

Proforma for Submission of Proposals  
for Identification of Crop Varieties/  
Hybrids by Workshops



Indian Council of Agricultural Research

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

## Proforma for Submission of Proposals for Identification of Crop Varieties/ Hybrids by Workshops

1	Name of the crop and species	:	
2	a) Name of the variety under which tested in AICRP trials	:	
	b) Proposed name of the variety	:	
3	Sponsored by (institute)	:	
4	a) Institution or agency responsible for developing variety (with full address)	:	
	b) Name of the person who helped in the development of the variety Developers Collaborators	:	
5	a) Parentage (with details of its pedigree including source from which variety/Inbred/ A, B and R lines of hybrid has been developed)	:	
	b) Source of material in case of introduction	:	
	c) DNA profile of variety/hybrid/inbred/A, B, R line of hybrid vis-à-vis check variety/ line	:	
	d) Breeding method used	:	
	e) Breeding objective	:	
6	State the varieties which are most closely resemble the proposed variety in general characters	:	
7	Recommended productions ecology (Rainfed/Irrigated; high/low fertility; season)	:	
8	Specific area of its adaptation (zones and states for which variety is proposed) and recommended productions 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 to be indicated wherever possible )	:			
	f) Reaction to major pests (under field and controlled condition including store 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	:			
	Grain quality	:			
	Fodder quality	:			
	i) Reaction to stresses	:			
10	Description of the parents of the 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, method to overcome it	:			
	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 store 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 coordinated trials (breeding, agronomy, pathology, entomology, quality etc) regional/inter regional district trials year wise (levels 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 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, plating ratio of parental lines of hybrids in foundation and certified seed production, probable area of	:			

	seed production)		
14	Vivid presentation (field view, close-up of single plant and seed/economic parts)		
15	Package of practices along with attainable yield levels		<ul style="list-style-type: none"> <li>a) Sustainability of variety for the area;</li> <li>b) Selection of field/land preparation;</li> <li>c) Seed treatment;</li> <li>d) Sowing time;</li> <li>e) Seed rate/sowing method-line sowing with Row to row &amp; Plant to Plant distance;</li> <li>f) Fertilizer doses;</li> <li>g) Weed control;</li> <li>h) Disease &amp; Pest Control;</li> <li>i) Irrigation;</li> <li>j) Harvesting;</li> <li>k) Quality characteristics of the variety, if any</li> </ul>
16	Any other pertinent information	:	

Signature of all contributors

Signature of Head of institution

**Checklist for proforma for submission of proposal for Identification of Crop Varieties/ Hybrids by Workshops**

Details/document	Attached	
	Yes	No
Parentage with details of its pedigree including source from which variety/Inbred/A, B and R lines of hybrid has been developed	Yes	No
Source of material in case of introduction (IC/EC numbers provided by 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 line of hybrid vis-à-vis check variety/ line (details of unique amplicons that distinguishing markers along with photographs	Yes	No
Detailed description of hybrid/variety	Yes	No
Detailed description of the parental lines of hybrid	Yes	No
Yield data and other data on diseases, insect-pest, quality etc. from coordinated trials	Yes	No
Yield data from national, demonstration/large scale demonstrations	Yes	No
Specific recommendations, if any, for seed production (e.g. staggered sowing, plating ratio of parental lines of hybrids in foundation and certified seed production, probable area of seed production etc.)	Yes	No
Vivid presentation (field view, close-up of single plant and seed) with the help of 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 Head of Institution



**Table 1. Summary yield data of Coordinated Varietal Trials**

Name of proposed variety/Hybrid:-----						Adaptability Zone -----				
						Production conditions-----				
	Year of testing	No. of trials/locations	Proposed variety	National Check 1	Zonal Check 2	Local check 3	Latest release Check 4	Qual. Var. 1	Qual. Var. 2	Qual. 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									
	<b>Weighted Mean</b>									
Percentage increase or decrease over the checks & qualifying varieties	1 <sup>st</sup> year									
	2 <sup>nd</sup> year									
	3 <sup>rd</sup> year									
	<b>Weighted mean</b>									
Frequency in the top three group (pooled for three years)										

**Note:**

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

**Table 2. Adaptability to Agronomic Variables**

Name of proposed variety/Hybrid:-----					Adaptability Zone -----				
					Production condition-----				
Nature of Expt.	Item	Proposed variety	National Check 1	Zonal Check 2	Local check 3	Latest release Check 4	Qual. Var. 1	Qual. Var. 2	Qual. 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) F <sub>0</sub> ii)F <sub>1</sub> iii) F <sub>2</sub>							
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 proposed variety/Hybrid:-----					Adaptability Zone -----						
					Production condition-----						
Disease name		Item	Proposed Variety	National Check 1	Zonal Check 2	Local check 3	Latest release Check 4	Qual. Var. 1	Qual. Var. 2	Qual. 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							
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**Table 4. Reaction to Insect Pests**

Name of proposed variety/Hybrid:-----					Adaptability Zone -----						
					Production condition-----						
Insect name		Item	Proposed Variety	National Check 1	Zonal Check 2	Local check 3	Latest release Check 4	Qual. Var. 1	Qual. Var. 2	Qual. 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 Quality Characteristics**

Quality Characterist.	Item	Proposed Variety	National Check 1	Zonal Check 2	Local check 3	Latest release Check 4	Qual. Var. 1	Qual. Var. 2	Qual. Var. 3
Parameter -1									
Parameter -2									
Parameter -3									
Parameter -4									

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

**Table 6 Data on other important characters**

Name of proposed variety/Hybrid:-----				Adaptability Zone -----						
		Item	Proposed Variety	National Check 1	Zonal Check 2	Local check 3	Latest release 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 Proposals for Identification of Crop Varieties/ Hybrids by the Workshops**

1. Name of the crop and 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 coordinated trials.
3. Proposed name of the variety  
This should include the name of the variety that is being proposed for its commercial use as per existing guidelines.
4. Sponsored by (institute)  
This should include the name of the institute/organization that is sponsoring the variety
5. Institution or agency responsible for developing variety (with full address)  
Institute or organization where the variety was developed along with 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 variety/hybrid. The co-workers can be grouped in 2 categories as ‘Developer’ and ‘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 co-worker and validated by Head of Organization.
7. Parentage (with details of its pedigree including source from which variety/Inbred/ A, B and R lines of hybrid has been developed)  
This should essentially include the details of base population/ source of material used for developing the variety/parental lines of hybrid. Pedigree and parentage have to be furnished in detail as to how the parents have been developed with flow charts instead of just giving the code numbers. Flow chart should clearly depict the development of the proposed culture with year-wise details of attempting the initial cross followed by handling of segregating generation.  
The details of indigenous collection (IC) or exotic collection (EC) number of accessions (provided by NBPGR), if used, in the development of variety or parental lines of hybrids must be provided. Please note that this IC number is different from the one that is provided by NBPGR upon submission of seed sample of line/hybrid/variety once variety/ hybrid is recommended by the Variety Identification Committee (VIC).
8. Source of material in case of introduction  
Details of EC (Exotic collection) number provided by NBPGR for the imported material used in variety development.

9. DNA profile of variety/hybrid/inbred/A, B, R line of 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

11. Breeding objective

The breeding objective in the development of variety

12. State the varieties which are most closely resemble the proposed variety in general characters

The information should include the name of the varieties that resemble most closely with 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 hybrid/variety

The average and expected normal range with respect to various characters may be mentioned.

15. Description of the 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) regional/inter regional district trials year wise (levels of fertilizer application, density of plant population and superiority over local control/standard variety 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 'arithmetic mean'.

17. Yield data from national, demonstration/large scale demonstrations (to be attached)

The yield and other details as per the format of tables should be appended.

18. Agency responsible for maintaining breeder seed



Name of the institute/organization/agency that is responsible to maintain the breeder seed of variety/parental line of hybrid.

19. Quantity of breeder seed in stock (kg)

Quantity (kg) of available seed with reference to variety, hybrid, inbred/ A/B/R lines of hybrid 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, plating ratio of parental lines of hybrids in foundation and certified seed production, probable area of seed production)

The seed production technology and specific requirements should clearly be mentioned along with 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 also be indicated. In addition, if there are some other precautions to be taken they are to be clearly mentioned. The probable area of seed production needs to be given.

22. Vivid presentation (field view, close-up of single plant and seed/economic parts)

The proposal should invariably have coloured pictures with a clear field view of variety, a close-up of single plant and seed/economic part. Photograph of other plant parts which can be helpful in identification of varieties can also be given. The cover page of proposal should also have a coloured photograph of variety and should be well-designed.

23. Package of practices along with attainable yield levels

A note on the package of practices of crop with respect to the variety needs to be provided particularly highlighting specific requirement of variety to realize its attainable yield levels.

24. Any other pertinent information

Any other relevant information which is important with reference to variety, hybrid or parental lines of hybrids.

25. Others

- One-page 'executive summary' of proposal may be provided in the beginning highlighting the specific features of the variety/hybrid. Excessive presentation in executive summary needs to be avoided.
- Page numbers should be provided at each page of proposal.
- Check-list needs to be part of the proposal.

- The CVRC proposal should be scrutinized at the level of Project Coordinator/Project Director before submission to CVRC. PCs/PDs will provide their comments on the proposal to member secretary (CVRC).