

**Appendix 7**

**Proforma for Submission of Proposal for Identification of Crop Varieties/ Hybrids at workshops/State Varietal Identification Committee meetings**

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**Summary of the Proposal (in bullets only)**

**Proforma for Submission of Proposal for Identification of Crop Varieties/ Hybrids at Workshops**

1	Name of the crop and species			
2	a) Name of the variety under which tested in the AICRIP trials			
	b) Proposed name of the variety			
3	Sponsoring institute			
4	a) Institution or agency responsible for developing variety (with full Address)			
	b) Person name, who helped developing variety			
	Developers			
	Collaborators			
5	a) Parentage (with details of pedigree, including the source from which variety/inbred/A,B and R lines of hybrid have been developed)			
	b) Source of the material in case of introduction			
	c) DNA profile of variety/hybrid/inbred/A,B,R lines of the hybrid vis-a vis check variety/line			
	d) Breeding method used			
	E) Breeding objective			
6	State varieties which most closely resemble the proposed variety in general characters			
7	Recommended production ecology (rainfed/irrigated; high/low fertility; season)			
8	Specific area of its adaptation (zones and states for which variety is proposed) and the recommended production ecology			
9	Description of hybrid/variety			
	a) Plant height			
	b) Distinguishing morphological characters			
	c) Maturity (range in number of days) (from seedling/transplanting to flowering, seed-to-seed)			

	d)Maturity group (early, medium and late, wherever such classification exists)			
	e)Reaction to major diseases under field and controlled conditions (reaction to physiological strains/races/pathotypes/bio-types is to be indicated, wherever possible)			
	f)Reaction to major pests (under field and controlled conditions, including storage pests)			
	g)agronomic features (e.g., resistance to lodging, shattering, fertilizer responsiveness, suitability to early or late sown conditions, seed rate, etc.			
	h)Quality of produce a)Grain quality b)Fodder quality i) Reaction to Stresses			
10	Description of parents of hybrid	A line/ inbred 1	B line/ inbred 2	R line
	a)Plant height (cm)			
	b) Distinguishing morphological characters			
	c)Days to flowering			
	d) Days to maturity (range in number of days-from seed-to-seed)			
	e) Is there any problem of synchronization? If yes, its method to overcome			
	f)Reaction to major diseases (under field and controlled conditions, reaction to physiological strains/races/bio-types/pathotypes to be indicated wherever possible)			
	g) Reaction to major pests (under field and controlled conditions, including storage pests)			
	h)Agronomic features (e.g., resistance to lodging, shattering fertilizer responsiveness, suitability to early or late-sown conditions, seed rate, etc.)			
	i)Reaction to stresses			
11	a)Yield data in the coordinated trials (breeding, agronomy, pathology entomology, quality etc) and regional/inter regional district trials year-wise (level of fertilizer application, density of plant population and superiority over local control/standard variety) to be indicated (to be attached)			
	b)Yield data from national demonstration/large-scale demonstrations(to be attached)			
12	a)Agency responsible for maintaining the breeder seed			
	b)Quantity of breeder seed in stock (kg) Variety/A line/B line/R line/Hybrid			
13	Specific recommendations, if any, for seed production (e.g., staggered sowing, planting ratio of parental lines of hybrids in foundation and certified seeds production, probable areas of seed production)			
14	Vivid presentation (field view, close-up of a single plant and seeds/economic parts)			
15	Package of practices along with attainable yield levels			
16	Any other pertinent information			

**Signature of All Contributors**

**Signature of the Head of the Institution**

## Checklist for Proforma for Submission of Proposal for Identification of Crop Varieties/ Hybrids at Workshops

Details/documents	Attached	
Parentage with details on pedigree, including the source from which variety/inbred/A,B and R lines of the hybrid has been developed	YES	NO
Source of the material in case of introduction (IC/EC numbers provided by the NBPGR)	YES	NO
Flow chart of details of development of variety/parental lines of hybrids	YES	NO
Molecular/DNA profile of variety/hybrid/A,B,R lines of the hybrid vis-à-vis check variety/line (details of unique amplicons that distinguish markers) with photographs	YES	NO
Detailed description of the parental lines of the hybrid	YES	NO
Yield data & other data on diseases, insect-pests, quality,etc. from the coordinated trials	YES	NO
Yield data from the national demonstration/large-scale demonstrations	YES	NO
Specific recommendations, if any, for seed production (eg., staggered sowing, planting ratio of parental lines of hybrids in foundation and certified seeds production, probable areas of seed production etc.)	YES	NO
Vivid presentations (field view, close-up of a single plant and seeds) with photographs of the Variety)	YES	NO
Package of practices	YES	NO
Proforma signed by all co-authors and Head of Organization	YES	NO
Any other pertinent information	YES	NO

**Signature of the Head of the Institution**

**Table 1: Summarized yield data of the coordinated varietal trials**

Name of the proposed variety/hybrid:

Adaptability Zone:

Production Conditions:

Item	Year of testing	No. of trials/ Locations	Proposed variety	National check 1	Zonal check 2	Local check 3	Latest released check 4	Qualifying variety*		
								Var.1	Var.2	Var.3
Mean yield (q/ha) a) Zonal b) Across zones (if applicable)	1 <sup>st</sup> year									
	2 <sup>nd</sup> year									
	3 <sup>rd</sup> year									
	Weighted mean									
Percentage increase or decrease over checks & qualifying varieties Frequency in the top three groups (pooled for three years)	1 <sup>st</sup> year									
	2 <sup>nd</sup> year									
	3 <sup>rd</sup> year									
	Weighted mean									

Note: Qualifying variety is one which has completed three years of testing in the coordinated trials; Centre-wise and year-wise data must be appended, otherwise proposal will not be considered

**Table 2. Adaptability to agronomic variables**

Name of the proposed variety/hybrid:

Adaptability Zone:

Production Conditions:

Nature of experiments	No. of trials/locations	Proposed variety	National check 1	Zonal check 2	Local check 3	Latest released check 4	Qualifying variety*		
							Var.1	Var. 2	Var. 3
Sowing date experiments	Yield (q/ha) under recommended sowing date, Percentage gain or loss when sown	(i)Early (ii)Normal (iii)Late							
Fertilizer experiments	Yield (q/ha) under recommended dose Percentage gain or loss under other doses	(i)F0 (ii)F1 (iii)F2							
Irrigation experiments (wherever applicable)	Yield (q/ha) with adequate irrigation Percentage gain or loss with irrigation level	(i)Level 1 (ii)Level 2 (iii)level 3							

Note: specify each date of sowing, fertilizer level and number of irrigations at i, ii, iii

**Table 3. Reaction to major diseases**

Name of the proposed variety/hybrid:

Adaptability Zone:

Production Conditions:

Disease name		Item	Proposed variety	National check 1	Zonal check 2	Local Check3	Latest released check 4	Qualifying variety*		
								Var. 1	Var.2	Var. 3
Disease 1	Natural	1 <sup>st</sup> year								
		2 <sup>nd</sup> year								
		3 <sup>rd</sup> year								
	Artificial	1 <sup>st</sup> year								
		2 <sup>nd</sup> year								
		3 <sup>rd</sup> year								
Disease 2	Natural	1 <sup>st</sup> year								
		2 <sup>nd</sup> year								
		3 <sup>rd</sup> year								
	Artificial	1 <sup>st</sup> year								
		2 <sup>nd</sup> year								
		3 <sup>rd</sup> year								
Disease 3	Natural	1 <sup>st</sup> year								
		2 <sup>nd</sup> year								
		3 <sup>rd</sup> year								
	Artificial	1 <sup>st</sup> year								
		2 <sup>nd</sup> year								
		3 <sup>rd</sup> year								
Disease 4	Natural	1 <sup>st</sup> year								
		2 <sup>nd</sup> year								
		3 <sup>rd</sup> year								
	Artificial	1 <sup>st</sup> year								
		2 <sup>nd</sup> year								
		3 <sup>rd</sup> year								

**Table 4. Reaction to insect-pests**

Name of the proposed variety/hybrid

Adaptability Zone:

Production Conditions:

Pest name		Item	Proposed variety	National check 1	Zonal check 2	Local Check 3	Latest released check 4	Qualifying variety*		
								Var. 1	Var.2	Var. 3
Pest 1	Natural	1 <sup>st</sup> year 2 <sup>nd</sup> year 3 <sup>rd</sup> year								
	Artificial	1 <sup>st</sup> year 2 <sup>nd</sup> year 3 <sup>rd</sup> year								
Pest 2	Natural	1 <sup>st</sup> year 2 <sup>nd</sup> year 3 <sup>rd</sup> year								
	Artificial	1 <sup>st</sup> year 2 <sup>nd</sup> year 3 <sup>rd</sup> year								
Pest 3	Natural	1 <sup>st</sup> year 2 <sup>nd</sup> year 3 <sup>rd</sup> year								
	Artificial	1 <sup>st</sup> year 2 <sup>nd</sup> year 3 <sup>rd</sup> year								

**Table 5. Data on the quality characteristics**

Quality characteristics	Item	National check 1	Zonal check 2	Local Check 3	Latest released check 4	Qualifying variety*		
						Var. 1	Var.2	Var. 3
Parameter-1								
Parameter-2								
Parameter-3								
Parameter-4								

Note: First Specify parameters at 1 to 4 under first column

**Table 6. Data on the other important characters**

Name of the proposed variety/hybrid:

Adaptability zone:

Production conditions:

S.No		Item	Proposed variety	National check 1	Zonal check 2	Local Check 3	Latest released check 4	Qual. Var. 1	Qual. Var.2	Qual. Var. 3
1	Plant height	1 <sup>st</sup> year 2 <sup>nd</sup> year 3 <sup>rd</sup> year								
2	Days to flowering	1 <sup>st</sup> year 2 <sup>nd</sup> year 3 <sup>rd</sup> year								
3	Days to maturity	1 <sup>st</sup> year 2 <sup>nd</sup> year 3 <sup>rd</sup> year								
4	1000-grain weight	1 <sup>st</sup> year 2 <sup>nd</sup> year 3 <sup>rd</sup> year								
5	Lodging	1 <sup>st</sup> year 2 <sup>nd</sup> year 3 <sup>rd</sup> year								
6	Others	1 <sup>st</sup> year 2 <sup>nd</sup> year 3 <sup>rd</sup> year								

## **Guidelines for Filling-up Proforma for Submission of Proposal for Identification of Crop Varieties/Hybrids during Workshops**

1. Name of the crop and the species: The name given to the variety may be indicative of crop name, institute name/code, and number, if any.
2. Name of the variety under which tested: This should include the name under which the variety was tested in the coordinated trials.
3. Proposed name of the variety: This should include the name of the variety that is proposed for its commercial use as per the existing guidelines.
4. Sponsoring institute : This should include the name of the institute/organization that sponsoring the variety
5. Institution or agency responsible for developing variety (with full address) : This should give name of the Institute or organization where the variety has been developed along with the full address
6. Name of the person who helped in the development of the variety: Only those workers should be included who have contributed in the development of the variety/hybrid. The Co-workers can be grouped in 2 categories as the 'Developer' and as the 'Collaborator'.  
The co-worker should be associated with the project (from which cultivar has been developed) for a period of minimum of 2 years. The proposal should be signed by each of the co-worker and validated by the Head of the Organization.
7. Parentage (with details of pedigree including the source from which variety/inbred/A, B and R lines of the hybrid lines has been developed). This should essential ly include details of the base population/source of material used for developing variety/parental lines of the hybrid.  
Pedigree and parentage have to be furnished in details as to how the parents have been developed with flow charts, instead of just giving code numbers. Flow chart should depict clearly development of the proposal culture with year-wise details of attempting initial cross, followed by handling of segregating generation.  
Details, weather collection is indigenous (IC) or exotic (EC), accession no provided by the NBPGR if used, in the development of the variety or parental lines of hybrids, must be provided, Please note that this IC number should be different from the one provided by the NBPGR, upon submission of the seed sample of the line/hybrid/variety, the once variety/hybrid is recommended by the Variety Identification Committee (VIC).
8. Source of material in case of introduction: Details of the EC (Exotic collection) number, may be given provided by the NBPGR, for the imported material used in the variety development.
9. DNA profile of variety/hybrid/inbred/ A,B,R lines of the hybrid vis-à-vis check variety/line  
Detailed information on the molecular discrimination should be provided. Such information can be developed at crop-based institutes/NBPGR/Other labs. The information should include details of amplicons (name, sequence number, primer sequence) with reference to polymorphic markers.  
The relevant photographs should also be attached.
10. Breeding method used : The method used in developing the variety/parental line may be given
11. Breeding objective : The breeding objective for developing the variety
12. State varieties which most closely resemble the proposed variety in general characters.  
The information should include name of the varieties resembling most closely to the proposed variety with reference to different phenotypic traits.
13. Specific area of its adaptation (zones and states for which variety is proposed) and recommended productions ecology  
The information on zones (name of the states), season and production conditions, whether Rainfed or irrigated, should be mentioned.
14. Description of the hybrid/variety: The average and expected normal range with respect to various characters may be mentioned.
15. Description of parents of the hybrid: The average and expected normal range with respect to characters may be mentioned with reference to inbred/A line/B line/R line.
16. Yield data in coordinated trials (breeding, agronomy, pathology, entomology, quality etc) and regional/inter-regional district trials year-wise (level of fertilizer application, density of plant population and superiority over local control/standard variety) are to be indicated (to be attached) The yield data and other data of coordinated trials and other details as per the format

of tables should be appended. Please note that mean is 'weighted mean' and not the 'arithmetic mean'.

17. Yield data from the national demonstration/large-scale demonstrations (to be attached) : The yield and other details as per the format of the tables should be appended.
18. Agency responsible for maintaining breeder seed : Name of the institute/organization/agency responsible to maintain the breeder seed of variety/parental line of hybrid should be given
19. Quantity of the breeder seed in stock (kg): Quantity (kg) of available seeds with reference to variety, hybrid, inbred A/B/R lines of the hybrid are to be clearly indicated.
20. Information on acceptability of the variety by farmers/ consumers/ industry: Any information on such aspects can be given.
21. Specific recommendations, if any, for seed production (e.g. staggered sowing, planting ratio of parental lines of hybrids in foundation and certified seed production, probable areas of seed production)  
The seed production technology and specific requirements should be mentioned clearly along with the proposal. With respect to seed production of hybrid, the staggered sowing of parental lines, if required, should be clearly indicated. The planting ratio of male and female parents in the seed production plots should be indicated. In addition, if there are some other precautions to be taken they are to be mentioned clearly. The probable areas of seed production need to be given.
22. Vivid presentation (field view, close-up of a single plant and a seed/economic parts) : The proposal should invariably have colored pictures with a clear field view of the variety, a close-up of a single plant and a seed/economic parts. Photograph of other plant parts which may help in identification of varieties can also be given. The cover page of the proposal should also have a colored photograph of the variety and should be designed well.
23. Package of practices along with attainable yield levels: A note on the package of practices of the crop with respect of the variety needs to be provided, highlighting particularly specific requirements of the variety to realize its attainable yield levels.
24. Any other pertinent information: Any relevant information, which is seemingly important with reference to variety, hybrid or parental lines of the hybrids, should also be given.
25. Others

One-page 'executive summary' of the proposal may be provided in the beginning, highlighting specific features of the variety/hybrid. Excessive presentation in executive summary should be avoided.

Each page of the proposal should be numbered.

Checklist needs to be part of the proposal.