MR-LB, P-PH
28607	P-LF
28608	MR-LB
AVT 1-CSTVT	
27833	MR-NB, MR-ShR, P-BPH, P-SBWE
27835	MR-NB, P-SBWE
27851	MR-NB, MR- ShB, MR-ShR
27838	MR-NB, MR-ShR, P-SBDH,
27834	MR-GD
27051	MR-ShR,
27829	MR-ShR, MR-RTD
27037	MR-NB, MR-RTD, P-SBWE
27836	MR-NB, MR- ShB, P-BPH,
27826	P-BPH, P-GM, P-SBWE
IVT-CSTVT	
28609	MR-LB
28610	MR-LB, P-SB
28611	MR-NB
28612	MR-LB, P-SB
28613	MR-LB, P-SB
28615	MR-LB
28617	MR-LB, P-SB
28618	MR-LB
28620	MR-NB
28622	MR-LB, MR-NB
28623	MR-LB, MR-NB
28624	MR-LB
28625	MR-LB
28626	MR-LB
28627	MR-LB
28628	MR-LB, MR-NB, P-PH
28629	MR-LB, R-RTD, P-SB
28630	MR-LB, R-NB
AVT 1-AEROB	
27939	P-PH
27929	P-BPH
27927	MR-ShR, P-PH
27949	P-GM
27943	MR-RTD
27951	MR-RTD
27954	MR-NB
27937	MR-RTD, P-GM
27926	MR-NB, MR-ShR, P-GM, P-SBWE
27938	MR-RTD, P-GM, P-SBWE

Trial Name and IET No.	Pests and Disease reaction
27980	P-GM
27967	P-SBDH
27950	MR-GD
27940	MR-ShR, MR-GD
27936	MR-NB, MR-ShR
27971	MR-NB, P-GM
27977	MR-NB
IVT-AEROB	
28631	MR-LB
28632	MR-LB
28633	MR-LB, P-SB
28634	MR-LB, MR-NB
28635	MR-LB, MR-NB, MR-BLB
28636	MR-LB
28637	MR-LB
28638	MR-LB, MR-NB
28641	MR-LB
28642	MR-LB, MR-NB
28644	MR-LB, MR-NB
28645	MR-LB
28646	MR-LB, MR-NB
28647	MR-LB
28648	MR-LB, R-NB, MR-BS
28649	MR-BS
28651	MR-NB
28654	MR-LB, R-NB, MR-BLB
28655	MR-LB, R-NB
28656	MR-LB, R-RTD
28661	MR-LB
28663	MR-LB
28664	MR-LB, R-NB
28665	MR-LB
28666	MR-LB
28667	MR-NB
28668	P-SB, P-WM
28670	P-SB
28671	MR-BS
28673	MR-LB
28674	P-SB
28675	MR-LB
28676	MR-LB, R-NB, MR-ShB
28677	MR-LB, P-SB
28678	MR-LB, MR-NB, R-RTD
28679	MR-LB, R-NB
28681	MR-LB, R-NB
28683	MR-LB, MR-NB
28685	MR-LB

Trial Name and IET No.	Pests and Disease reaction
28686	MR-LB, R-NB
28687	MR-BS
28688	MR-LB, MR-ShB, R-RTD
28690	MR-LB, MR-NB
IVT-BIOFORT	
27984	MR-LB
27179	MR-LB, P-SB
28005	MR-LB
28692	MR-LB
28693	MR-LB
28694	MR-LB, R-NB
28696	MR-LB
28697	MR-LB
28698	MR-LB, MR-NB
28699	MR-LB
28700	MR-LB
28701	MR-LB, MR-NB
28702	MR-LB, R-NB, R-RTD
28703	MR-LB, R-NB
28705	P- GMB1, P-SB
28707	MR-LB
28708	MR-LB, R-RTD, P- SB
28709	MR-LB
28710	MR-LB
28711	MR-LB, P- GMB1
28712	MR-LB, R-RTD
28713	MR-LB
28716	MR-LB, MR-NB
28718	P-GMB1
AVT 1-MS	
27136	MR-NB
25802	MR-ShR,P-GM
27117	MR-ShR
26549	MR-BB, MR-RTD
27118	MR-NB, MR-ShB, MR-ShR
27395	MR-RTD
27438	MR-NB, MR-BS, MR-ShR, MR-GD
27460	MR-NB, P-SBWE
27403	P-SBWE
IVT-MS	
28722	MR-LB, MR-NB
28723	MR-LB, R-NB, P- SB
28724	MR-LB, R-NB, P-SB
28725	R-NB, P-SB
28726	MR-BLB
28727	MR-LB
28730	P-SB

Trial Name and IET No.	Pests and Disease reaction
28731	MR-LB, MR-NB
28732	MR-LB, R-NB, P-SB
28737	R-NB
28738	R-NB
28743	MR-NB
28746	MR-LB, R-NB
28751	MR-BLB
28753	MR-LB
28754	MR-LB
28757	MR-LB
28760	P-SB
28762	P-GMB1
28763	MR-BS
28768	MR-LB
28769	MR-LB
28771	P-PH, P- SB
28777	MR-LB, R-NB
28778	MR-LB, MR-NB
28780	MR-LB, R-NB
28781	MR-LB, MR-NB, MR-BLB
IVT-LPT	
28066	MR-LB
28073	MR-BLB
28063	MR-BLB
28071	MR-LB
28816	MR-LB
28065	MR-LB, MR-NB
28818	R-LB, P-BPH
27641	MR-LB, MR-NB
28076	MR-NB
28063	MR-LB
28820	R-RTD
28067	MR-LB, P-SB
28060	MR-LB, P- GMB1
28070	MR-LB
28823	MR-LB, R-NB
28074	MR-LB, P-SB
28064	MR-LB
28078	P- GMB1
28072	MR-LB
28776	MR-NB
28824	MR-LB, MR-NB
28075	MR-LB, R-NB
28077	MR-LB, MR-NB, P-SB
28825	MR-LB
IVT-LNT	
28080	MR-LB

Trial Name and IET No.	Pests and Disease reaction
28086	MR-LB, R-NB
28087	MR-LB
28083	MR-LB
27730	MR-LB, R-NB
28088	MR-LB, R-NB
28085	MR-LB
28079	MR-LB, P-SB
28082	MR-LB, MR-NB, P-PH
28827	MR-LB, MR-BS
28828	MR-LB, R-NB
28833	MR-LB, MR-NB

R-Resistance; MR-Moderate Resistance; P-Promising/Tolerance; LB-Leaf blast; NB-Neck blast; ShB-Sheath blight; BS-Brown spot; ShR-Sheath rot; BB-Bacterial leaf blight; PH-Plant hoppers; GM-Gall midge; SBDH-Stem borer Dead heart, SBWE-Stem Borer white ear; WM-Whorl maggot; LF-Leaf folder; BPH-Brown plant hoppers; WBPH- White backed plant hoppers.

ABBREVIATIONS

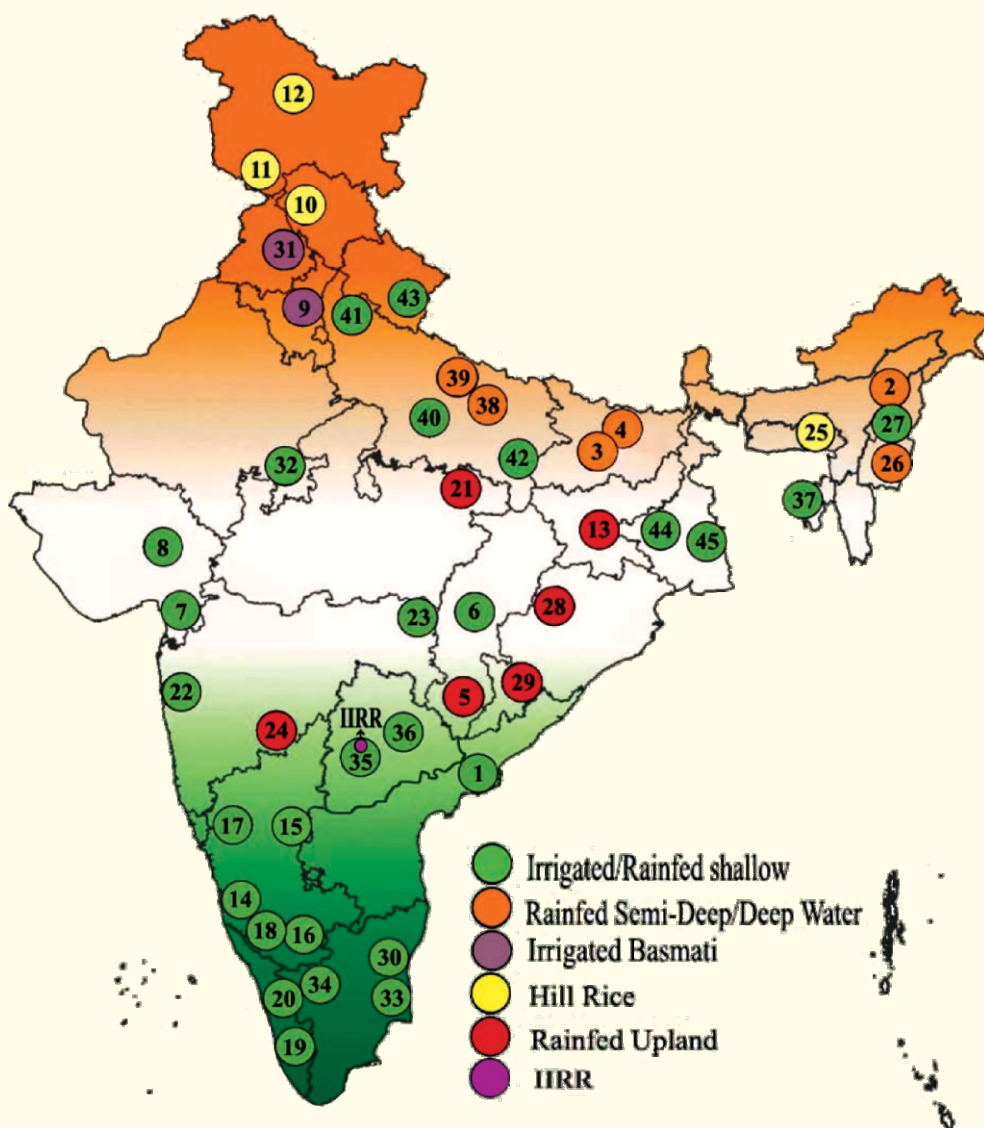
ABP	Ambikapur	JBP	Jabalpur	PBY	Pombay
ADT	Aduthurai	JDP	Jagadapur	PDG	Phondaghat
ALG	Aligarh	JGL	Jagtial	PLG	Palghar
ALH	Allahabad	JND	Jind	PLM	Palampur
ALM	Allmora-ICAR	JRP	Jharanapani	PNB	Pundibhari
AML	Annamalainagar	JYP	Jeypore	PNP	Ponnampet
AMS	Ambasamudram	KBP	Kurumbapet	PNT	Pantnagar
ARD	Arundhutinagar	KHD	Khudwani	PNV	Panvel
BBN	Bhubaneswar	KJT	Karjat	POB	Port Blair
BDP	Bandipore	KLP	Kalimpong	PPT	Panipat
BGL	Bengaluru	KLS	Kolasib	PRK	Paramakudi
BGS	Bageshwar	KMP	Kampasagar	PSA	Pusa
BKG	Bikramganj (Patna)	KNM	Kunaram	PTB	Pattambi
BLP	Bilaspur	KNP	Kanpur	PTN	Patna
BNK	Bankura	KOL	Kolkata	PTN	Patna-ICAR
BNS	Banswara	KPT	Kapurthala	RCI	Ranchi
BPT	Bapatla	KRK	Karaikal	RDN	Radhanagari
BRD	Bardoli	KRL	Karnal (CSSRI)	RDR	Rudrur
BRM	Brahmavar	KTa	Kota	REW	Rewa
CBT	Coimbatore	KTG	Kathalgere	RGL	Ragolu
CHN	Chinsurah	KTR	Katrain	RHK	Rohtak
CHP	Chiplima	KUK	Kurukshetra	RJR	Rajouri
CHT	Chatha	KUL	Kaul	RNG	Ranichouri
CKD	Chakdha (Mohanpur)	LCK	Lucknow	RNR	Rajendranagar
CNG	Canning-ICAR	LDN	Ludhiana	RPR	Raipur
CTK	NRRI-Cuttak (ICAR)	LGL	Langol	RUN	Rauni
CTP	Chintapalli	LMB	Lembucherra	SBR	Sabour
DBI	Dabhoi	LPP	Lamphalpat	SHL	Shalimar
DNT	Danti	MDG	Mudigere	SHR	Shirgaon
DRL	Derol	MDP	Modipuram	SKL	Sakoli
DUK	Dhaulakhan	MGD	Mugad	SND	Sindewahi
GBN	Gautam Buddha Nagar	MJH	Majhera	SRS	Sirsi
GDL	Gudalur	MLN	Malan	TLJ	Tuljapur
GDP	Gurdaspur	MNC	Moncompu	TRR	Tirur
GER	Gerua-ICAR	MND	Mandya	TRY	Trichy
GGT	Ghaghraghat	MPM	Machilipatnam	TTB	Titabar
GNV	Gangavati	MSD	Masodha	UMM	Barapani (Umiyam)
GOA	Goa	MTO	Motto	USG	Upper Shillong
GRK	CRD-Gorakhpur	MTU	Maruteru	VDG	Vadagaon
GSB	Gosaba	NGN	Nagina	VRN	Varanasi
GTK	Gangtok	NLP	North Lakhimpur	VTL	Vytilla
HTW	Hathwara	NLR	Nellore	VYR	Vyara
HZB	Hazaribagh	NND	Nandyal	WBL	Wangbal
IAR	IARI-New Delhi	NVS	Navsari	WDR	Wadura
IGP	Igatpuri	NWG	Nawagam	WGL	Warangal
IMP	Imphal (CAU)	PBN	Parbhani	WRS	Waraseoni

Acknowledgements

The All India Coordinated Rice Improvement Project (AICRIP) has made significant contributions since its inception to rice research. This is 55th year of successful conduct of AICRIP. At the outset, we are indebted to all the scientists working at the various funded and voluntary centers across India for successfully conducting the AICRIP trials, participating in the monitoring tours and timely submission of the trial data. Special compliments to the scientists of the Crop Improvement Section in general and Plant Breeding department at ICAR-Indian Institute of Rice Research (IIRR) in particular for their hard work and perseverance without which it would not have been possible to complete the AICRIP report and publish it in time.

The help and services provided by the technical staff, senior research fellows, research associates, project staff, students and skilled assistants of plant breeding and hybrid rice departments in completing different works associated with coordination is greatly appreciated. Many thanks to the help and support extended by Mr. M. Vijay Kumar, Mr. Mohammed Tahseen, Mr. Sadath Ali, Mr. A Venkataiah, Mr. B. Mandal, Mr. P. Koteswar Rao, Mr. R. Sathamaiah, Mr. M. Chiranjeevi, Mr. G. Goverdhan Raj, Ms. Laxmi Bhavani, Mr. K.Sundeeep Raj, Mr. B. Ankush, Ms. K. Chaitanya, Ms. Haz Deepthi and Ms. Harika for their commitment in packing of seed materials, conduct of trials, data recording, data entry and verification and other activities related to AICRIP. The services of Mr. B. Venkaiah, Mr. G. Krishna Reddy, Mr. Narsing Rao and other staff of quality lab deserve special appreciation for their help in quality analysis. Also, the contribution of Mr. P. Vittalaiah in packing of trials and their timely dispatch to the cooperators deserves a special mention.

Special acknowledgements are to Mr. E. Nagarjuna for his extensive contribution to the coordination work in the preparation of trial constitution, seed dispatch, data analysis, report typing, tables and appendices, providing other key inputs including typesetting and layout of AICRIP report. We are thankful to Mr. Ashfaq Ali for his help and support in AICRIP related works including typesetting. We also thank the skilled and unskilled assistants of Plant Breeding and Hybrid Rice and other staff of ICAR-IIRR for their contribution and support.



भाकृअनुष - भारतीय चावल अनुसंधान संस्थान
भारतीय कृषि अनुसंधान परिषद

ICAR - Indian Institute of Rice Research

Indian Council of Agricultural Research

Rajendranagar, Hyderabad - 500 030

