

**Very Good Morning to one and all
&**

Welcome

To

ICAR-IIRR Industry Meet 2022



Varieties and Hybrids released by ICAR-IIRR

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Rice during 2021

Globally rice is planted in about **150 MHa** and **503 MT** produced annually (FAO, 2020)
China (146) > India (118) > Bangladesh (35) > Indonesia > Vietnam > Thailand

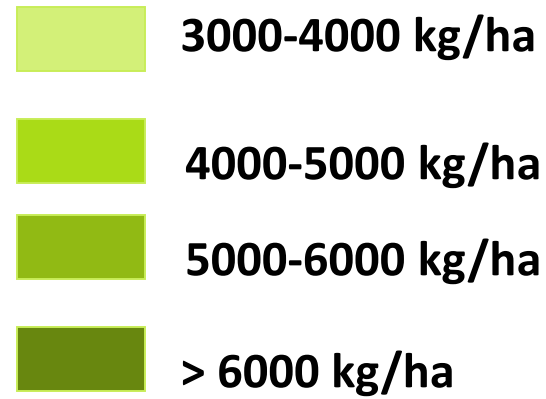
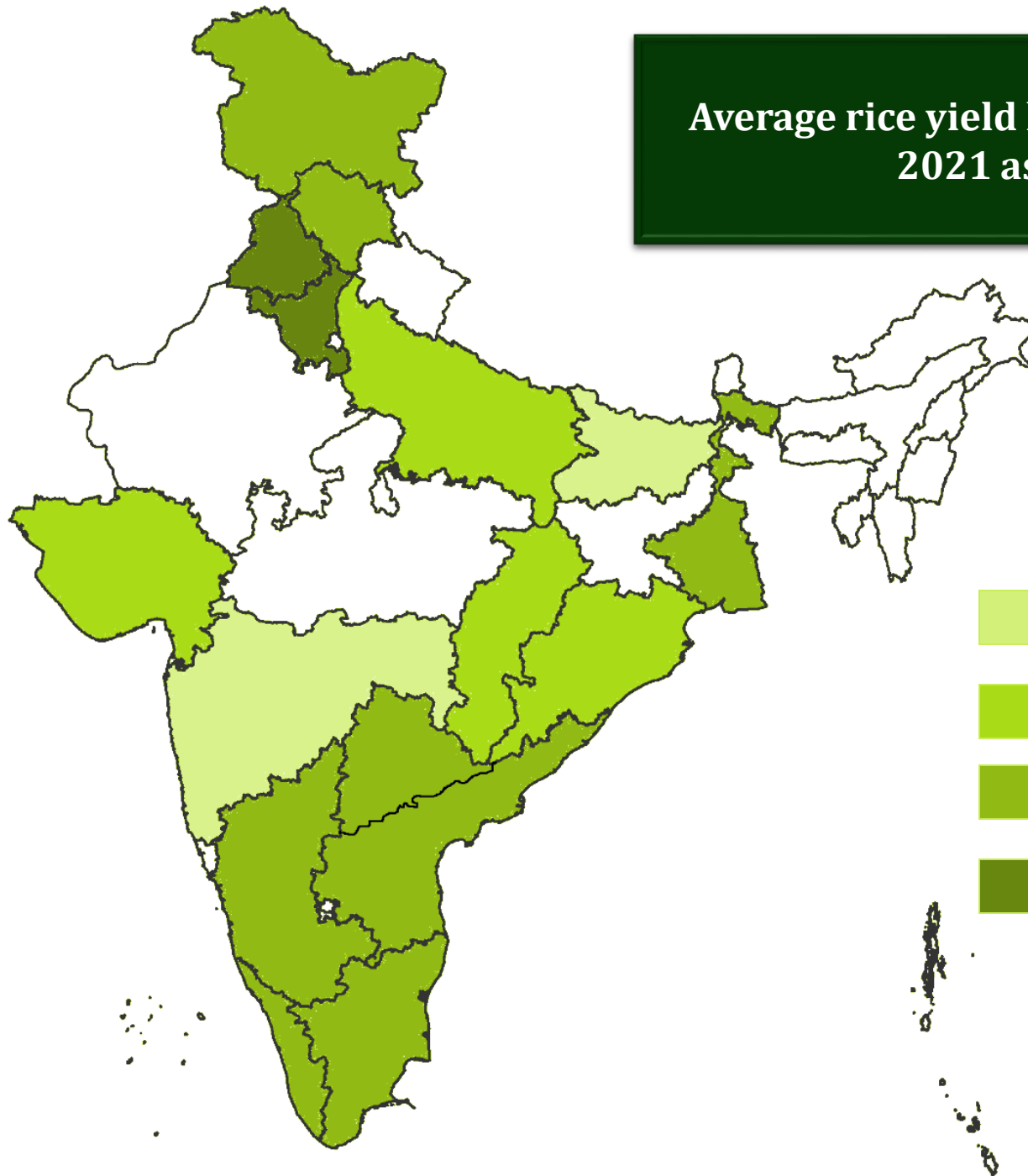
- A staple food crop that holds the key for food security (50%)
- Occupies 43-44 mha (22% of cropped area)
- Annual Production > **121.46** mt)
- A source of livelihood for millions

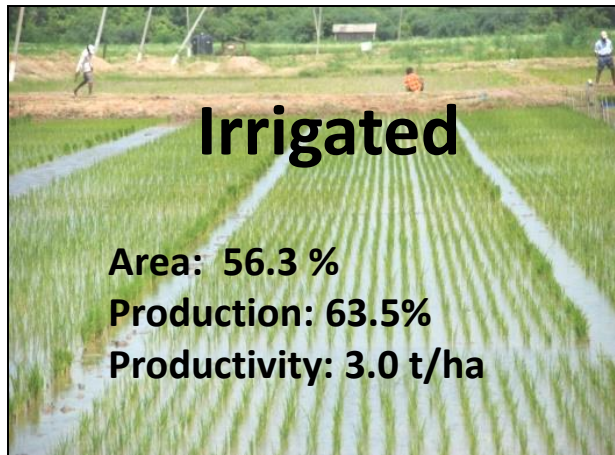


India's Rice Exports are 17.73 MT (Bas : 4.63 MT Non Bas : 13.10 MT)

Earns foreign exchange : Rs. 65326 crores (2020-21 till Mar 2021 - DGCIS)

Average rice yield level in different states of India during 2021 as expressed by the farmers



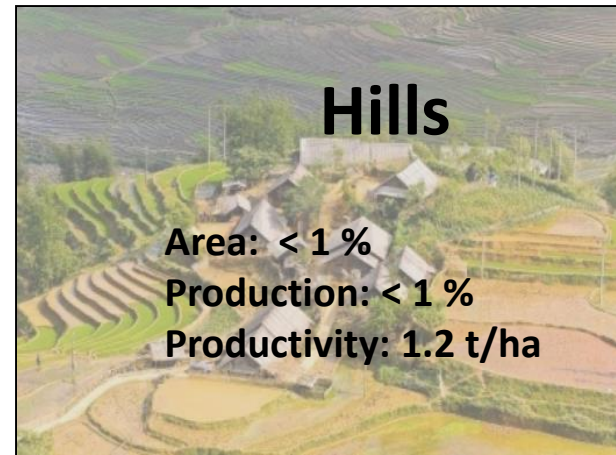


Irrigated

Area: 56.3 %
Production: 63.5%
Productivity: 3.0 t/ha

Uplands

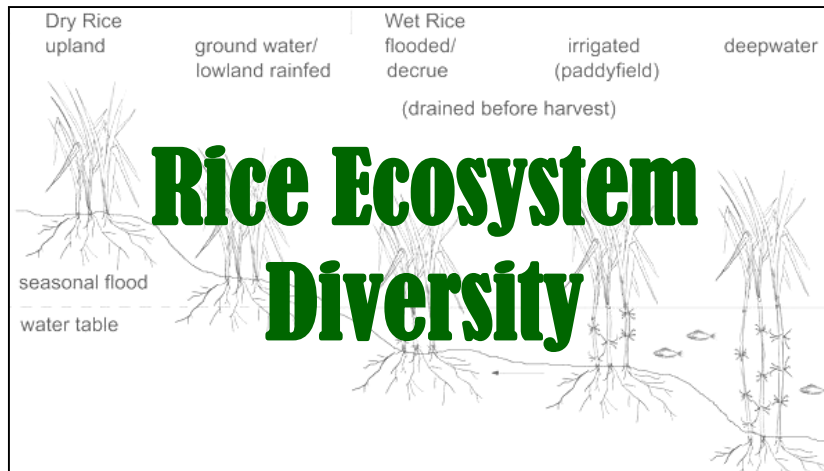
Area: 16 %
Production: 5.8%
Productivity: 1.1 t/ha



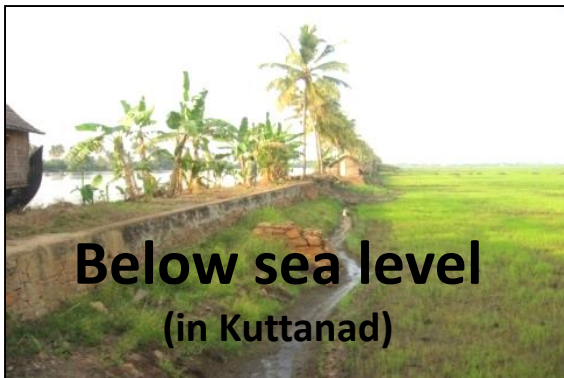
Hills

Area: < 1 %
Production: < 1 %
Productivity: 1.2 t/ha

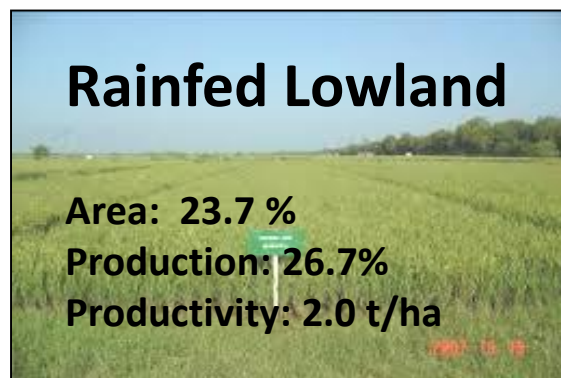
Saline Soils



Acidic Soils

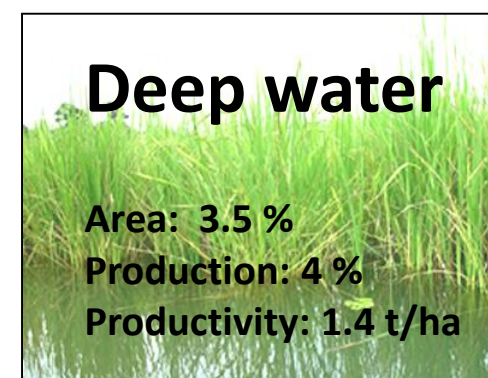


Below sea level
(in Kuttanad)



Rainfed Lowland

Area: 23.7 %
Production: 26.7%
Productivity: 2.0 t/ha

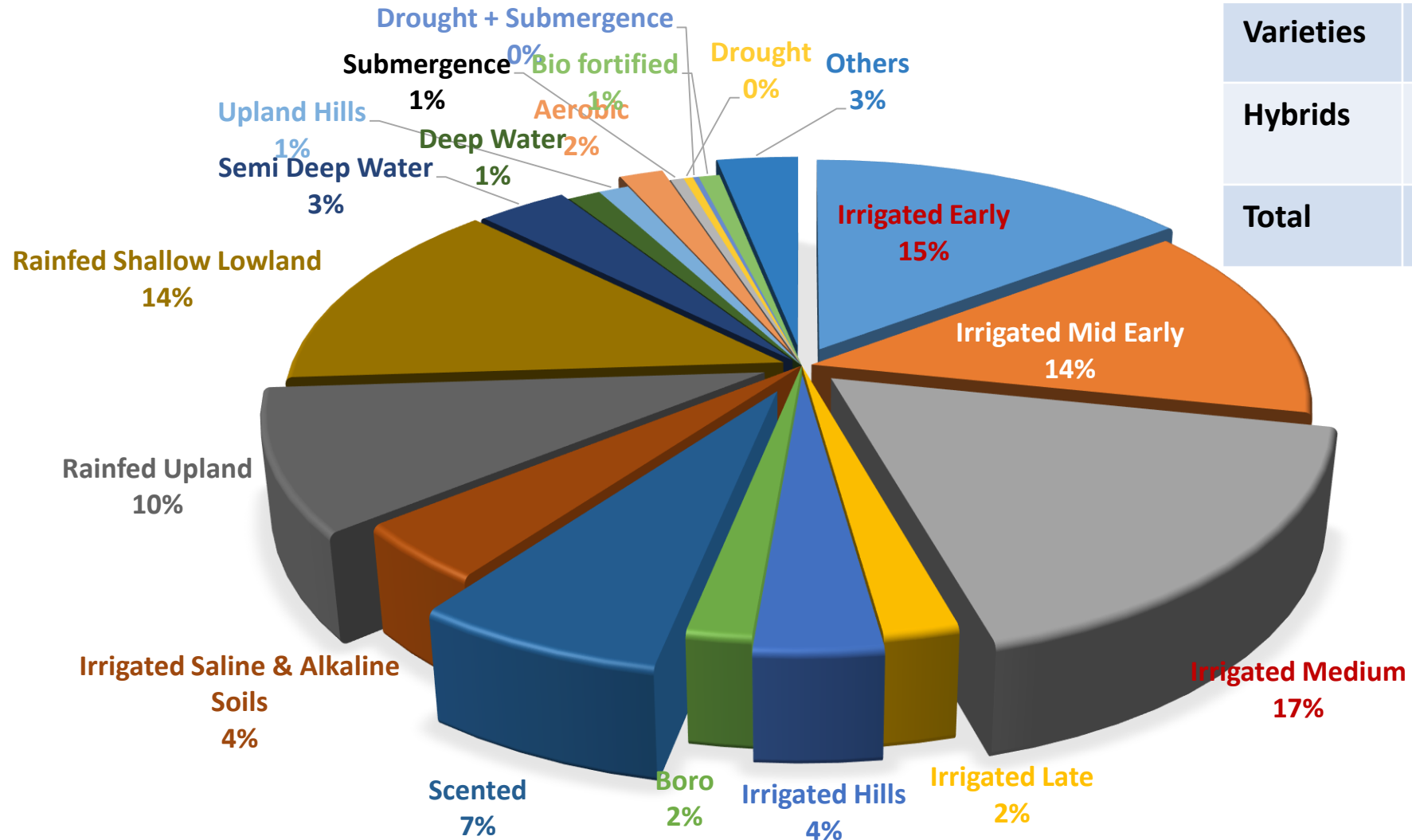


Deep water

Area: 3.5 %
Production: 4 %
Productivity: 1.4 t/ha



Rice Varieties released for various ecologies in India



	CVRC	SVRC	Total
Varieties	258	1127	1385
Hybrids	85 (77+8)	48 (21+27)	133
Total	343	1175	1518



Improved Samba Mahsuri (RP Bio-226)

Variety



First MAS derived variety

xa5+xa13+XA21

Released for the states	:	Andhra Pradesh, Chattisgarh, Orissa, Jharkhand, Bihar, Gujarat and Maharashtra
Duration	:	135-140 days
Grain type	:	Medium slender
Yield potential	:	47 to 50 q/ha
Resistant reaction to diseases and insects	:	Highly resistant to bacterial blight
Unique features	:	Bacterial blight resistant, high yielding, fine grain variety possessing premium grain and cooking quality and low level of glycaemic index (50.99)

DRR Dhan 39

Variety



Released for the states	:	Odisha, Kerala and Gujarat
Duration	:	130-135 days
Grain type	:	Long slender
Yield potential	:	~40 q/ha
Resistant reaction to diseases and insects	:	Resistant to Blast, moderately resistant to RTV, BLB, BPH and WBPH, stem borer, leaf folder bacterial leaf blight
Unique features	:	A salinity tolerant medium duration variety

DRR Dhan 42 (IR 64 Drt 1)

Variety



qDTY2.2 and qDTY4.1

Released for the states	:	Bihar, Madhya Pradesh, Chattisgarh, Jharkhand, Telangana, Andhra Pradesh, Puducherry and Tamil Nadu
Duration	:	120-125 days
Grain type	:	Long slender
Yield potential	:	<ul style="list-style-type: none"> •Yield under irrigated conditions- 65 to 70 q/ha •Yield under moderate drought (25 to 30 rain-free days)- 37 to 45 q/ha •Yield under severe drought (> 35 rain-free days)-20 to 25 q/ha
Resistant reaction to diseases and insects	:	Resistant to Leaf blast
Unique features	:	This culture is a near isogenic line (NIL) developed in the background popular rice variety IR 64 by introgressing drought yield QTLs viz., qDTY 2.2 and qDTY4.1 for high-yielding ability under drought stress through marker-assisted selection

DRR Dhan 43

Variety



Released for the states	: Tamil Nadu, Puducherry, Karnataka and Kerala
Duration	: 110-115 days
Grain type	: Long bold
Yield potential	: 70-80 q/ha
Resistant reaction to diseases and insects	: Resistant to blast and moderate resistant to sheath rot and brown spot, neck blast, BPH and field tolerance to stem borer
Unique features	: A high yielding, early duration, drought tolerant rice variety

DRR Dhan 45

First High Zinc Variety



Released for the states	: Tamil Nadu, Karnataka and Andhra Pradesh
Duration	: 125 days
Grain type	: Long slender
Yield potential	: ~50 q/ha
Resistant reaction to diseases and insects	: Moderately resistant to blast, sheath rot and rice tungro virus
Unique features	: High zinc rice variety

DRR Dhan 46

Variety



Released for the states	: Bihar, Madhya Pradesh and Maharashtra
Duration	: 110-115 days
Grain type	: Long slender
Yield potential	: 65-70 q/ha
Resistant reaction to diseases and insects	: Moderate resistance to leaf blast, neck blast, brown spot, BLB, sheath rot, BPH and WBPH
Unique features	: A high yielding, early duration rice variety for transplanted conditions

DRR Dhan 47

Variety



Released for the states	: Telangana, Andhra Pradesh, Karnataka, Kerala and Puducherry
Duration	: 110-115 days
Grain type	: Long slender
Yield potential	: ~60 q/ha
Resistant reaction to diseases and insects	: Resistant to blast and moderate resistance to neck blast, sheath rot, sheath blight, brown spot and RTD
Unique features	: Heat tolerance; under artificially elevated temperature (5-8°C) at reproductive stage, DRR Dhan 47 was the highest yielding with yield advantage of 6-39% over all other heat tolerant varieties identified earlier

DRR Dhan 48

Variety



Released for the states	:	Telangana, Andhra Pradesh, Karnataka, Kerala and Tamil Nadu
Duration	:	130-135 days
Grain type	:	Medium slender
Yield potential	:	54-60 q/ha
Resistant reaction to diseases and insects	:	Resistant to Bacterial blight (xa5+xa13+Xa21)
Unique features	:	<ul style="list-style-type: none"> • Bio-fortified variety with high zinc content Zinc in polished rice: 22 ppm; in brown rice: 27 ppm. • Low glycemic index: 51.1

DRR Dhan 49

Variety



Released for the states	: Gujarat, Maharashtra and Kerala
Duration	: 125-130 days
Grain type	: Long slender
Yield potential	: ~50 q/ha
Resistant reaction to diseases and insects	: Resistant to bacterial leaf blight (xa5+xa13+Xa21)
Unique features	<ul style="list-style-type: none"> • Bio-fortified variety with high zinc content • Zinc in polished rice: 25.2 ppm; in brown rice: 27 ppm

DRR Dhan 50

Variety



Sub1, qDT2.1, qDT3.1

Released for the states	:	Andhra Pradesh, Telangana, Tamil Nadu, Karnataka, Bihar, Odisha, Chhattisgarh, Uttar Pradesh, Madhya Pradesh
Duration	:	140-145 days
Grain type	:	Medium slender
Yield potential	:	~61 q/ha
Resistant reaction to diseases and insects	:	Resistant to blast and moderate resistance to neck blast, sheath rot, sheath blight, brown spot and RTD
Unique features	:	Seedling stage submergence tolerance (<i>Sub1</i>) and Reproductive (<i>qDTY2.1+qDTY3.1</i>) stage drought tolerance

DRR Dhan 51

Variety



Pi2

Released for the states	: Gujarat, Maharashtra, Odisha and Uttar Pradesh
Duration	: 130-135 days
Grain type	: Short bold
Yield potential	: ~62 q/ha
Resistant reaction to diseases and insects	: Resistant to Leaf Blast
Unique features	: A high yielding short bold grain variety resistant to blast

DRR Dhan 52

Variety



Released for the states	: Haryana, Gujarat and Odisha
Duration	: 110-115 days
Grain type	: Long slender
Yield potential	: ~60 q/ha
Resistant reaction to diseases and insects	: Resistant to blast and moderate resistance to neck blast, sheath rot, sheath blight, brown spot and RTD
Unique features	: Heat tolerance; under artificially elevated temperature (5-8°C) at reproductive stage, DRR Dhan 47 was the highest yielding with yield advantage of 6-39% over all other heat tolerant varieties identified earlier

DRR Dhan 53

Variety



Released for the states	: Released for commercial cultivation in Samba Mahsuri/Improved Samba Mahsuri growing regions of Telangana, Andhra Pradesh, Tamilnadu, Karnataka, Chhattisgarh, Orissa, Jharkhand, Bihar, Gujarat and Maharashtra
Duration	: 130-135 days
Grain type	: Medium slender
Yield potential	: ~60 q/ha
Resistant reaction to diseases and insects	: Highly resistant to bacterial blight of rice. It possesses 4 Major BB resistance genes viz., Xa21+xa13+xa5+Xa38
Unique features	: A high-yielding, bacterial blight resistant, fine-grain type rice variety

DRR Dhan 54

Variety



Released for the states	:	Haryana, Gujarat and Odisha
Duration	:	115-120 days
Grain type	:	Short bold
Yield potential	:	~60 q/ha under transplanted conditions; ~43 q/ha under aerobic conditions
Resistant reaction to diseases and insects	:	Resistant to blast and moderate resistance to neck blast, sheath rot, sheath blight, brown spot and RTD
Unique features	:	Suitable for cultivation under direct seeded aerobic conditions in water limiting areas

DRR Dhan 55

Variety



Released for the states	: Bihar (Zone III) and Chhattisgarh (Zone V)
Duration	: 125 DAYS
Grain type	: Long bold
Yield potential	: 49 - 55 q/ha
Resistant reaction to diseases and insects	Moderate resistance to Leaf blast and Neck blast. Resistance to gall midge and rice thrips and moderate resistance to plant hoppers.
Unique features	: Early Direct seeded aerobic rice variety

DRR Dhan 56

Variety



Released for the states	: Punjab and Haryana States
Duration	: 110-115 days
Grain type	: Long slender
Yield potential	: ~52 q/ha
Resistant reaction to diseases and insects	: Resistant to leaf blast (SI: 3.8), bacterial leaf blight (SI: 4.8) and false smut (0.25)
Unique features	: A High Yielding Long Slender Green Super Rice (GSR) variety

DRR Dhan 57

Variety



Released for the states	: Jharkhand (Zone III) and Chhattisgarh (Zone V)
Duration	: 120 days
Grain type	: Long bold
Yield potential	: 47 - 50 q/ha
Resistant reaction to diseases and insects	: Moderate resistance to Leaf blast and Neck blast. Resistance to gall midge and rice thrips and moderate resistance to plant hoppers and Whorl Maggot.
Unique features	: Early Direct seeded aerobic rice variety

DRR Dhan 58 (*Saltol, Xa21, xa13, and xa5*)

Variety



Released for the states	: Telangana, Andhra Pradesh, Tamil Nādu, Karnataka, Chhattisgarh, Orissa, Jharkhand, Bihar, Gujarat and Maharashtra
Duration	: 130-135 days
Grain type	: Medium slender
Yield potential	: ~55 q/ha. Under saline conditions, 24% more yield and under saline conditions and 8% under normal conditions.
Resistant reaction to diseases and insects	: Resistant to bacterial leaf blight
Unique features	: Salinity tolerant , Bacterial blight resistant, High yielding, Fine-grain type rice variety

DRR Dhan 59 (*Xa33*)

Variety



Released for the states	: Telangana, Andhra Pradesh, Tamil Nadu, Karnataka, Jharkhand
Duration	: 130-135 days
Grain type	: Long bold
Yield potential	: 50-55 q/ha
Resistant reaction to diseases and insects	: Resistant to bacterial leaf blight
Unique features	: High-yielding, Bacterial blight resistant, long bold-grain type rice variety

DRR Dhan 60 (*QTL- Pup1 and (Xa21+xa13+xa5)*)



Released for the states	:	Andhra Pradesh, Telangana, Tamil Nadu, Karnataka, Odisha, Chhattisgarh, Jharkhand, Bihar, Gujarat and Maharashtra.
Duration	:	120-125 days
Grain type	:	Medium slender
Yield potential	:	~52 q/ ha (under 60 kg/ha of P, i.e. recommended dose) and ~48 q/ha (under 40 kg/ha of P)
Resistant reaction to diseases and insects	:	Resistant to bacterial leaf blight
Unique features	:	High-yielding, Low soil phosphorous (P) tolerant (saves 25 % of P fertilizer), Bacterial blight resistant, Fine-grain type rice variety

DRR Dhan 62 (*Xa21+xa13+xa5*) + (*Pi2+Pi54*)



Released for the states	:	Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Jharkhand, Karnataka, Maharashtra, Odisha, Tamil Nadu and Telangana
Duration	:	135-140 days
Grain type	:	Medium slender
Yield potential	:	~61 q/ha
Resistant reaction to diseases and insects	:	Resistant to Leaf Blast, BLB, Neck blast, Brown spot and Sheath rot
Unique features	:	A high yielding fine grain rice variety durable resistant to blast and bacterial blight diseases

DRR Dhan 63

Variety



Released for the states	: Uttar Pradesh & Odisha (Zone III) and Kerala (Zone VII)
Duration	: 127-130 days
Grain type	: Short bold
Yield potential	: ~50 q/ha
Resistant reaction to diseases and insects	: Moderately resistant to leaf and neck blast, bacterial blight, False smut and planthoppers.
Unique features	: A high yielding Zinc rich rice variety

DRR Dhan 64

Variety



Released for the states	: Bihar and West Bengal (Zone III)
Duration	: 120 DAYS
Grain type	: Long slender
Yield potential	: 53 to 60 q/ha
Resistant reaction to diseases and insects	: Moderate resistance to Leaf blast and Neck blast.
Unique features	: N use efficient Early Variety

DRR Dhan 65

Variety



Released for the states	: Telangana, Andhra Pradesh, Chhattisgarh and Punjab
Duration	: Late duration variety (130-135 days)
Grain type	: Short bold
Yield potential	: ~60 q/ ha in normal irrigated conditions : ~47 q/ha under low P conditions
Resistant reaction to diseases and insects	: Tolerant reaction to leaf blast, neck blast, sheath blight and : BPH
Unique features	: Low Soil Phosphorous Tolerance, Heat stress Tolerance

DRR Dhan 66

Variety



Released for the states	: Andhra Pradesh, Telangana and regions growing MTU 1010
Duration	: 120-125 days
Grain type	: Long slender
Yield potential	: ~43 q/ha (60 kg/ha Phosphorous), ~42 q/ha (40 kg/ha Phosphorous) and ~39 q/ha (20 kg/ha Phosphorous).
Resistant reaction to diseases and insects	: Moderate resistant to leaf blast
Unique features	: High-yielding, Low soil phosphorous (P) tolerant (saves 25 % of P fertilizer), Leaf blast resistant, Fine-grain type rice variety

DRRH-4

Hybrid



Released for the states	: Punjab, Odisha, Chhattisgarh, Tripura and Gujarat
Duration	: 120 days
Grain type	: Medium slender
Yield potential	: 57 to 63 q/ha
Resistant reaction to diseases and insects	Moderate resistance to Leaf blast and Neck blast. Resistance to gall midge and rice thrips and moderate resistance to plant hoppers.
Unique features	World's first public bred aerobic rice hybrid with multiple disease resistance.

SAMPADA



- ❖ **Ecology: Irrigated**
- ❖ **Duration: 145 days**
- ❖ **Yield Potential: 5.0 t/ha**
- ❖ **Grain Type: Medium slender**
- ❖ **Resistant to Blast**
- ❖ **Notification year : 2008**
- ❖ **Recommended states for BI, CH, MH, TN, KE**

AKSHYADHAN



- ❖ **Ecology:** Irrigated
- ❖ **Duration:** 135 days
- ❖ **Yield Potential:** 5.5 t/ha
- ❖ **Grain Type:** Long bold
- ❖ **Resistant to blast**
- ❖ **Notification year : 2008**
- ❖ **Recommended states JH, AP, TN, KA**

VARDHAN



- ❖ **Ecology: Irrigated Mid Early**
- ❖ **Duration: 125 days**
- ❖ **Yield Potential: 5.78 t/ha**
- ❖ **Grain Type: Short Bold**
- ❖ **Recommended States UT, HR, UP, JH**

RASI



- ❖ Released in 42 countries, stable yielding variety under low 'P' conditions
- ❖ Ecology: Irrigated
- ❖ Duration: 130 days
- ❖ Yield Potential: 4.1 t/ha
- ❖ Grain Type: Medium slender
- ❖ Recommended states for AP, MP, MH

SUGANDHAMATI



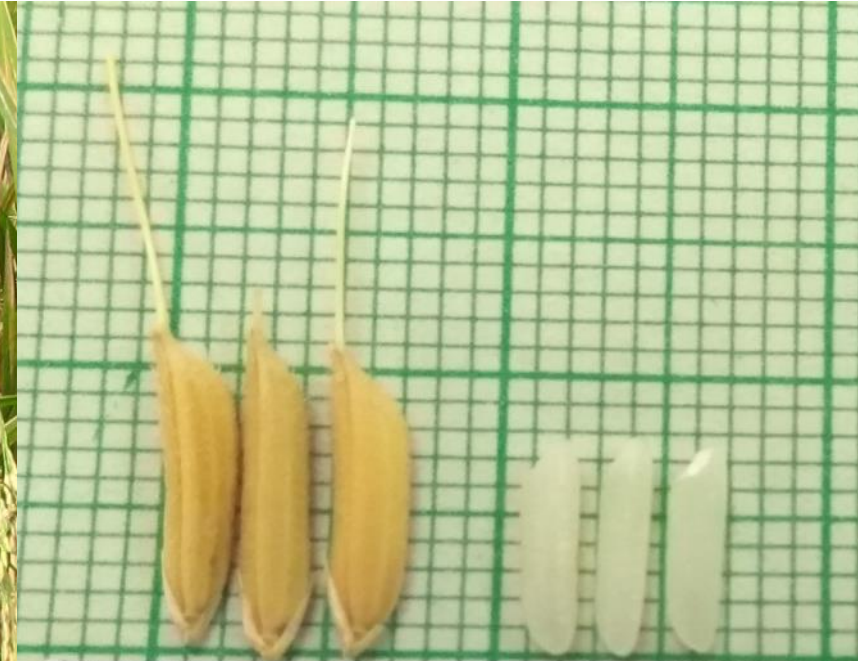
- ❖ **High yielding, scented variety**
- ❖ **Ecology:** Irrigated
- ❖ **Duration:** 130 days
- ❖ **Yield Potential:** 4.1 t/ha
- ❖ **Grain Type:** Long slender
- ❖ **Resistant to leaf blast and brown spot**
- ❖ **Recommended states for PU, JK, HR**

KASTURI



- ❖ **First basmati variety developed from ICAR-IIRR**
- ❖ **Ecology: Irrigated**
- ❖ **Duration: 130 days**
- ❖ **Yield Potential: 4.0 t/ha**
- ❖ **Grain Type: Long slender**
- ❖ **Moderately resistant to blast**
- ❖ **Recommended states for UP, PU, HR, RJ**

VASUMATHI



- ❖ **Ecology: Irrigated**
- ❖ **Duration: 143 days**
- ❖ **Yield Potential: 4.5 t/ha**
- ❖ **Grain Type: Long Slender**
- ❖ **Resistant to Blast**
- ❖ **Notification year: 2001**
- ❖ **Recommended states for UP, JK, RJ**

JAYA



- ❖ **Stable, high yielding variety since 1968 in AICRIP system**
- ❖ **Ecology: Irrigated**
- ❖ **Duration: 130 days**
- ❖ **Yield Potential: 4.5 t/ha**
- ❖ **Grain Type: Long bold**
- ❖ **Resistant to blast and non-lodging**
- ❖ **Recommended states for PU, UP, BI, AS, WB, OD, MP, TN, KA, KE, AP, GA, GU, JK, MG, HR, DL, RJ**

KRISHNA HAMSA



- ❖ **Ecology:** Irrigated
- ❖ **Duration:** 120 days
- ❖ **Yield Potential:** 5.2 t/ha
- ❖ **Grain Type:** Long slender
- ❖ **Resistant to Blast**
- ❖ **Notification year:** 2001
- ❖ **Recommended states for AP, WB, TR, BI**

PRASANNA



- ❖ **Ecology:** Irrigated
- ❖ **Duration:** 105 days
- ❖ **Yield Potential:** 3.3 t/ha
- ❖ **Grain Type:** Long slender
- ❖ **Resistant to Brown spot**
- ❖ **Notification year : 1986**
- ❖ **Recommended states for- AP**



Thank you