



**ANNUAL REPROT**  
**MERA GAON MERA GAURAV**  
**2019-20 (Jan – Dec)**



National Research Centre on Plant Biotechnology  
L.B. S. building, Pusa Campus  
New Delhi-110012  
([www.nrcpb.res.in](http://www.nrcpb.res.in))

Published by  
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Correct Citation  
Annual Report 2019-20 (Jan-Dec)  
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## 1. Background Information:

National Research Centre on Plant Biotechnology (NRCPB) is a premiere research institution of the Indian Council of Agricultural Research (ICAR). The institute was founded in 1985 as the 'Biotechnology Centre' of Indian Agricultural Research Institute (IARI) for molecular biology and biotechnology research in crop plants. The prescience of the role of biotechnology in agriculture led to a bigger responsibility for this centre and it was elevated as National Research Centre on Plant Biotechnology (NRCPB) in the year 1993. ICAR-NRCPB has been entrusted with the responsibility of developing new tools and techniques and to deliver breakthrough in biotechnology for crop improvement.

With a humble beginning and a few dedicated scientists, the centre could successfully deliver varieties such as Pusa Jai Kisan, which is one of the top three mustard varieties released by the ICAR till date. Besides, the centre has released a rice variety Improved Pusa Basmati-1 resistant to bacterial leaf blight and PB-1637 for blast resistance using marker assisted selection (MAS) in collaboration with the Division of Genetics, IARI. Recently, in rice DRR Dhan-50, CR Dhan 802, CR Dhan 206, Ranjeet and Bahadur for drought and submergence tolerance were released using marker assisted selection (MAS) in collaboration with IIRR, Hyderabad, NRRI, Cuttack, Odisha and AAU, Jorhat, Assam under the DBT sponsored project QTL to Variety. Moricandia based CMS system developed at NRCPB has contributed to the commercial production of mustard hybrids namely NRC Sankar Sarson (DRMR, Bharatpur) and Coral 432 (Advanta India). Recently, four varieties of mustard namely Pusa Jai Kishan, PM-25, PM-26, PM-28 and PM-29 were released and notified by CVRC with partnership of IARI, New Delhi and three wheat varieties namely HD 3237, HD 3271 and HD 3249 were released and notified by CVRC with partnership of IARI, New Delhi. Also, an early maturing dwarf pigeon pea variety Pusa Arhar-16 was released in 2017 with collaboration of IARI, New Delhi. Apart from Moricandia CMS, about 11 CMS in *Brassica juncea* and one CMS in *Brassica oleracea* were developed from ICAR-NRCPB, Delhi. In 2017 one genetic stock of *Brassica rapa* *vr.* yellow sarson namely, NRCPB rapa 8 were registered in 2017 which enables high frequency of *in-vivo* seed recovery in interspecific crosses with *Brassica nigra* without embryo rescue or any other tissue culture interventions during resynthesis of *Brassica juncea*.

The rice blast resistance gene Pi54 identified, mapped, cloned and characterized at NRCPB has been transferred in mega varieties of rice like Pusa Basmati and BPT 5204 and in many other varieties by the rice breeders using MAS. The centre has matched steps with the changing time and conducted research in basic and applied research for crop improvement resulting in many publications in high impact factor journals, patents and public private partnerships. The state-of-the-art infrastructure and expertise of the scientists have enabled

the successful execution of International (rice, tomato and wheat) and National ( Pigeonpea, Mango, *Mesorhizobium*, *Puccinia* and *Magnaporthe* ) genome sequencing projects.

The centre takes lead and has contributed substantially towards human resource development by developing strong inter-and intra-institutional linkages and organizing training programmes, summer/winter schools sponsored by Education Division of ICAR as well as other major national funding agencies.

**2. Technological intervention:** The new varieties viz., DRR Dhan 50, Pusa Basmati 1637, Pusa Jaikisan, Pusa Mustard 28, Pusa Arhar 16, HD 3237, were demonstrated at farmer's field in the area of western and eastern part of Uttar Pradesh.

**3. Innovative extension methods used:** Field demonstrations were conducted through farmer participatory mode at farmer field and at ICAR-NIPB, Delhi. Kisan ghosti and farmer's day were organized at institute and villages. The seed kits were distributed of the improved varieties under MGMG program for the replacement of the old technologies with new technologies.

**4. Linkage developed through Govt. sponsored schemes /Spread/benefits:** The linkage were developed with ICAR-IARI, Delhi, ICAR-IISR, MAU, KVK, Sikohpur, KVK, Gautam Buddha Nagar in public sector institutes and in private sector organization the linkage were developed with NEFORD Lucknow for the spread of the technologies to the farmers.

**5. Impact:** The new technologies were adopted by the farmer's in large scale in the respective areas. We are providing the knowledge and training to the farmers for the Quality seed production of the different crops which helps in the self sufficiency of the quality seed for their use.

**6. Lessons Learned:** NA

**7. Supporting Images** (2-4 photographs of technological intervention / VIP visit/ extension activities)

**8. Additional information (If any) :** NA

**Name of Nodal officer with contact details**

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**No. of Teams formed:**

No. of Team of Scientists	No. of Scientists

06	40
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### No. of Villages Selected:

No. of Team of Scientists	No. of Scientists	No. of Villages	No. of Blocks	No. of Districts	Bench Mark Survey conducted (No. of villages)
06	40	12	04	04	36

### Institution-wise progress

#### Detailed Progress:

The centre is also actively involved in farmers related project including PM's dream project Mera Gav Mera Gaurav and Farmers FIRST program to provide the new technologies (varieties tolerant to climate change) and high yielding quality seeds to minimize the cost of cultivation and ultimately to increase the farmer income aiming towards Doubling the Farmer's Income till 2022. The FLD for different crops were regularly conducted in western and eastern part of UP at farmer's field and example in case of Doubling the Farmer's Income through ICAR-NRCPB technologies like mustard variety Pusa Jai Kishan, PM 28 and rice varieties Pusa Basmati 1637, CR Dhan 802 and DDR Dhan 50

#### Activities undertaken

- The institute has organized 29 *Kisan Ghosthi* /Meeting with farmers in adopted villages Narmohampur, Nekpur and Shakalapur district Bulandshar and Dumrao, Kasharia, Arshipur, Bhilashpur, district Mau and Ballia Uttar Pradesh .
- Near about 507 farmers participated and getting benefit from each ghosthi/meeting.
- Conducted 201 demonstrations of Rice varieties Pusa Basmati 1637 and DDR Dhan 50 were conducted at these adopted villages at farmer filed.
- Conducted 129 demonstrations of Mustard varieties Pusa Jai Kishan, Pusa Mustard 28 and wheat variety HD 3237 were conducted at these adopted villages at farmer filed.
- The Scientist of the institute advised to the farmers time to time by mobile based technology and also distributed supporting literature related to varieties.
- The awareness about Soil testing, *Pradhan Mantri Fasal Bima Yojna*, E-marketing, Drip irrigation, organic farming and *Sawach Bharat Abhiyan* was also undertaken during the visit

- Institute have organized training program of seed production and seed production of Pusa 1637 and Pusa 1460 along with mustard varieties Pusa Jai Kishan, Pusa Mustard 28 and wheat variety HD 3237 at respective villages
- Farmers of adapted villages under MGMG was participated in Krishi Umanti Mela 2019

**Table -1: Activities organised by \_\_\_\_\_ under MGMG**

SN	Name of activity	No. of activities conducted	No. of farmers participated & benefitted
1.	Visit to village by teams		
2.	Interface meeting/ <i>Goshthies</i>	29	507
3.	Training organized	12	130
4.	Demonstrations conducted	330	330
5.	Mobile based advisories (No.)	60	85
6.	Literature support provided	3020	3020
7.	Awareness created	40	115
8.	Input support provided (q)	23 q free seed	330
	<b>Total</b>	3474	4417

**Table-2 : Other activities organized by \_\_\_\_\_.**

SN	Name of activity	No. /Area (ha)	No. of farmers benefitted
1.	Linkages developed with other agencies (No. of agency)	05	
2.	Facilitation for new varieties, seeds, technology		
	i. New varieties (No.)	04	330
	ii. Technology (No.)		
	iii. Seeds (q)	23	330
	iv. New crops (No.)		
	<b>Total</b>	27	660



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Dr Sanjay Singh  
Principal Scientist &  
Nodal Officer, MGMG

**Activity-wise action photographs with title (also attach photographs JPEG format separately)**



**Group discussion with farmers  
Dumrao, Mau district**



**Group discussion with farmer at  
Normohandpur, Bulandshar  
village**



**Field visit of women farmers at  
Sriyal Village , Bulandshar**



**Field visit of Pusa Basmati 1637  
at Normohandpur, Bulandshar  
village**



**Farmer Train at District Mau, Uttar  
Pradesh**



**Demonstration plot of DDR Dhan  
50 at Kushinagar, Uttar Pradesh**

1. Project Director, ICAR-NIPB Interact with farmers at Narmohampur Viilage



2. Scientists and farmers interaction at Narmohampur Viilage



3. Seed production Training at Shakalapur Village



4. Kishan Goshthi at Nekepur village



Field visit of wheat cropn at shaklapur



Field visit of pusa mustard varity pusa mustard 28 at Normohammadpur



Field visit of wheat crop at Shriyal



**Project Director NRCPB  
Interact with farmers at  
Narmohampur Viilage**



**Kishan Goshthi at Shahkalpur  
village**



**Discussed with farmers  
related village problems at  
Normohammadpur**



9. NEWS  
SATURDAY , OCTOBER 4 2019

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# **Delhi Dehat News** खबरें आपके और करीब

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**“मेरा गांव मेरा गौरव” से बढ रहे किसान**

**नवीन कुमार**

**दिल्ली देहात न्यूज़**

प्रधानमंत्री नरेंद्र मोदी द्वारा चलाए जा रहे कार्यक्रम “मेरा गांव मेरा गौरव” के अंतर्गत भा.कृ.अ.प.(राष्ट्रीय पादप जैव प्रौद्योगिकी अनुसंधान केंद्र, पूसा कैम्पस, नई दिल्ली) के वैज्ञानिकों एवं तकनीकी अधिकारियों डॉ. प्रदीप कुमार जैन, डॉ. सरबजीत कौर, डॉ. शर्मिष्ठा बड़ठाकुर, डॉ. एन सी गुप्ता, निम्मीन एम एस, संध्या रावत ने 19 सितंबर को जिला बुलंदशहर उत्तर प्रदेश के नेकपुर एवं नारमुहदपुर गांवों का दौरा किया। कार्यक्रम संयोजक, डॉ. संजय सिंह के मार्गदर्शन में वैज्ञानिकों एवं तकनीकी अधिकारियों ने किसानों के खेतों पर प्रदर्शन के लिए लगाई गयी प्रजातिया पूसा बासमती 1637 एवं पूसा बासमती-1460 का दौरा किया। यहां किसानों को बताया कि पूसा बासमती-1 प्रजाति में नेक बलास्ट (गर्दन तोड़) बिमारी का प्रकोप बहुत ज्यादा होता है द्य नेक बलास्ट (गर्दन तोड़) बिमारी से पूसा बासमती-1 प्रजाति को बचाने के लिए राष्ट्रीय पादप जैव प्रौद्योगिकी अनुसंधान केंद्र ने पूसा संस्थान के साथ मिलकर एक नई प्रजाति विकसित की है। जिसमें पूसा बासमती-1 के सभी गुण हैं। किसानों को कम यूरिया डालने की सलाह दी गई जिससे धान में होने वाली बीमारियों से बचा जा सके। इसी दौरान एक किसान संगोष्ठी का आयोजन सतवीर सिंह के नेतृत्व में किया गया जिसमें उक्त दोनों गांवों के लगभग 25 से अधिक किसानों ने भाग लिया। गोष्ठी का संचालन कर डॉ.संजय सिंह ने संस्थान द्वारा किए जा रहे विभिन्न फसलों में सुधार के बारे में जानकारी दी गई और इस सुधार से किसानों को कैसे लाभ मिलेगा, उसके बारे में बताया और साथ में किसानों को अजोवक्टर नामक दवा के बारे में बताया जो भारतीय कृषि अनुसंधान संस्थान पूसा नई दिल्ली से निकली गयी है जिसका उपयोग गेहूँ, चना, सरसो, सब्जियों आदि के बीज का उपचार करने के लिए होता है। यह दवा बीज के चारों तरफ चिपक जाती है जब बीज जमीन में बोया जाता है तो यह दवा मिट्टी में मिल कर मिट्टी में नत्रजन पैदा करती है जिससे किसानों को नत्रजन की मात्रा का प्रयोग कम हो जाता है और किसानों की लागत में कमी के साथ उपज भी बढ़ जाती है। किसानों को एक एक किलो सरसो की प्रजाति पूसा जय किसान के बीज के साथ का एक-एक पैकेट अजोवक्टर दवा डॉ. प्रदीप कुमार जैन, और डॉ. सरबजीत कौर ने दी। साथ ही एक हेक्टेयर के लिए गेहूँ, चना, सरसो, सब्जियों आदि के बीज का उपचार करने के लिए भी दवा दी गई।



इस बार किसानों यह जानकारी दी गयी है कि इस साल किसान को उत्तर प्रदेश सरकार द्वारा गेहू की खरीद के लिए जैसा इंतजाम किया था वैसा ही इंतजाम धान में भी किया जा रहा है ताकि किसानो को धान का उचित दाम मिल सके। इसी कार्यक्रम के दौरान प्रधानमंत्री फसल बीमा योजना, मृदा सेहत कार्ड, सिंचाई योजनाओं के बारे में जानकारी दी गई। किसानों को मिट्टी परिक्षण के फायदे व योजनाओं आदि के बारे में विस्तार से जानकारी दी गई। साथ ही स्वच्छ भारत अभियान में भी हिस्सा लिया।

कृषि उन्नीती मेला, 2019  
आईएआरआई, नई दिल्ली  
16-03-2019 से 19-03-2019

भा. कृ. अनु. प.-राष्ट्रीय पादप जैवप्रौद्योगिकी अनुसंधान केंद्र ने भा. कृ. अनु. प.-भारतीय कृषि अनुसंधान संस्थान पूसा नई दिल्ली आयोजित कृषि उन्नीती मेला 16--19 मार्च 2019 में भाग लिया। संस्थान द्वारा इस मेले में धान, दलहन, गेहू तथा सरसो की फसलों में जैवप्रौद्योगिकी के द्वारा किए गए सुधार, विभिन्न शोध गतिविधियों और उपलब्धियों का प्रदर्शन किया गया। इस संस्थान के स्टाल का मुख्य आकर्षण जैवप्रौद्योगिकी द्वारा विकसित बाढ़, सूखा, बीमारियों आदि के प्रति प्रतिरोधी व सहनशील धान, अरहर तथा सरसो की उन्नत प्रजातियों का प्रदर्शन किया गया, जिसे किसानों ने बहुत पसंद किया था इन प्रजातियों के बीज को प्राप्त करने की उत्सुकता दर्शाई। इस प्रौद्योगिकी के प्रयोग से कम लागत, अधिक उपज के कारण किसानों को अधिक लाभ की प्राप्ति होगी केंद्र के सभी वैज्ञानिक, छात्रों और प्रशासनिक अधिकारी में के लिए केंद्र के ऑडिटोरियम में माननीय प्रधान मंत्री श्री नरेंद्र मोदी का लाइव वेब प्रसारण को देखा। कृषि उन्नीती मेले के इन चार दिनों के दौरान, हजारों से अधिक किसानों ने केंद्र के स्टाल का दौरा करके हर प्रकार की जानकारियां केंद्र के परियोजना निर्देशक तथा वैज्ञानिकों द्वारा प्राप्त की और भारतीय कृषि के कल्याण के लिए आईसीएआर-एनआरसीपीबी के प्रयासों की अत्यधिक सराहना भी की।



