



सत्यमेव जयते

# Annual Report

2013-14



## Protection of Plant Varieties and Farmers' Rights Authority

Department of Agriculture & Co-operation  
Ministry of Agriculture, Government of India  
NASC Complex, DPS Marg, New Delhi-110012  
[www.plantauthority.gov.in](http://www.plantauthority.gov.in)



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**Dr. R.R. Hanchinal**

Chairperson

Protection of Plant Varieties &

Farmers' Rights Authority, New Delhi



## Foreword

It gives me pleasure to present the Annual Report of the Protection of Plant Varieties and Farmers' Rights (PPV&FR) Authority for the year 2013-14. India is among the first few countries of the world to enact the PPV&FR Act on the *sui-generis* system. The Act has been designed as per national requirements and our international obligations to the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) of the World Trade Organization and our commitments to the spirit of International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA).

Acting as per its mandate, the Authority has developed a framework for an effective system for protection of plant varieties, the rights of farmers, researchers and plant breeders and encourage the development of new varieties of plants. The Authority has created systems and processes for protection of different categories of plant varieties, and has established Plant Varieties Registry, National Gene Bank, Field Gene Banks, DUS testing centres and created databases of extant varieties, Varieties of Common Knowledge (VCK) and registered varieties. It publishes the Plant Variety Journal of India and created a Farmers' Cell to provide necessary assistance to farmers in the registration of their varieties and conservation and sustainable use of plant genetic resources. A Legal Cell assists plant varieties registry and defends the interest of the Authority in court cases to meet its objectives and goals. The Authority has expanded its basket for registration of varieties from 59 to 79 notified crops / species as compared to previous year. A set of nine crops consisting of citrus fruits (3), flowers (2), banana, musk melon, water melon and tea have been submitted to DAC for notification.

The Authority has conferred the coveted '**Plant Genome Saviour Community Awards 2011-12, Farmers' Rewards & Recognitions**' from the National Gene Fund to recognize the contributions of the farming communities in the conservation of agro-biodiversity hotspots. On the eve of International Day of Biological Diversity i.e. (22 May, 2013), the Authority organized the 5<sup>th</sup> Plant Genome Saviour Community Awards ceremony at New Delhi. Shri Tariq Anwar, Union Minister of State for Agriculture & Food Processing Industries (FPI) conferred the Plant Genome Saviour Community Awards, Rewards and Recognitions to the farming communities and farmers for their dedicated and untiring efforts in the conservation, management and improvement of plant genetic resources.

The Authority has facilitated and conducted trainings-cum-awareness programmes by providing financial support to various institutions / NGOs across the country. A special drive on awareness was undertaken in agro-biodiversity hotspot

areas. The Authority also participated in the Kisan Mela, Kisan Utsav at various places including IARI, New Delhi; GBPUA&T, Pantnagar; CICR, Nagpur; India International Trade Fair (IITF), New Delhi for showcasing the activities of the Authority through mass media modules. The Authority provided its expert comments on proposals relating to bilateral co-operation in agriculture and allied areas from various countries with India received from DAC. During the reporting year, foreign delegations visited the Authority and an Indian delegation participated in the 5th Governing Body meeting of the ITPGRFA at Muscat, Oman on 22-28 September, 2013. The Indian delegation also participated in a UPOV seminar in Sri Lanka on 25-26 November, 2013 and visited CIMMYT, Mexico from 22-28 March, 2014 on the invitation from Borlaug Rust Initiative. The Chairperson, PPV&FRA was the key member in all the above delegations.

I feel privileged in placing on record the guidance and motivation provided by the Shri Sharad Pawar, Union Minister of Agriculture and Food Processing Industries for the progress and development of the Authority. I also acknowledge the keen interest shown by Minister of State for Agriculture and Food Processing Industries, Shri Tariq Anwar.

I am also equally indebted to Shri Ashish Bahuguna, Secretary, DAC and Dr. S. Ayyappan, Secretary, DARE & Director General, ICAR for their leadership and constant support. I express my sincere gratitude to Shri Avinash Kumar Srivastava, Additional Secretary, DAC & Shri Atanu Purkayastha, Joint Secretary (Seeds) for their keen interest and valuable support extended to the Authority. I gratefully acknowledge the contributions of the members of the Authority and other experts who served various Committees, Task Forces with dedication and helped the Authority in achieving its targets.

I am profoundly grateful to former Chairpersons of PPV&FRA for their catalytic role, farsightedness, leadership and continuous support in the progressive development of the Authority during respective tenures. I am also thankful to Nodal Officers of the DUS Centres of the Indian Council of Agricultural Research (ICAR), State Agricultural Universities (SAUs), Council of Scientific and Industrial Research (CSIR) and Indian Council of Forest Research and Education (ICFRE) for providing services and support to Authority in respective areas.

I wish to convey my thanks to the officers of the DAC, Ministry of Agriculture, ICAR, ICFRE, CSIR, Ministry of Law and Justice, Ministry of Environment and Forests for providing their technical expertise and contributions. I am also thankful to Directors, Indian Agricultural Research Institute (IARI), New Delhi & National Bureau of Plant Genetic Resources (NBPGR), New Delhi and their Regional Centres for shouldering various responsibilities assigned by the Authority. I acknowledge with thanks the services of our esteemed bankers i.e. State Bank of India and Syndicate Bank for their financial services and support. I am highly grateful to the CAG for their timely advice on financial matters.

I appreciate and compliment the editorial team for the timely compilation and publication of the Annual Report. A word of appreciations goes to Shri D.S. Mishra, Joint Registrar and his team for an effective coordination and bringing out the report on time.



(R.R. Hanchinal)

# Acknowledgement

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I would like to express my sincere gratitude to Dr. R.R. Hanchinal, Chairperson, PPV&FR Authority for his valuable support, motivation and enthusiasm and comprehensive views in the preparation of the Annual Report 2013-14 of the Authority.

I am profoundly thankful to Dr. P.L. Gautam, former Chairperson and Dr. S.K. Datta, DDG (Crop Sciences), ICAR cum acting Chairperson of the PPV&FR Authority (w.e.f. 19 December, 2012) onwards for their valuable co-operation, guidance and support.

I owe my special words of appreciation to Shri D.S. Mishra, Joint Registrar for his sincere efforts in writing, compiling and synthesizing manuscript continuously for the last three years. My appreciation is also due to Shri Dipal Roy Choudhury, Joint Registrar for his critical comments and valuable suggestions in shaping the Annual Report.

I am also thankful to all Registrars Dr. Manoj Srivastava, Dr. Tejbir Singh and Dr. Ravi Prakash for providing necessary inputs to improve the contents. I am equally grateful for the inputs provided by Dr A. C. Sharma and Shri Umakant Dubey, Deputy Registrars, Guwahati and Ranchi; Shri D.S. Raj Ganesh and Shri Rabi Raman Pradhan, Legal Advisors Dr. D.S. Pilania, Technical Officer; Mrs. Shipra Mathur, Shri Shyam Narayan, Computer Assistants and other officers of the Registry in particular. I am also thankful to our Consultants Shri T.D. Tiwari and Shri Roshan Lal.

My special words of thanks go to Shri Jatin Kumar, Office Assistant for giving the secretarial assistance in typing, formatting and designing this Annual Report in a time bound manner. The Authority is highly thankful to the support from the Department of Agriculture & Co-operation and the Indian Council of Agricultural Research (ICAR).

We sincerely cherish the partnership that PPV&FR Authority has developed with DUS Centres / Projects at various institutes / centres of the ICAR, SAUs, CSIR & ICFRE for their co-operation and providing valuable inputs for the preparation of this Annual Report.



**(R.C. Agrawal)**  
**Registrar General**





## Executive Summary

India is one of the members to the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) of the World Trade Organization (WTO). Article 27 (3) (b) of the TRIPS states that members may exclude plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes from patentability. However, members shall provide for the protection of plant varieties either by patents or by an effective *sui generis* system or by any combination thereof. India enacted the Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act in 2001 (53 of 2001) by adopting *sui generis* system. The main objective of the PPV&FR Act is to provide for the establishment of an effective system for protection of plant varieties, the rights of farmers and plant breeders and to encourage the development of new varieties of plants of economic importance. It is a unique Act, which fulfills the spirit of International Treaty on Plant Genetic Resources for Food & Agriculture on one hand and conforms to UPOV, 1978 Convention on the other. It also strikes a balance between the rights to breeders and the farmers as per the national requirement. The PPV&FR Authority was established on 11 November, 2005 under the provisions of the Act to meet its objectives. The Authority has put in place the procedures and processes for implementation of different provisions of the Act including the registration of plant varieties, farmers' rights, National Gene Fund, National Gene Bank etc.

So far, the Government of India notified 79 crop species on the recommendations of PPV&FR Authority for plant variety registration. During the period under report, the Authority has finalized 20 new DUS guidelines for different crops and published in the Plant Variety Journal after their recommendations from the respective Task Forces. These guidelines have been forwarded to the Department of Agriculture & Co-operation for notification in consultation with the Central Government. These crop species represent flowers, fruits including dry fruits, vegetables, seed species, cereals and forest flora. Inclusion of these crops under the ambit of registration will attract foreign companies for bringing their planting material for commercialization in respect of apple, grapes, pomegranate, pear, apricot, cherry and orchids.

During the year, 2318 applications, representing 40

crops were received by the Authority for registration and protection under the Act. The applications belonged to three categories viz., new (338), extant (257) and farmers' varieties (1641) and essentially derived varieties (82). The maximum number of applications belonged to farmers' category (1641), followed by private (538) and public (138) sector organizations. Out of the 338 applications under new category, 36 applications were from public sector, 301 from private sector and one application was also filed by a farmer under new category. The applications were received for cereals, coarse cereals, pulses, commercial crops, oilseeds, vegetables, spices, flowers and fruits. Highest number of applications were received for cereals (1511) followed by vegetables (261), fiber crops (183), oilseeds (155), pulses and millets (117) and others crops (91). Rice (1357) topped the list with highest number of applications followed by cotton (182), tomato (102), maize (86), okra (65), brinjal (59), mustard (49), sorghum (42), mango (31), black gram (27), wheat (26), groundnut (26), cauliflower, pigeon pea & sunflower (25 each), pearl millet (23), sesame (17), turmeric (16), ginger (12), field pea and kidney bean (10 each) and also other crops (103).

Out of 213 applications of extant notified varieties received during the year, 158 belonged to public sector including 22 of ICAR institutes, 49 of State Agricultural Universities (SAUs) and six from private sector. Passport data of the recommended varieties were published in the Plant Variety Journal (PVJ) for information of the general public and also for inviting oppositions, if any, within 90 days of publication.

A total of 485 candidate varieties of various crops were tested in the first year at different DUS test centres during *Kharif*, 2013 and *Rabi* 2013-14. It includes 236 new varieties, 188 VCKs and 61 farmers' varieties. In addition, 208 varieties belonging to new category were under second year of testing, 79 candidate varieties completed two years of DUS testing (Under new variety category). The Authority also supported 133 DUS centres including new projects across the country located at institutes of ICAR, CSIR, ICFRE and SAUs. During the period under report, ₹ 682.60 lakh were released to DUS centres / projects for strengthening of laboratory and field facilities to carry out DUS testing, maintenance breeding and development of DUS criteria / testing guidelines (*Annexure- IV and V*).

The Authority issued 330 certificates of registration (*Annexure-XI*) in which 148 varieties belonged to extant category, 60 to new category, 76 farmers' variety and the remaining 46 belonged to VCK. The highest number of certificates were issued in rice (138), followed by pearl millet (31), cotton (29), sugarcane (25), sorghum (23), mustard (17), sunflower (12), groundnut (10), maize (9), rapeseed (8), wheat (7), chickpea & soybean (6 each), jute & linseed (2 each), brinjal, castor, cauliflower, safflower and sesame (1 each). The National Register of Plant Varieties is being maintained at the Headquarters of the Authority in New Delhi and copies at branch offices at Guwahati and Ranchi. All the registered varieties under extant, new and farmers' category were duly documented in the National Register.

The Authority has established National Gene Bank for the conservation of seeds of the protected varieties. In addition, four Field Gene Banks have been established at Dr. Balasaheb Sawant Konkan Krishi Vidhyapeeth, Dapoli, Maharashtra; Birsa Agricultural University, Ranchi, Jharkhand; Regional Horticultural Research Station, Mashobra of Dr. Y. S. Parmar University of Horticulture & Forestry, Solan, Himachal Pradesh for asexually/vegetatively propagated crops; and Central Arid Zone Research Institute (CAZRI), Jodhpur, for arid zone species (*Annexure – VI*).

The Authority has established and supported new DUS centres in ornamental and horticultural crops for validation of DUS descriptors, development of DUS guidelines and generation of databases of reference varieties. The crops included bougainvillea, gladiolus, canna, china aster, jasmine, tuberose, marigold, crossandra, strawberry, date-palm, jamun, aonla, bael, peach, plum, papaya, custard apple, banana, citrus, watermelon, muskmelon, oat, cowpea, guinea grass, small millets, betel vine, carnation, amaranth, spinach, ridge gourd, chillies, sweet pepper, paprika, cucurbits, elephant foot yam, taro, noni, chironji and tamarind.

Two meetings of the Authority were held during the reporting period and decisions were taken regarding constitution of new EVRC committee, approval of the extant notified varieties for registration, approval of the annual account of the Authority and conferring of Plant Genome Savior Community Awards 2011-12, rewards and recognitions.

The Legal Cell of the Authority pursued the cases filed in different Courts of India. During the reporting period, 33 cases were pending against the Authority out of which four

were disposed off, and the remaining 29 cases are pending against the Authority as on 31 March, 2014.

Farmers' Cell implemented the provisions of the farmers' rights as enshrined in the Act and provided funds to various institutions, DUS centres, KVKs and other stakeholders for conducting training and awareness programmes across the country. The Authority participated in farmers' fairs, agriculture fairs held at various places to disseminate the information on farmers' rights, registration of varieties including farmers' varieties and important provisions of PPV&FR Act, 2001. Special drive of awareness was undertaken in the North-East region to mobilize farmers for registration of their traditional and farmers varieties including landraces. In this endeavor, the KVK system of ICAR network was also co-operated.

The Plant Genome Savior Community Awards 2011-12, Rewards and Recognitions were conferred to the eligible awardees. Proposals for Plant Genome Savior Community Awards 2012-13 were invited through advertisements published in the important newspapers of the country as well as on the website of the Authority. The award ceremony was organized on 22 May, 2013 at New Delhi and Shri Tariq Anwar, Hon'ble Union Minister for State for Agriculture & Food Processing Industries conferred Plant Genome Saviour Community Awards, Rewards and Recognitions certificates to the communities of farmers, farmers and tribal people. The Authority celebrated its Foundation Day on 11 November, 2012 in a simple ceremony.

The Authority was also consulted by the DAC on various technical matters, including International matters. During the period under report, three officers of the Authority participated in trainings/meetings in the Italy, Netherlands and Oman. Foreign delegations from the Netherlands, Germany and Bioversity International visited PPV & FR Authority and had celebrations with senior officers of the Authority in connection with bi-lateral co-operation in the field of Protection of Plant Varieties, PBRs, capacity building and conservation & sustainable use of plant genetic resources etc.

In view of the high priority to Bilateral Co-operation between the India and Germany at government level, a high level delegation from Germany visited India and discussions & meetings were held at PPV&FR Authority and Department of Agriculture & Cooperation, Ministry of Agriculture for signing a MoU between the two countries in the field of seed development.

The Authority received ₹ 1511.96 lakh as grants-in-aid from DAC, during the year 2013-14 and utilized ₹ 1525.38 lakh after adjusting unspent balance of ₹ 13.51 lakh of previous year leaving a balance of ₹ 0.09 lakh as on 31 March, 2014. The Annual Report of Authority were timely forwarded to the DAC for placing before both the Houses of Parliament. The Annual Accounts of the

Authority for the year 2013-14 were finalized and sent to CAG for conducting audit within the prescribed time schedule. The Annual Accounts were approved in 21<sup>st</sup> meeting of Authority held on 31 October, 2014. Printed audited Annual Account both in Hindi and English version were sent to DAC for placing before both the Houses of Parliament in ensuing winter session.



# Chapter 1: General Background

Plant breeding is of vital importance for the survival, development and evolution of humankind. Plant genetic resources are the raw material for the development of new varieties of plants. Plant breeders provide an essential link in the transfer of basic research technology into agriculture and horticulture. Plant breeding, if it is to contribute more than the making of genetically minor changes to existing varieties, and if it is to exert responsible stewardship over germplasm resources, is dependent upon long-term financial support, research, education, planning and vision. It is important to provide an increased level of funding for plant breeding so that biological resources can be utilized with increasing effectiveness to ensure continued agricultural productivity with enhanced environmental harmony. The Plant Breeders Rights (PBR) are the means to create an environment within which private investors are induced to provide funding for plant breeding including associated long term support needs for germplasm and technology resources. PBR can help to provide a return on the investment in resources by a variety of means.

Enforcement of legal protection for innovation in plant breeding by the plant breeders and farmers/farming communities in producing suitable varieties of economic plants provide incentive for research, promote trade and regulate use of plant genetic resources. The issue of plant variety protection through enforcement of plant breeders' rights was brought into major focus by the General Agreement on Tariffs and Trade (GATT) that culminated into the establishment of the World Trade Organization (WTO) in 1995. India, having ratified the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) of WTO, had obligations to comply with its provision for giving effect to Article 27(3) (b) relating to protection of plant varieties.

The Government of India enacted the Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act in 2001 (53 of 2001) to provide for the establishment of an effective *sui generis* system for protection of plant varieties, the rights of farmers and plant breeders and to encourage the development of new plant varieties of economic importance. The PPV&FR Rules were notified on 12 September, 2003. Subsequently, for the purposes of the Act, the Government of India under the section 3 (1) of this Act, established the Protection of Plant Varieties and Farmers' Rights Authority on 11 November, 2005.

## 1.1 Objectives of the PPV&FR Act, 2001

The objectives of the Act are as under:

- ❖ Establish an effective system for protection of plant varieties, the rights of farmers and plant breeders and to encourage the development of new varieties of plants;
- ❖ Recognize and protect the rights of the farmers in respect of their contribution made at any time in conserving, improving and making available plant genetic resources for the development of new plant varieties;
- ❖ Protect plant breeders' rights to stimulate investment for research and development both in the public and private sector for development of new plant varieties; and
- ❖ Facilitate the growth of seed industry in the country that will ensure the availability of high quality seeds and planting material to the farmers.

## 1.2 Salient Features of the Act

The Act is based on a *sui generis* system and is unique in a sense that it concurrently recognizes the rights of breeders, farmers, farming communities and researchers. It confers exclusive rights upon the breeder or his successor, his agent or licensee, to produce, sell, market, distribute, import or export of the registered variety. As far as farmers' rights are concerned, the Act recognizes a farmer as cultivator, conserver and breeder and provides that the farmers' variety can also be registered. Further, the Act provides for compulsory license of a registered variety, if the seeds/propagating material is not available to the public at a reasonable price or quantity. Any person or group of persons or any organization can also claim for benefit sharing, if the plant genetic material belonging to them is used in the development of a registered variety. The researchers are conferred the right to use any registered variety for conducting experiment or research and the use of a variety by any person as an initial source of variety for the purpose of developing the other varieties. India is a pioneer country where a national legislation has been enacted to establish and secure Farmers' Rights. The Act also recognizes the past, present and future contributions of the farming communities and provides an opportunity for the award to farming communities/farmers for their

contributions in agro-biodiversity conservation.

### 1.3 PPV&FR Authority

The Authority is a body corporate, having perpetual succession and a common seal with the power to acquire, hold and dispose of movable and immovable properties and to contract, and shall by the said name sue and be sued. The head office of the Authority is at New Delhi and it is functioning from a leased space in the premise of ICAR in the Societies Block, National Agricultural Science Centre, Dev Prakash Shastri Marg, Pusa Campus, New Delhi-110012. The Authority consists of a Chairperson and fifteen members as on 31 March, 2014.

### 1.4 Plant Variety Registration

The PPV&FR Authority has finalized the distinctiveness, uniformity and stability (DUS) test guidelines for registration of 79 crop species covering cereals, pulses, millets, oilseeds, spices, vegetables, flowers, fruits, medicinal and aromatic plants and fibre crops. The Authority has issued 330 certificates of registration for plant varieties (under new, extant notified and farmers' variety category) during the reporting year (as on 31 March, 2014). To mobilize and attract more applications, the Authority regularly organizes /supports awareness and capacity building programme (s) for the benefit of different stakeholders.

The PPV&FR Authority has also established network of DUS test centres across the country under the Central Sector Scheme for the implementation of PPV&FR Act to verify the claims of candidate varieties by applicants, maintenance breeding, multiplication of reference/example varieties/ the varieties notified under section 5 of the Seeds Act, 1966 and generation of database for varietal characteristics as per crop specific DUS guidelines. In addition, DUS tests for the candidate varieties are being conducted at crop specific centres. The data recorded as per the DUS test guidelines is submitted by these centres to Authority for further analysis. The Authority, in consultation with the ICAR institutes and SAUs has identified potential crop species of economic importance and supports projects for the development of the DUS guidelines. The Authority has established its National Gene Bank and field gene bank(s) across the country. It regularly publishes Plant Variety Journal of India and maintains the National Register of Plant Varieties at Headquarters and also at its branch offices.

### 1.5 Plant Breeders' Rights

Breeders' Right is one of the pivotal provisions of PPV&FR Act with far reaching implications in the context

of Indian agriculture and global scenario. The breeder also enjoys provisional protection of his/her variety against any abusive act committed by any third party during the period between filing of application for registration and the final decision taken by the Authority. Similarly, researchers' right is also granted. However, for repeated use of a registered variety as an initial source of variety for the purpose of developing a new variety, the authorization of the breeder of the registered variety is necessary. The plant variety protection as enshrined in the Act, follows a broad principle of internationally recognized system of DUS and novelty for a new variety. Any person can apply for registration in any of the following category:

- New variety of such genera and species as specified under section 29(2) of the Act
- Extant variety
  - Notified under section 5 of Seeds Act, 1966
  - Variety of common knowledge (VCK)
- Farmers' variety
  - Traditionally cultivated and evolved by the farmers in their fields
  - Wild relative or landrace of a variety about which the farmers possess common knowledge
- Essentially derived variety (EDV)

The total duration of protection is 15 years for crops and 18 years in case of trees and vines from the date of registration of the new variety or varieties of common knowledge and for farmers' varieties. In case of extant notified varieties, it is 15 years from the date of notification of that variety by the Central Government under section 5 of the Seeds Act, 1966 (54 of 1966).

### 1.6 Farmers' Rights

The Act provides following rights to the farmers:

- **Right on seed:** To save their own seed from their crop and use it for sowing, re-sowing, exchanging, sharing with and selling to other farmers provided that farmer will not be entitled to sell branded seed of a protected variety.
- **Right to register their varieties:** Traditional varieties developed or conserved by farmers and new varieties developed by them are eligible for recognition.
- **Right for reward and recognition:** Farmers engaged in the conservation of genetic resource of landraces and wild relatives of economic plants and their improvement through selection and preservation of plant genetic resources.

- **Authorisation of farmers' variety:** Consent of the farmer is required, if his variety has been used in the development of a new variety
- **Right of communities:** To stake a claim attributable to the contribution of the people of any village or local communities in the evolution of any variety
- **Right for Benefit Sharing:** In case of important role of Farmers' varieties for breeding new plant varieties.
- **Protection of innocent infringement.**
- **Exemption from fees.**

### 1.7 Registration of Varieties

Applications for registration of a plant variety and its denomination can be made under the following categories:

- **New Variety:** On the date of filing of application for registration of the variety has been commercialized for period of less than one year then it is a new variety.
- **Extant Variety:** Consist of the following categories:
  - Extant variety notified under section 5 of Seeds Act, 1966:** Varieties notified under Section 5 of Seeds Act, 1966 are eligible for registration under this category.
  - Farmers' variety:** Traditionally cultivated and evolved by the farmers in their fields and includes wild relative or landrace or a variety about which the farmers possess common knowledge.
  - Variety of Common Knowledge:** Varieties which are not notified under Section 5 of Seeds Act, 1966 and are in commercial chain for more than a year.
  - Public domain variety:** These are not eligible for registration as they are already in public domain.
- **Essentially Derived Variety:** A variety predominantly derived from an initial variety and should fall either under new or extant variety.

### 1.8 Period of field-testing of varieties

The application is processed and the applicant is required to deposit DUS test fees. After receipt of necessary fees and seeds the variety is sent to DUS test centre for conducting DUS test. The period of DUS testing is as follows:

- **New Varieties:** Two similar crop season at two locations.
- **Farmers' Variety and VCK:** One crop season at two locations.
- **Extant variety notified under section 5 of Seeds**

**Act, 1966:** No DUS testing is conducted but variety is processed by an EVRC Committee which recommends for registration.

- **EDV:** DUS testing is not mandatory but field test is conducted to ascertain DUS criteria.

After the receipt of DUS test result, the application is processed and if the claimed character and characters qualified in DUS test are same, the variety proceeds for advertisement. If the claimed character and character qualified in DUS test are different, the applicant is required to amend the application.

The application is advertised in Plant Variety Journal of India inviting opposition within a period of three months from the date of publication. If no opposition is filed or if opposition filed is rejected, the variety proceeds for registration. The period of protection is as follows:

### 1.9 Protection Period and Crops / Species eligible for protection

**Field Crops-** 15 years from the date of registration of the varieties.

**Trees & Vines-** 18 years from the date of registration of the varieties.

Extant variety notified under section 5 of Seeds Act, 1966- 15 years from date of notification of that variety by the Central Government under Section 5 of the Seeds Act 1966.

**Number of crops / species eligible for protection – 79 (Annexure – X)**

### 1.10 Rights Conferred

The registration gives exclusive right to produce, sell, market, export or import the variety and its denomination which is subject to farmers' rights that farmers can use seeds of registered variety in an unbranded manner.

### 1.11 Rewards to Farmers / Farming Communities

Section 45(2) of the Act reads with Rules 70 (2) (a) of PPV&FR Rules, 2003 provides for support and reward, to farmers, communities of farmers, particularly the tribal and rural communities engaged in conservation, improvement and preservation of genetic resources of economic plants and their wild relatives, particularly in areas identified as agro-biodiversity hotspots from National Gene Fund. To operationalize these provisions, *Plant Genome Savior Community Award* was instituted in 2009-10. A maximum of five such awards can be conferred annually. The award consists of ₹ 10.00 lakh in cash, a citation and a memento. Four farming communities i.e. **Seed Saver**

**Farmers' Group, Nandurbar, Maharashtra; Rice Farming Communities, Palakkad, Kerala; Sanjeevini Rural Development Society (SRDS), Vishakhapatnam, Andhra Pradesh and Deepaoli Women's Self Help Group, Thiruvannamalai, Tamil Nadu** were the awardees of Plant Genome Savior Community Awards for

the year 2011-12. Besides, ten farmers were conferred the Plant Genome Saviour Farmer Reward of ₹ 1 Lakh each, citation and memento and Plant Genome Saviour Farmer Recognition certificates were presented to 15 farmers. The selection of awardees is made by a committee of experts/scientists headed by an eminent scientist.



## 2. Progress of Plant Varieties Registry

### 2.1 Publication of DUS Test Guidelines for Crop Species

In exercise of its powers, the Authority has published the guidelines in the Plant Variety Journal of India (PVJ) for conducting DUS Test for following 12 Crop Species (Table 1):

Table-1 : DUS Test guidelines of Crop species published during 2013-14

Sl. No.	English Name	Hindi/ Local Name	Botanical Name	PVJ Issue
1.	Grapes	Angur	Vitis spp.	April, 2013
2.	Barley	Jau	<i>Hordeum vulgare L.</i>	May, 2013
3.	Coriander	Dhaniya	<i>Coriandrum sativum L.</i>	
4.	Fenugreek	Methi	<i>Trigonella foenum graecum L.</i>	
5.	Almond	Badam	<i>Prunus dulcis (Mill) D.A. Webb</i>	
6.	Apple	Seb	<i>Malus domestica Borkh</i>	September, 2013
7.	Pear	Nashpati	<i>Pyrus communis L.</i>	
8.	Apricot	Khubani	<i>Prunus armeniaca L.</i>	
9.	Cherry	Cherry	<i>Prunus avium L.</i>	
10.	Walnut	Akhrot	<i>Juglans regia L.</i>	
11.	Indian jujube	Ber	<i>Ziziphus mauritiana Lamk.</i>	
12.	Tea	Chai	<i>Camellia spp.</i>	January, 2014

These crop species represent cereals, spices, fruits and beverages. It is expected that the registration of above mentioned crops will provide an opportunity for diversification of agriculture and may boost the international trade of these crops besides legal protection.

### 2.2 Applications received

Out of 79 crops species notified so far, the Authority received a total of 2318 applications, representing 40 crops,

for seeking plant variety protection under the Act (Fig 1 and 2). The applications belonged to new (338), extant (257), farmers' (1642) and Essentially Derived Variety (EDV) (82) category.

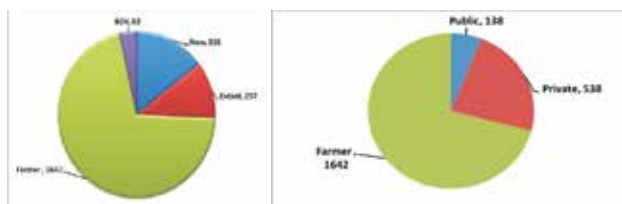


Fig-1: Applications received category wise

Fig-2: sector wise applications received

The applications received during the year seeking registration of plant varieties belonged to 18 different plant families (Table 2).

Table-2 : Crops with plant families received for registration

S. No.	Plant Family	Crops
1	Poaceae	Bread wheat, Rice, Pearl millet, Maize, Sorghum and Sugarcane
2	Fabaceae	Chickpea, Pigeon pea, Field pea, Green gram, Black gram, Kidney bean, Soybean, Lentil and Groundnut
3	Malvaceae	Cotton and Okra
4	Tiliaceae	Jute
5	Solanaceae	Brinjal, Tomato and Potato
6	Brassicaceae	Indian mustard, Rapeseed, Cabbage, Cauliflower
7	Zingiberaceae	Small cardamom, Turmeric, Ginger
8	Asteraceae	Sunflower, Safflower
9	Euphorbiaceae	Castor
10	Anacardiaceae	Mango
11	Arecaceae	Coconut
12	Amaryllidaceae	Onion
13	Rosaceae	Rose
14	Piperaceae	Black pepper
15	Pedaliaceae	Sesame
16	Orchidaceae	Orchid

S. No.	Plant Family	Crops
17	Linaceae	Linseed
18	Alliaceae	Garlic

The applications were received for cereals, coarse cereals, pulses, commercial crops, oilseeds, vegetables, spices, flowers and fruits. Highest number of applications were received for cereals (1511) followed by vegetables (261), fiber crops (183), oilseeds (155), pulses and millets (117) and other crops (91) (Table 3).

**Table-3 : Crop wise details of applications received for registration**

Crops	Public Sector	Private Sector	Farmers' Variety	Total
Black gram	02	01	24	27
Brinjal	03	39	17	59
Black pepper	–	–	04	04
Cabbage	–	02	–	02
Castor	02	02	01	05
Cauliflower	02	23	–	25
Chickpea	01	–	06	07
Coconut	–	–	05	05
Diploid cotton	–	04	04	08
Field pea	–	01	09	10
Garlic	–	–	05	05
Ginger	–	–	12	12
Green gram	01	–	06	07
Groundnut	24	–	02	26
Mustard	20	05	24	49
Rapeseed	–	–	5	05
Jute	–	–	01	01
Kidney bean	–	–	10	10
Lentil	–	–	08	08
Linseed	–	–	08	08
Maize	06	33	47	86
Mango	–	–	31	31
Okra	–	60	05	65
Onion	01	–	01	02
Orchid	–	–	03	03
Pearl millet	–	20	03	23

Crops	Public Sector	Private Sector	Farmers' Variety	Total
Pigeon pea	01	01	23	25
Potato	02	–	04	06
Rice	28	47	1282	1357
Rose	–	01	–	01
Safflower	04	–	02	06
Sesame	01	–	16	17
Small cardamom	–	–	07	07
Sorghum	12	02	28	42
Soybean	03	04	02	09
Sugarcane	03	02	07	12
Sunflower	01	24	–	25
Tetraploid cotton	04	169	01	174
Tomato	01	95	6	102
Turmeric	–	–	16	16
Wheat	16	03	07	26
<b>Total</b>	<b>138</b>	<b>538</b>	<b>1642</b>	<b>2318</b>

Rice (1357) topped the list with highest number of applications followed by cotton (182), tomato (102), maize (86), okra (65), brinjal (59), mustard (49), sorghum (42), mango (31), black gram (27), wheat (26), groundnut (26), cauliflower, pigeon pea and sunflower (25 each), pearl millet (23), sesame (17), turmeric (16), ginger (12), field pea and kidney bean (10 each) and other crops (103).

### 2.3 Registration of New/Essentially Derived Varieties

A total of 338 new applications were received during 2013–14, out of which 36 belonged to public sector/ SAUs, 301 to private sector and only one farmers' variety belong to new category. A total of 82 applications under EDV were also received. It includes 80 applications from the private sector and two applications from public sector. The applications filed under new / EDV category were examined by the Plant Varieties Registry and clarification(s) were sought wherever necessary. It was observed that most of the clarification(s) mainly pertain to the proof of sale of the varieties, proof of legal acquirement of parent material, details in technical questionnaire (grouping/distinct/other characters), pedigree/genealogy, breeding techniques, comparison with reference varieties. The Authority has

been availing various fora to address these issues to make the breeders aware of the necessary details to further streamline and expedite the registration process in time bound manner.

So far, 95 applications for registration have been withdrawn by the breeders due to withdrawal of their products from market. A total of 122 applications of the public sector were also dropped for protection due to completion of 15 years of protection period from the date of their notification under the Seeds Act, 1966. Applicants of the candidate varieties fulfilling all requirements were directed to submit the prescribed fees for registration and DUS tests, specified quantity of seed material along with seed analysis report as per crop specific DUS test guidelines of the Authority. Thereafter, seed samples were sent to the respective centres to take up DUS test for two similar crop seasons at two locations.

## 2.4 Registration of Extant Varieties

The extant varieties include varieties notified under section 5 of the Seeds Act, 1966 (54 of 1966), or farmers' varieties, or a variety about which there is common knowledge. The Act defines that a farmer means any person who;

- (i) Cultivates crops by cultivating the land himself, or
- (ii) Cultivates crops by directly supervising the cultivation of land through any other person, or
- (iii) Conserves and preserves, severally or jointly, with any person any wild species or traditional varieties, or
- (iv) Adds value to such wild species or traditional varieties through selection and identification of their useful properties.

Farmers' variety as per the Act means (i) variety which has been traditionally cultivated and evolved by the farmers in their fields, or (ii) a wild relative or landrace of a variety about which the farmers possess the common knowledge. PPV&FR Authority has also defined the Variety of Common Knowledge (VCK) as published in the *Plant Variety Journal of India*, 3 September, 2009. It says, (i) a variety which is not released and notified under the Seeds Act, 1966 but is well documented through publications and is capable of satisfying the definition of variety, or (ii) the candidate variety should either have an entry in the official register of varieties or in the course of being made, or (iii) the candidate variety should find inclusion in a reference collection or is having a precise description in a publication, or (iv) by any other means a variety has become a matter of common knowledge and

the variety is under cultivation or marketing at the time of filing the application for registration.

During the reporting period, 1898 applications were received for registration under extant varieties. It includes 101 applications under notified category, 156 under variety of common knowledge and 1641 farmers' varieties. In accordance with the Regulation 6 of the PPV& FR Regulations, 2006 framed under the Act, the Authority has constituted an Extant Variety Recommendation Committee (EVRC) to examine the applications of varieties released under the Seeds Act, 1966 and to make recommendation on the suitability of these varieties for registration.

### 2.4.1 Expert Committee on Essentially Derived Variety (EDV)

The Authority has constituted an Expert Committee on registration of Essentially Derived Variety (EDV) under the Chairmanship of Dr. B. S. Dhillon, Vice-Chancellor, PAU, Ludhiana. During the reporting year, expert committee on EDV couldn't meet, hence varieties couldn't be recommended for registration.

### 2.4.2 Extant Variety Recommendation Committee (EVRC)

The Authority has constituted a seven membered EVRC to examine and recommend for registration of suitable extant notified varieties having following constitutions:

#### Chairman

- Dr. A. R. Pathak, Vice-Chancellor, Navsari Agricultural University, Gujarat

#### Members

- Dr. G. N. Hazarika, Director of Research, Assam Agricultural University, Jorhat
- Dr. B. Singh, Project Coordinator (Vegetable), Indian Institute of Vegetable Research, Varanasi
- Dr. M. Ramasami, CMD, Rasi Seeds (P) Ltd., Tamil Nadu
- Shri Prakash Gouda S. Patil, (Farmer's Representative), Bijapur, Karnataka

#### Member Secretary

- Dr. Manoj Srivastava, Registrar, PPV & FRA, New Delhi

The EVRC conducted three meetings during 2013-14 and recommended 213 applications for the purpose of registration under extant variety category notified under the Seeds Act, 1966. Out of 213 applications, 150 belonged to ICAR, 57 to State Agricultural Universities (SAUs) /

Krishi Vidyapeeth (KVs) and six to the private sector. The crop wise position of varieties recommended is given as below (Table 4).

**Table-4 : Crop wise applications approved by EVRC**

S. No.	Crops	Number of Applications	S. No.	Crops	Number of Applications
1.	Black gram	2	15.	Potato	13
2.	Brinjal	8	16.	Rice	35
3.	Castor	1	17.	Safflower	5
4.	Chickpea	4	18.	Sesame	2
5.	Field pea	4	19.	Sorghum	3
6.	Green gram	6	20.	Soybean	9
7.	Groundnut	17	21.	Sugarcane	8
8.	Mustard	53	22.	Sunflower	5
9.	Kidney bean	2	23.	Tetraploid cotton	1
10.	Lentil	1	24.	Tomato	3
11.	Linseed	5	25.	Turmeric	2
12.	Maize	3	26.	Wheat	18
13.	Pearl millet	1			
14.	Pigeon pea	2		<b>Total</b>	<b>213</b>

Passport data of the recommended varieties were published in the Plant Variety Journal of India (PVJ) for information of stakeholders / public and also for inviting objections, if any, within 90 days of publication. Thereafter, applicants were directed to submit specified quantity of seed material for medium term storage in the National Gene Bank during the period of protection.

The registration of extant varieties notified under the Seeds Act, 1966, is an important provision for protecting crop varieties mainly bred under National Agricultural Research System (NARS) at ICAR / SAUs/ other research organizations / industry and tested through multi-location trials under All India Co-ordinated Research Projects (AICRP). These varieties have been released by the Central Seed Committee (CSC) functioning under the Department of Agriculture & Co-operation, Ministry of Agriculture, Government of India. It is a kind of recognition of the untiring devotion of the plant breeders mainly in the public sector and by extending this provision, plant breeders/

institutes can legally protect their varieties, can license and earn royalties/revenues which in turn can be ploughed back in future R&D activities.

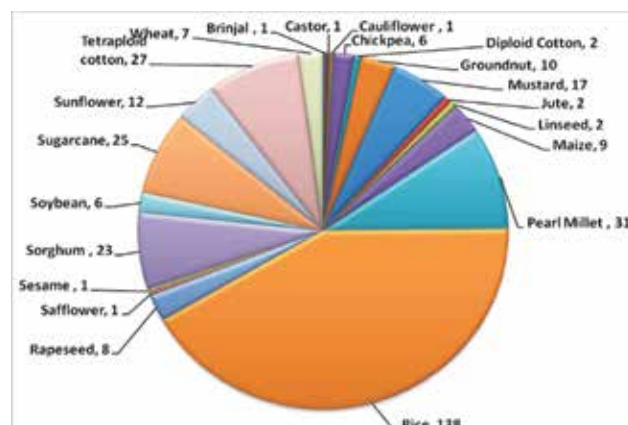
## 2.5 Progress of Registration of Varieties

During 2013–14, the Authority issued 330 certificates (Annexure–XI) of registration for 21 crop species as under:

**Table-5 : Crop wise statement of certificates**

S. No.	Crops	Number of certificate	S. No.	Crops	Number of certificate
1.	Brinjal	1	12.	Rice	138
2.	Castor	1	13.	Rapeseed	8
3.	Cauliflower	1	14.	Safflower	1
4.	Chickpea	6	15.	Sesame	1
5.	Diploid cotton	2	16.	Sorghum	23
6.	Groundnut	10	17.	Soybean	6
7.	Mustard	17	18.	Sugarcane	25
8.	Jute	2	19.	Sunflower	12
9.	Linseed	2	20.	Tetraploid cotton	27
10.	Maize	9	21.	Wheat	7
11.	Pearl millet	31		<b>TOTAL</b>	<b>330</b>

The highest number of certificates were issued in rice (138), followed by pearl millet (31), tetraploid cotton (27), sugarcane (25), sorghum (23), mustard (17), sunflower (12), groundnut (10), maize (9), rapeseed (8), wheat (7), chickpea (6), soybean (6), diploid cotton (2), jute (2), linseed (2), brinjal(1), castor(1), cauliflower(1), safflower(1), sesame (1).



Out of 330 certificates of registration issued, 60 belonged to New category, 148 to Extant Notified, 46 to Extant VCK, and 76 to Farmers' category.

## 2.6 Varieties of Common Knowledge (VCK)

The Authority had published an official notice in the Plant Variety Journal of India regarding registration of VCK (PVJ, Vol.3 Issue No.9) dated 1 September, 2009. During the reporting period, an amendment in the said official notice was published in July, 2013 (PVJ, Vol.7 Issue No.7) extending the period of first sale to 18 years in case of trees and vines and 15 years in other cases, prior to date of filing of application.

## 2.7 Special Test

Rule 29 (1) (b) provides that in case the DUS test fails to establish the distinctiveness of a variety, the Authority may undertake special test to ascertain a particular character through biochemical and molecular techniques on the request of the applicant. The Authority considered the proposals for special test and funds were released to one institute for the purpose as referral laboratory as indicated in **Annexure-V**.

## 2.8 DUS Test Centres / Projects

### 2.8.1 AICRP on Pearl Millet, Jodhpur



Under this project, the centre has maintained and characterized 60 varieties of Pearl millet including parent lines/B lines which have been sourced from ICAR/SAUs and ICRISAT. The progress of DUS testing and monitoring of DUS trials is stated in Table-6:

**Table-6 : Progress of DUS testing in FY 2013-14**

Crop	New		VCK	Total	Date of monitoring	Chairman
	1 <sup>st</sup> yr	2 <sup>nd</sup> yr				
Pearl millet	25	19	11	55	1 October, 2014	Dr. O.P. Yadav, PD, Maize

The DUS trials were conducted in satisfactory manner as per the guidelines. The progress of registration of extant varieties released and notified are as under:

Crop	Varieties notified under Seeds Act, 1966 (since 1992)	Application filed for registration	Certificate issued	Remarks
Pearl millet	65 (Public Sector only)	45	33	Pending: 5 Not considered: 3 Undecided: 4

### 2.8.2 Institute of Forest Genetics and Tree Breeding (IFGTB), Coimbatore

IFGTB, Coimbatore successfully developed the DUS guidelines for Casuarina and Eucalyptus. In order to be ready for undertaking registration in these species the major activities included maintenance and establishment of Germplasm bank, observations on the morphological characters; identification of land for establishment of DUS Centre at Coimbatore and Neyveli; propagation of sufficient number of plants of example varieties and their plantation in the DUS centres; preparation for DUS testing by developing databases of clones and DUS character matrix.

The Germplasm Bank of casuarina and Eucalyptus clones present in IFGTB premises is being maintained. The trial was also observed for DUS characters in both Casuarina and Eucalyptus clones. About five hectare land has been identified in Neyveli for establishment of DUS Centre. The example varieties of 30 casuarina clones have been multiplied and about 5000 plants are ready for establishing referral collection in DUS centres. Similarly, 44 eucalyptus clones have been multiplied and about 4400 plants are ready for planting. The DUS character matrix has been prepared for all the 20 casuarina clones and 10 eucalyptus clones for updating the database.

### 2.8.3 Central Rice Research Institute (CRRI), Cuttack

CRRI, Cuttack is one of the DUS testing centres for rice. During the reporting period, the centre has maintained 12 varieties of rice which belong to ICAR system and SAUs. The progress of DUS testing is as under:

**Table-7 : Progress of DUS testing**

Crop	New		VCK	FV	Total	Date of Monitoring	Chairman
	1 <sup>st</sup> yr	2 <sup>nd</sup> yr					
<i>Oryza sativa</i> L.	18	11	8	16	53	16-17 October, 2013	Dr. S.R. Dhua, Former Principal Scientist, CRRI, Cuttack

The monitoring of DUS trials was undertaken at the late flowering stage in which Shri D.S. Mishra, Joint Registrar, PPV&FR Authority also participated along with a representative of a private sector company. The trials were laid in a satisfactory manner as per prescribed guidelines. Sixteen farmers' varieties were put under the grow out tests (GoT). During the period under report, the Centre has submitted 33 applications of rice including 17 extant and 16 new varieties. The Authority has issued five certificates and 28 applications are pending for certificates.

#### 2.8.4 Indian Institute of Pulses Research (IIPR), Kanpur

IIPR, Kanpur has been designated as Nodal centre for DUS testing in pulse crops under the Central Sector Scheme *"Implementation of PVP Legislation through DUS testing under ICAR & SAU systems"*. In Kharif 2013, 69 varieties of Mung bean and 34 varieties of Urd bean were maintained. In Rabi 2013–14, 36 varieties of lentil, 55 varieties of field pea and 13 varieties of rajmash were also maintained.

**Table-8 : Reference varieties under maintenance breeding**

S. No.	Crop Species	No. of Varieties	Reference Varieties
1.	<b>Green gram</b> Vigna radiata (L.) Wilczek	<b>69</b>	PDM 54, PDM 139, Pant M 1, Pant M 2, Pant M 3, Pant M 4, PS 10, Pusa 105, OBG 52, Pusa 9531, Pusa Baisakhi, PS 16, Pusa 9072, Pusa Ratna, Pratap, RMG 62, RMG 268, RMG 344, Sujata, Salimar M 1, Sona, SML 32, SML 134, SML 668, TARM 1, TARM 2, TARM 18, T 44, Vamban 1, Asha, AKM 8803, AKM 9910, BM 4, BPMR 145, BDN 2, CO 4, OUM 11–5, Dhali, Ganga 1, GM 3, GM 4, HUM 1, HUM 2, HUM 6, HUM 12, IPM 99–125, JM 721, K 851, Lam M 2, LGG 407, LGG 450, ML 5, ML 131, ML 267, ML 613, ML 818, MGG 295, MH 96–1, MUM 2, NDM 1, IPM 02–3, KM 2, HUM 16, PKVAKM 4, Paury Moong, N 605, BM 2002–1, BM 2003–2
2.	<b>Black gram</b> Vigna mungo (L.) Hepper	<b>34</b>	Azad U 1, Azad U 2, JU 2, KU 96–3, LBG 611, LBG 645, LBG 685, Manikya, Mash 1, Naveen, NDU 1, Pant U 30, Shekhar U 1, Shekhar U 2, Shekhar U 3, Sarla, TU 94–2, TPU 4, Uttara (IPU 94–1), WBU 108, UG 338, LBG 20, Mash 414, UG 1008, Pant U 40, IPU 2–43, GU 1, RUG–10, RUG 44, VALLABH U–1, UG 218, BIRSA U–1, NDU 5–7, Mash 4–4

3.	<b>Lentil</b> (Lens culinaris Medik	<b>36</b>	DPL 15, DPL 62, IPL 81, PL 406, PL 639, PL 4, PL 5, PL 234, L 4147, L 4076, Asha, Ranjan, Subhrita, JL 1, JL 3, LH 84–8, K–75, NDL 1, VL 1, VL 4, VL 103, PL 77–12, LL 56, LL 147, LL 699, VL 507, KLS 218, IPL 406, VL 126, HUL 57, PL 24, PL 63, WBL 77, Barahiya Local, Sel. No. 5, IPL 315
4.	<b>Peas</b> Pisum sativum L.	<b>55</b>	Arkel, Azad P 1, Azad P2, Azad P3, Azad P4, Azad P5, Azad P31, Ageta 6, DDR 23, DDR 27, VRP 3, VRP 5, VRP 6, VRP 7, VRP 22, VRPMR 9, DDR 44, HUDP 15, HFP 4, HFP 529, HFP 8909, IPFD 99–13, IPFD 1–10, IPFD 6–3, Jayanti, KPMR 144–1, KPMR 400, KPMR 522, LFP 48, PG 3, Pant P 74, Swati, VL 3, B 22, DMR 7, HUP 2, IM 9101, IM 9102, IPF 99–25, IPF 4–9, IPF 4–26, IPF 5–19, JM 6, JP 885, KFP 103, Pant P 5, Pant P 42, Rachna, TRCP 8, VL 1, VL 42, VL 45, VL 46, HFP 9426, HFP 9907B
5.	<b>Rajmash</b> Phaseolus vulgaris L.	<b>13</b>	PDR 14, HUR 15, HUR 137, IPR 98–5, HPR 35, IPR 98–3–1, HUR 203, IVFB 1, Arka Anoop, Swidha, Arka Komal, Gujrat Rajma 1, Arka Bold.

In the DUS testing one variety of Mung bean (**NVL 1**) and three varieties of Urd bean (**NUL 7, CoBG 653 and Khakhariya**) were tested alongwith reference varieties and data were recorded as per DUS guidelines in Kharif 2013. One variety of Rajmash (**Chamba Rajmash**) was tested alongwith reference varieties and data were recorded as per DUS guidelines in Rabi 2013–14. Monitoring of DUS trials was conducted under the Chairmanship of Dr. Sanjeev Gupta, Project Co–ordinator, MULLARP.

#### 2.8.5 All India Coordinated Research Project (AICRP) on Pigeon pea, IIPR, Kanpur

In Pigeon pea, the progress of maintenance breeding / characterization for the reference varieties, mainly procured from the ICAR systems / SAUs, during the reporting year is as under:

**Table-9 : Progress of maintenance breeding/characterization**

Crop species	No. of varieties	Reference varieties
<i>Cajanus cajan</i> (L.) Millsp	<b>53</b>	NDA 1, NDA 2, MA 6, MA 3, MAL 13, T– 7, DA 11, Bahar, Azad, Amar, GT 1, JA 4, BDN 2, BDN 708, Birsa Arhar –1, BRG 2, WRG 27, WRG 53, JKM 7, JKM 189, Vipula, WRP –1, TS 3, GC 11–39,

		AK 101, AKP 1, CO 6 CO 5, AK 022, GS 1, TV 1, LRG 38, LRG 30, PT 221, T 15 15, Asha, C 11, Hy3C, TTB 7, ICPL 85063, ICPL 332, Vamban-2, AL 15, AL 201, TJT 501, Banas, GT – 101, CORG 9701, ICP 84031 TAT – 10, ICPL 151, GT – 100 and Paras
	7	Pusa 9, Pusa 84, , Pusa 2001, Pusa 992, Pusa 33, Pusa 991 and Pusa 855

As regards the DUS testing, out of 14 applicant varieties, four applicant varieties belonged to the new category were in the first year of testing and seven were in the second year of testing. Two applicant varieties of farmers category and one variety of VCK were also tested.



**Table-10 : Progress of DUS testing in FY 2013–14**

Crops	New		VCK	FV	Total
	1 <sup>st</sup> yr	2 <sup>nd</sup> yr			
Pigeon pea	4	7	1	2	14

Eleven candidate varieties NTL 30, KPP 004, KPP 006, NTL 2, KPP008, Kaveri Sampada, NTL554, Nirmal 539, JKPH 9111, White Tuara and Erramachchakandi received from PPV&FRA were sown along with nine reference varieties (Maruthi, ICPL 87, Manak, LRG 41, UPAS 120, BSMR853, BSMR736, AKT 8811 and Vamban 1) in four replications in RBD and characterized for 21 descriptor. Application was filed for registration of one pigeon pea variety Phule T-0012 (Rajeshwari). Out of 49 notified varieties of pigeon pea, application was filed for registration of 25 varieties in the Authority and certificates have been issued for 18 applications.

### 2.8.6 Central Potato Research Institute (CPRI), Shimla

During the period under report, CPRI continued to maintain 167 reference collections of potato in different groups in *in-situ* and *ex-situ* conditions at Shimla and Modipuram as under:

**Table-11 : Potato genotypes including varieties under maintenance breeding**

Group	No. of varieties
CPRI Varieties	46
State Varieties	3
Indian numbers in other countries	5
Exotic varieties in India	20
UPOV example varieties	29
Indigenous sample/varieties	64
<b>Total</b>	<b>167</b>

The progress of DUS testing in potato in respect of public / private sector is as under:

**Table-12 : Status of DUS testing**

Institute	No. of varieties tested	Name of varieties tested	Group
CPRI	2	Kufri Garima, Kufri Gaurav	New
	13	Kufri Girdhari, Kufri Sadabahar, Kufri Khyati, Kufri Surya, Kufri Chipsona3, Kufri Kanchan, Kufri Anand, Kufri Himsona, Kufri Giriraj, Kufri Arun, Kufri Shailja, Kufri Himalini, Kufri Pushkar	Extant
Mahindra & Mahindra Ltd	9	Evora, Memphis, Kastelli, Crisp4All, Sagitta, Panamera, Taurus, Lucinda, HZD 01-58	VCK
PepsiCo Ltd	2	FL 1867, FL 2027	VCK

The details of the monitoring conducted for DUS trials at various stations are as under:

S. No.	Place	Monitoring Team
1	CPRI Centre, Modipuram, Meerut	Dr Vinod Kumar Dr. VK Gupta Dr. Vinay Bhardwaj Dr. D.S. Pilonia
2	CPRS, Jalandhar	Dr. Dalamu Dr Vinod Kumar Dr. Raj Kumar Dr. Ajay
3	CPRS, Kufri	Dr. Dalamu Dr Vinod Kumar Dr. Raj Kumar

### 2.8.7 Directorate of Maize Research (DMR), New Delhi

DMR has maintained and characterized 75 varieties of maize received from ICAR, SAUs and AICRP (maize) centre during the reporting year. Sixteen reference varieties were used in DUS testing at two locations, i.e. DMR, six hybrids, two OPVs and eight inbreds, respectively. The genetically pure seed of these references is being maintained

and supplied by respective AICRP (Maize) centres, namely CCSHAU, Uchani, Karnal; PAU Ludhiana; MPKV Kolhapur; ANGRAU, Hyderabad; VPKAS, Almora and DMR, New Delhi.



The progress of DUS testing during the year is as under:

**Table-13 : Progress of DUS testing**

New				VCK Private	FV	Total	Date of Monitoring	Chairman
1 <sup>st</sup> yr		2 <sup>nd</sup> yr						
Public	Private	Public	Private					
6	21	8	35					
27		43		16	5	91	18 September, 2013 at DMR, Delhi 30 September, 2013 at SRTC, Hyderabad	Dr. R.C Sharma, Former Principal Scientist

The monitoring of DUS trials was conducted during September, 2013 at both the centres with satisfactory management practices. Generally, the expression of traits in hybrids, was in conformity with what has been claimed by the breeders but not so in OPVs. The FVs originating from Himalayan belt have shown high GxE interactions and have succumbed to high temperature of Delhi conditions. Dr. R.R. Hanchinal, Chairperson, PPV&FR Authority and Dr. Atanu Purkayastha, Joint Secretary (Seeds) visited the DUS trials in the field and also inspected the DMR Laboratory.

### 2.8.8 Central Institute for Cotton Research (CICR), Regional Station, Coimbatore

CICR, Regional Station, Coimbatore functions as Co-Nodal centre for DUS testing in Cotton. The centre has maintained and characterized reference varieties of *G. hirsutum* (98), *G. barbadense* (6) and *G. arboreum* (15).

The progress of DUS testing is as under:

**Table-14 : Progress of DUS testing**

Crop	New		VCK	Total	Date of Monitoring	Chairman
	1 <sup>st</sup> yr	2 <sup>nd</sup> yr				
Cotton	84	21	68	173	23–24 December, 2013	Dr. S.S. Patil, Principal Scientist and Head, UAS, Dharwad

The monitoring of the DUS trials was conducted on 23–24 December, 2013 under the Chairmanship of Dr.S.S.Patil, Principal Scientist and Head,



AICCIP (Cotton), University of Agricultural Sciences, Dharwad and Dr. K. Rathinavel, Principal Scientist and Nodal Officer (DUS), CICR (RS), Coimbatore as member. Nine representatives from private companies participated in this process and also inspected the performance of their varieties, hybrids, parental lines under the categories new candidate and varieties of common knowledge. During the winter season of 2013, 21 new tetraploid candidate varieties for second year of testing, 59 new tetraploid candidate varieties for first year testing, four new diploid candidate varieties for first year testing; 68 new tetraploid varieties of common knowledge for first year testing along





with 47 reference varieties were taken up for sowing. Among these, 85 entries were of boll guard I and II and the rest were non-Bt. The plant population was in flowering, boll maturation and boll bursting stages as sowing was done on five different dates. The monitoring was done as per the proforma provided by the PPV&FRA for each variety separately. The distinctive characters as claimed by the applicant, the character expression on plant and the character available on field record were reconciled in consideration of the essential characteristics of test guidelines. The trials were conducted as per the National guidelines of cotton. The team was satisfied with the layout of trials, assessment character and method of recording of data as per DUS test requirement. Prof. R.R Hanchinal, Chairperson, PPV&FRA visited the site during the reporting period. The progress of registration of varieties with the Authority is as under:

**Table-15 : Progress of registration of cotton varieties**

Crop	Variety notified under Seeds Act, 1966 (since 1992)	Applications filed	Certificates issued
<i>G.hirsutum</i>	Extant	54	22
	New	5	
<i>G.arboreum</i>	Extant	23	9
	New	2	
<i>G.herbaceum</i>	Extant	3	2

### 2.8.9 Vivekanand Parvatiya Krishi Anusandhan Sansthan (VPKAS), Almora

The Centre has been given the mandate for DUS testing in Maize, Soybean and Rajmash. The progress of DUS testing is as under:

**Table-16 : Details of DUS testing of candidate varieties**

S. No.	Crops	New		FV
		1 <sup>st</sup> year entries	2 <sup>nd</sup> year entries	
1	Maize	1 (Vivek hybrid 45)	2 (Vivek hybrid 39, Vivek hybrid 43)	–
2	Rajmash	–	–	Chamba rajmash

The progress of maintenance and characterization is as under:

**Table-17 : Varieties under maintenance / characterization**

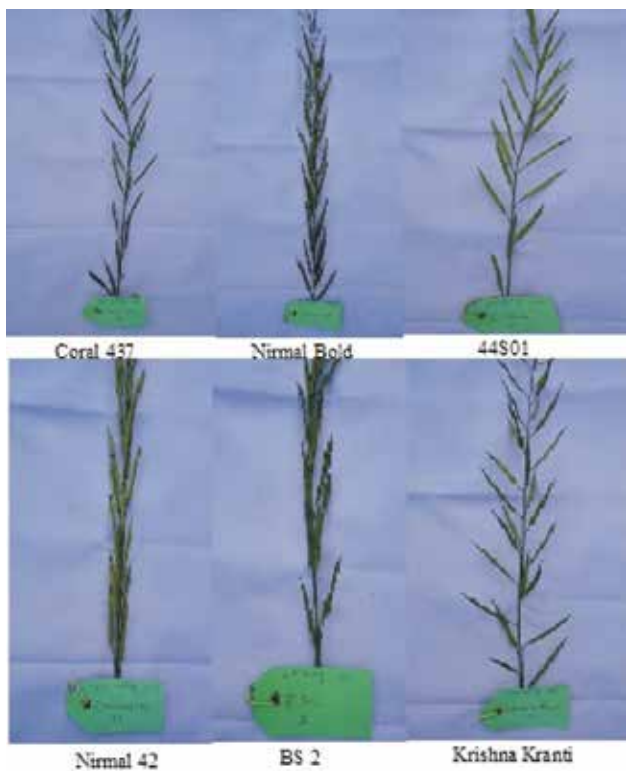
S No.	Crop Species	Source of Varieties	No.	Name of the varieties
1.	Soybean	ICAR	12	DS 228, DS 97–12, Pusa 16, Pusa 20, Pusa 22, Pusa 24, Pusa 37, Pusa 40, NRC 2, NRC 7, NRC 12, NRC 37
		Own	7	VLS 1, VLS 2, VLS 21, VLS 47, VLS 59, VLS 63, VLS 65
		Others (specify)	72	ADT 1, Alankar, Ankur, Birsya Soya 1, Bragg, CO 1, CO 3, CO Soya 2, Durga, Gujrat Soya 1, Gujrat Soya 2, Gaurav, Hara
				Soya, Hardee, Improved Pelican, Indira Soya 9, JS 2, JS 71–05, JS 75–46, JS 76–205, JS 79–81, JS 80–21, JS 90–41, JS 93–05, JS 95–60, JS 97–52, JS 335, KB 79, KHSB 2, Kalitur, Lee, LSB 1, MACS 13, MACS 57, MACS 58, MACS 124, MACS 450, MAUS 1, MAUS 2, MAUS 32, MAUS 47, MAUS 61, MAUS 61–2, MAUS 71, MAUS 81, Monetta, Palam Soya, PK 262, PK 308, PK 327, PK 471, PK 416, PK 472, PS 564, PS 1024, PS 1029, PS 1042, PS 1092, PS 1241, PS 1347, PS 1368, Punjab 1, RAUS 5, Shilageet, Shivalik, SL 96, SL 295, SL 525, SL 688, TAMS 38, TAMS 98, Type 49)
2.	Maize	Own	15	Hybrids ( Vivek Hybrid 4, Vivek Hybrid 5, Vivek Hybrid 9, Vivek Hybrid 15, Vivek Hybrid 17, Vivek Hybrid 21, Vivek Hybrid 23, Vivek Hybrid 25, Vivek Hybrid 27, Vivek Hybrid 33, vivek hybrid 39, vivek hybrid 43, vivek hybrid 45, Him 129, Vivek QPm 9)
			21	Inbreds ( CM 126, CM 127, CM 128, CM 129, CM 141, CM 145, CM 152, CM 153, CM 212, CM 502, V 25, V 335, V 341, V 345, V 346, V 351, V 372, V 373, VQL 1, VQL 2, VQL 17)
			6	Composites (Vivek Sankul Makka 11, Vivek Sankul Makka 31, Vivek Sankul Makka 35, Vivek Sankul Makka 37, VL amber Pop Corn, VL Baby Corn 1)
3	Rajmash	Own	2	VL63, VR 125
		Others (specify)	2	Farmers variety –Safed Sawant, Safed Jhulu Sawant

### 2.8.10 Directorate of Rapeseed and Mustard Research (DRMR), Bharatpur

The Centre has been given the following species of *Brassica* for DUS testing:

1. Indian mustard (*Brassica juncea*)
2. Karan rai (*Brassica carinata*)
3. Toria (*Brassica rapa*)
4. Gobhi sarson (*Brassica napus*)

Six varieties of Indian mustard (*Brassica juncea* L.) including two (Nirmal 42 and Coral 437) under new category and four (44 S 01, BS 2, Nirmal Bold and Krishna Kranti) under VCK category were tested for DUS characteristics during 2013–14. Monitoring was done at seed filling stage. Out of six varieties, three varieties, (Nirmal 42, Nirmal Bold and BS 2) expressed oppressed type of siliquae bearing on main shoot while, other three varieties, (Coral 437, 44S01 and Krishna Kranti) had open type of siliquae bearing. Monitoring team observed that BS 2 being tested as VCK and Nirmal 42 being tested as new variety had close phenotypic resemblance with extant variety Bhagirathi and EJ 9912–13, respectively. Hence recommendation was made for another year of testing along with Bhagirathi and EJ 9912–13.



Details of varieties undergone maintenance breeding/ characterization and progress of development of DUS

guidelines are as under:

**Table-18 : Progress of maintenance/characterisation**

Name of the species	No. of varieties	Source		
		Own Released	ICAR (IARI/ CSSRI)	SAU
<i>Brassica juncea</i>	82	5	22	55
<i>B.rapa</i>	28	1	1	26
<i>B.napus</i>	06			6
<i>B. carinata</i>	05		2	3

The progress of DUS testing is as under:

**Table-19 : Status of DUS testing in FY 2013–14**

Crops	New		VCK	Total	Date of Monitoring	Chairman
	1 <sup>st</sup> yr	2 <sup>nd</sup> yr				
<i>Brassica juncea</i>	Nirmal 42	Coral 437	Nirmal Bold BS 2 Krishna Kranti 44 S 01	6	5 Feb., 2014	Dr. D.K. Yadav, Principal scientist, Division of Genetics, IARI, New Delhi
<b>Total</b>	<b>01</b>	<b>01</b>	<b>04</b>	<b>6</b>		

### 2.8.11 National Research Center on Pomegranate (NRC), Solapur

NRC on Pomegranate has developed the DUS testing guidelines as per the mandate assigned in the previous year. A new field gene bank with 55 exotic collections obtained from USDA, California through NBPGR has been established during January, 2014 which will be used as reference collection for DUS testing. During the reporting



Variability in the aril color

year, NRC has prepared photo library of pomegranate germplasm and created database of morphometric traits. Some distinct characteristics of flower traits and aril colour of cultivated varieties are depicted on the previous page.

**Table-20 : Variability in floral characteristics**

S. No.	Variety	Petal colour (mm)	Petal length (mm)	Petal width	Calyx colour	Calyx length (mm)	Calyx width (mm)
1	Arakta	Orange	23.6	19.3	Dark Red	36.4	12.9
2	Bhagwa	Orange	24.0	19.3	Red	41.2	13.6
3	Kabuli Yellow	Yellow	23.3	18.9	Yellow	39.8	14.2
4	Ganesh	Orange	23.6	19.6	Orange	37.6	14.4

### 2.8.12 Department of Seed Science and Technology (DSS&T), Tamil Nadu Agricultural University, Coimbatore

The centre has been earmarked for DUS testing in rice and sunflower. The progress of DUS testing is as under:

#### Rice



The paddy seeds of 21 farmers' varieties received from the PPV&FRA were laid for conducting grow out test (GoT). It was conducted for 20 varieties except the variety Urunikayma which recorded nil germination. The field was well maintained with good crop stand. Uniformity was lacking in few varieties, however, the claimed characters were well expressed except the pigmentation in few cases.

#### Sunflower

The sunflower DUS trials have been conducted systematically with standard crop management practices as well as plant stand. Very few differences were recorded between the claimed characters and observations of monitoring team in some of the entries and reported. The member of the monitoring team suggested that the

monitoring should be arranged in parallel with the DOR and preferably during the flowering time to judge the better expression of crop. The progress of DUS testing is as under:

**Table-21 : Progress of DUS testing**

Crops	New		VCK	FV	Ref. entries	Total	Date of Monitoring	Chairman
	1 <sup>st</sup> yr	2 <sup>nd</sup> yr						
Rice	–	–	–	21	–	21	13 November, 2013	Dr. S.R. Dhua, Former Principal Scientist, CRRI, Cuttack
Sun-flower	3	13	9	–	12	37	4–5 March, 2014	Dr. Mangesh. Y. Dudhe Scientist / Crop Associate, DOR, Hyderabad
<b>Total</b>	<b>3</b>	<b>13</b>	<b>9</b>	<b>21</b>	<b>12</b>	<b>58</b>		

### 2.8.13 Chaudhary Charan Singh Haryana Agricultural University (CCS HAU), Hisar

The CCSHAU, Hisar has been designated as one of the Centres for cotton and chickpea for DUS testing. The progress of the Nodal Centre during the reporting year is as under:

#### Cotton



**Diploid Cotton:** In this trial, a total of eight entries were tested. Out of which five were the candidate varieties and three were the reference varieties. All the eight entries were sown in randomized block design (RBD) with three replications and the observations were recorded on a number of characteristics such as hypocotyl pigmentation, leaf colour, leaf pubescence, leaf nectaries, leaf petiole pigmentation, leaf shape, plant stem hairiness and many

others.

**Tetraploid Cotton:** In this trial, a total of 76 entries were tested. Out of which 47 were candidate varieties and 29 were the reference varieties. Among the candidate entries, nine were in their second year of testing and 38 were in their first year of testing. All the 76 entries were sown in randomized block design (RBD) with three replications and the observations were recorded on a number of parameters like hypocotyl pigmentation, leaf colour, leaf hairiness, leaf appearance, leaf gossypol glands, leaf nectaries, leaf petiole pigmentation, leaf shape, plant stem hairiness and many others.

#### Chickpea

In this trial, seeds of six entries (GNG 1581, HC-1, Pusa 256, Pusa 261, Pant G-114, DCP 92-3) were supplied by the IIPR, Kanpur and the experiments were done in RBD with three replications as per the guidelines for chickpea DUS Testing during Rabi 2013-14. The observations for stem anthocyanin colouration, stem height at initiation of first flower, time of flowering (50% of the plants with at least open flower), plant growth habit, colour of foliage, leaflet size (length) (middle of the plant and middle of the leaf), leaf pattern etc.

#### 2.8.14 Dr. Panjabrao Deshmukh Krishi Vidyaapeeth (PDKV), Akola

Under the Centre Sector Scheme, implementation of Protection of Plant Varieties legislation the centre has been assigned DUS testing in pigeon pea and safflower. The centre has maintained 27 reference varieties of safflower and 63 of pigeon pea for characterization. Out of 27 genotypes of safflower, seven genotypes were grouped as small seed size, 10 genotypes as medium and remaining 10 genotypes as large seed size. In case of pigeon pea, over all 21 characters were recorded for observation and characters like anthocyanin: colouration of hypocotyls was recorded at seedling stage in which JA-4, BSMR-736 and DA-11 varieties showed absence of anthocyanin while remaining 60 varieties showed presence of anthocyanin colouration of hypocotyls at seedling stage. Plant branching pattern was recorded at insertion of first flower categorizing the 63 varieties under erect, semi-spreading and spreading type. Observations on time of flowering, recorded as an essential character, showed that no variety is of very early type in 50% flowering, 16 genotypes were in early group, 36 genotypes in medium group, seven were of late type and four genotypes were very late requiring more than 160 days to complete 50% flowering. Under plant growth habit the varieties like AL-15, GT-100, ICPL-151, ICPL-87, Vamban-1, PT-221, AK-022, DA-1, Pusa-33 and

GC-11-39 were grouped in determinate type and other 53 varieties in indeterminate category. In stem colour 50 varieties were grouped in green and 13 varieties in purple category. In leaf shape five varieties (GT-100, CO-6, Bahar, Azad, TS-3 and GC-11-39) showed obvate type leaf, whereas Manak, TAT-10, Vamban-1, NDA-1, ICPL-85063 and PT-221 showed sesame type leaf and remaining 51 varieties showed oblong type of leaf. Flower colour of petal showed variation from light yellow to purple. Only one variety ICPL-87 showed light colour flower; three varieties DA-11, NDA-1 and GC-11-39 showed orange-yellow colour flower; variety MA-3 showed purple colour flower; varieties Hy-3c and BSMR-853 showed red colour flower and remaining 56 varieties showed yellow colour flower. Flower pattern of streaks on petal showed variation from sparse to dense on petal. Pod colour also varied from green to green with brown streaks, green with purple streaks, purple and to dark purple in different varieties. Other pod characteristics were also observed and recorded. Varieties AL-15 and ICPL-87 were grouped under short type in plant height character and PUSA-33, ICPL-151 and GC-11-39 were grouped in medium category showing height ranging from 100-150 cm and remaining 58 varieties were grouped in tall category.

The data on seed colour and seed colour pattern indicated that out of 63 genotypes, eight genotypes showed cream colour of seed, 13 genotypes showed brown colour, seven genotypes showed grey colour, eight genotypes showed purple colour and remaining genotypes showed dark brown colour of seed. A total of 42 genotypes were grouped under uniform seed colour pattern and remaining 21 in mottled seed colour pattern.

#### 2.8.15 Central Institute for Cotton Research (CICR), Nagpur

The Centre has maintained 25 reference varieties of *G. arboreum* and three varieties of *G. herbaceum* which were mainly procured from ICAR and SAU system. The progress of DUS testing is as under:

**Table-22 : Progress of DUS testing**

Crop	New		Total
	1 <sup>st</sup> yr	2 <sup>nd</sup> yr	
Cotton	40	15	55

The Monitoring team constituted under the Chairmanship of Dr. M. S. Kairon, Former Director, CICR, Nagpur and Dr. K. Rathinavel, Principal Scientist and Nodal Officer, DUS Project, CICR, (RS), Coimbatore visited the field trial on boll formation stage on 6 November, 2013. The team was accompanied by Dr. K. R. Kranthi,

Director, CICR, Nagpur, Dr. V. Santhy, the Co-Nodal officer, DUS of CICR Center and Heads of the Division of Crop Improvement, Crop Production and Crop Protection. The trials were laid out in satisfactory manner as per the DUS test guidelines. The crop growth and expression of morphological characters were not uniform in most of the candidate varieties with respect to the traits such as boll shape, leaf hairiness etc. Variability due to presence of off types was also observed within the candidate varieties. In few candidate genotypes, the claimed characters and the observed characters did not match. The overall performance of the crop growth, the method of conducting trial and recording of the observations was good.



**2.8.16 Central Plantation Crop Research Institute (CPCRI), Kasaragod**



CPCRI is a designated as Nodal centre for DUS testing in coconut (*Cocos nucifera* L.). The Centre has maintained 11 reference varieties procured from ICAR

and SAUs. Healthy seed nuts of selected reference/ released /extant coconut varieties (COD, WCT, Kalpa Pratibha, Kalpa Dhenu, Kalpa Mitra, Chandra Kalpa, Kera Chandra, Chandra Sankara, Kera Sankara, Chandra Laksha, Kalparaksha, Gangabondam Dwarf, Laccadive Micro Tall, Spicata Tall, Kalpa Surya, Kalpasree, Kalpa Jyothi) were sown in polybags for production of seedlings for DUS testing. Observations were made on germination and seedling morphology (seedling petiole colour, seedling length, number of leaves, seedling collar girth, earliness in leaf splitting) for input to database.

On-site DUS test and related characters with respect to inflorescence (inflorescence length, inflorescence stalk length, inflorescence stalk girth, petal length and breadth, stamen length, anther length) and fruit characters (fruit weight, fruit shape – polar and equatorial, dehusked fruit– weight and shape, thickness and weight – shell and husk, fresh endosperm – thickness and weight, dry endosperm– weight, tender nut water – quantity) were recorded on 11 released/extant varieties of coconut (COD, WCT, Kalpa Pratibha, Kalpa Dhenu, Kalpa Mitra, Chandra Kalpa, Kera Chandra, Chandra Sankara, Kera Sankara, Kalpatharu, Kalparaksha) developed at the institute towards development of database on DUS descriptors for extant/ released varieties.

#### **2.8.17 Central Research Institute for Jute and Allied Fibre (CRIJAF), Barrackpore**

The Centre has maintained 20 reference varieties of *Corchorus olitorius* L, out of which 14 are their own released and six belong to SAUs. In *Corchorus capsularis* L. the centre has maintained 17 references varieties, out of which 10 are their own released and seven belong to SAUs. The progress of DUS testing is as under:

**Table-23 : Progress of DUS testing**

Crop	New		Total	Date of Monitoring	Chairman
	1 <sup>st</sup> yr	2 <sup>nd</sup> yr			
Jute <i>C. olitorius</i>	JRO 2407	CO 58	02	23 August, 2013 at CRIJAF, Barrackpore & 24 August, 2013 at CSRSJAF, Budbud	Dr. D. K. De, Former Professor, Deptt. of Plant Breeding, BCKV, Kalyani
<b>Total</b>	<b>01</b>	<b>01</b>	<b>02</b>		

In the monitoring of DUS trials, the candidate variety JRO 2407 (Samapti) showed more stem pigmentation under comparable incident of light with compared to reference varieties (S-19 and JRO 878). The other candidate variety,

CO-58 (Sourav) showed lanceolate type of leaf shape whereas the reference varieties have ovate-lanceolate type of leaf shape. All other characters were found uniform in all the varieties under consideration. The Centre has filed 14 applications for registration of (*olitorius* L.) and 12 applications of (*capsularis*) in the extant category. Certificates of registration have been issued in respect of four varieties of *Corchorus olitorius* L. and six for *Corchorus capsularis* L.



#### 2.8.18 Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP), Lucknow

The Centre has been assigned for DUS testing in menthol mint, periwinkle, damask rose and brahmi. The DUS testing guidelines for all the above medicinal crops have already been notified. The centre has maintained the reference varieties and also undertaken characterization and recording of data on various morphological and phenotypic characters. The progress of maintenance is as under:

**Table-24 : Progress of maintenance breeding**

Name of the crops	No of varieties	Name of varieties under maintenance breeding	Source (own released/ ICAR/SAU)
Mentha ( <i>Mentha arvensis</i> )	10	Kosi, MAS-1, Kalka, Shivalik, Gomti, Sambhav, Himalaya, Sakashm, Kushal, CIMAP Saryu	Own released
Periwinkle ( <i>Catharanthus roseus</i> )	3	Dhawal, Nirmal, Prabal	-do-
Damask rose ( <i>Rosa damascena</i> )	4	Ranisahiba, Noorjahan, Aligarh, Kanouj	-do-
Brahmi ( <i>Bacopa monnieri</i> )	2	CIM-Jagriti, Subodhak	-do-



#### 2.8.19 Indian Institute of Horticultural Research (IIHR), Hasserghatta, Bengaluru



The Centre has maintained 110 reference varieties of roses out of which 10 belong to IIHR, 80 to other institutes of ICAR and the remaining 20 belong to State Agriculture Universities. In case of chrysanthemum, 12 reference varieties belong to IIHR, 65 to other sources including SAUs. As regards progress of DUS testing, two varieties of rose, Meiflemingue and Korylal were tested as VCK. Monitoring of the DUS trial was conducted on 18 November, 2013. Meiflemingue was tested for DUS characters in which Tajmahal was need as reference variety. There were few variations between claimed and observed characters. Overall, it was found as similar to Tajmahal. Korylal was tested for DUS characters and First Red was need as reference variety. Distinct irregular patch appears on petal which is not uniform. Applications were not received for DUS testing in the Chrysanthemum.

Dr. Ramesh Kumar, Director, Directorate of Floriculture Research, New Delhi and Dr. R.C. Agarwal, Registrar General, PPV & FRA visited the site on 6 July, 2013 and 17 June, 2013 respectively.

#### 2.8.20 Directorate of Onion and Garlic Research (DOGR), Rajgurunagar, Pune

DOGR is serving as DUS centre for Onion and Garlic. Six varieties of onion belonging to VCK category were tested for DUS purpose. The progress of maintenance breeding and characterization during the reporting year is given under:

**Table-25 : Maintenance breeding and characterization**

Name of the crops	No. of varieties	Source
Common onion ( <i>Allium cepa</i> L.)	20	ICAR + Own
	8	Own (ICAR)
	25	SAU's/ others
Multiplier onion ( <i>Allium cepa</i> L.)	5	SAU's
Garlic ( <i>Allium sativum</i> L.)	4	ICAR+ Own
	2	Own (ICAR)
	16	SAU's/ others



Prof. R.R. Hanchinal, Chairperson, PPV&FRA and Dr. Ravi Prakash, Registrar, PPV&FRA visited the institute on 11 January, 2014 and also monitored DUS trials of onion and garlic. They had a review meeting with the Dr. Jai Gopal, Director, Dr. A.J. Gupta, Nodal Officer, DUS and other scientists associated with the trials.

#### 2.8.21 Directorate of Oilseeds Research (DOR), Rajendranagar, Hyderabad

DOR is responsible for DUS testing in castor (*Ricinus communis* L.), sunflower (*Helianthus annuus* L.) and safflower (*Carthamus tinctorious* L.). During the reporting year, three reference varieties each of castor and sunflower were under maintenance and characterisation. The progress of DUS testing was as under:

**Table-26 : Progress of DUS testing**

Crop	New		VCK	Total	Date of Monitoring	Chairman
	1 <sup>st</sup> yr	2 <sup>nd</sup> yr				
Castor	–	1 (Pvt) 1 (Public)	–	2	22 January, 2014	Dr. D.M. Hegde, Former Director, DOR, Hyderabad
Sun-flower	3 (Pvt)	13 (Pvt)	9 (Pvt)	25		
<b>Total</b>	<b>3</b>	<b>15</b>	<b>9</b>	<b>27</b>		

**Castor:** Two separate replicated trials were sown on 9 July, 2013. The hybrid trial comprised of one candidate entry along with two reference hybrids, the varietal trial consisted of one candidate variety along with two reference entries. Observations for all the 30 traits were recorded.

**Sunflower:** During *Rabi* 2013–14, three separate replicated trials were conducted by sowing on 22 November, 2013



for A–lines, hybrids and R–lines trials. The hybrid trial comprised of six candidates which included five VCK, one new candidate (1 year) and three reference entries. The R–line trial comprised of six candidates of which 3 were characterized for two year, one for one year and two as VCK along with four reference entries. The A–line trial comprised of 13 candidates of which 10 were characterized for two year, one for one year and two as VCK along with five reference entries. Observations have been recorded on 26 traits of which one was at seedling emergence, eight on fully developed leaves after bud stage but before flowering; 10 were recorded at flowering stage, one at seed setting and six at maturity. The crop was harvested and the rest of the seed observations were in progress.

Consolidated report of DUS data for one VCK of castor hybrid tested during *kharif*, 2012–13 for two centres was submitted to the Authority.

#### 2.8.22 Directorate of Rice Research (DRR), Hyderabad

DRR is the Nodal Centre for DUS testing in rice. During the reporting year the Centre has maintained 150 reference varieties of rice which were mainly bred by DRR and other ICAR institutes. The progress of DUS testing was as under:–

**Table-27 : Progress of DUS testing**

Crop	New		VCK	FV	Total	Date of Monitoring	Chairman
	1 <sup>st</sup> yr	2 <sup>nd</sup> yr					
Rice	12	21	8	51	92	29– 30 October, 2013.	Dr. S.R. Dhua, Former Scientist, CRRI, Cuttack

DRR has applied for registration of 16 varieties

belonging to extant notified category. The progress of issuance of certificates of registration was as under:

**Table-28 : Status of New / VCK / Extant notified / farmers' variety**

Crop	Variety notified under Seeds Act, 1966 (since 1992)	Applications filed for registration	Certificates issued	Remarks
Rice	All- 430 DRR 16	152	76	Nine pending remaining under examination and testing

Crop	Category	Status
Rice	ENVs	Applications filed for 16 varieties

DRR received best poster award for “*Assessment of Genetic Divergence in Farmers' Varieties of Rice from the Eastern Regions of the India*” at International Conference on Biodiversity, Bio-resources and Biotechnology during 30–31 January, 2014 at Mysore. The event was organized by the Association for the Advancement of Biodiversity Science (AASB).

### 2.8.23 Directorate of Soybean Research (DSR), Indore

DSR has maintained 101 soybean reference varieties in the Centre and did characterization for the same. During the reporting year, the progress of DUS testing is as under:

**Table-29 : Progress of DUS testing**

Crop	New		Date of Monitoring	Chairman
	1 <sup>st</sup> yr	2 <sup>nd</sup> yr		
Soybean	–	1(NSO 84)	29 August, 2013	Dr. O.P. Joshi, Former Emeritus Scientist, DSR, Indore

As per the claimed character for plant growth habit, the claimed character of semi-erect was not found correct for the candidate variety at the monitoring stage. The field observations revealed it to be erect. Last year the erect character was confirmed while monitoring the DUS Test plot at Dharwad centre. Even though the pod pubescence was absent in the candidate variety, the pod pubescence colour has been claimed to be grey which is not justified. The pod pubescence colour is not applicable in case of absence of pubescence.



The DSR has filed eight applications of soybean for which five certificates have been issued and 3 are pending.

### 2.8.24 Directorate of Wheat Research (DWR), Karnal

Wheat and barley are the two mandated crops for DUS testing at DWR, Karnal. The progress of maintenance breeding and characterization is as under:

**Table-30 : Progress of maintenance/characterisation.**

Name of the species	No. of varieties	Source (own released/ ICAR/ SAU)	Name of the species	No. of varieties	Source (own released/ ICAR/SAU)
<i>T. aestivum</i>	298	Released varieties	<i>T. dicoccum</i>	05	Released varieties
	34	Old cultivars	<i>Triticale</i>	05	Released varieties
<i>T. durum</i>	45	Released varieties	<i>H. vulgare</i>	83	Released varieties

During *rabi* season 2013–14, 83 genotypes of barley (*Hordeum vulgare* L.) at Karnal and 25 genotypes at Faizabad and Durgapura centres were grown and evaluated in RCBD design in three replications for recording 32 characters as per DUS guidelines. Three varieties of wheat including two new varieties to private sectors and one farmers' variety were tested for DUS purpose and the monitoring was carried out under the Chairmanship of Dr. S.S. Atwal, Head, Regional Research Station, Karnal. The progress of registration of the wheat varieties is as under:

**Table-31 : New / VCK and Extant notified**

Crops	Varieties notified under Seeds Act, 1966 (since 1992)	Applications filed for registration	Certificates issued
Bread wheat	160	102	87
Durum wheat	26	6	–
Dicoccum	6	1	–
wheat	3	–	–



Dr. R.R. Hanchinal, Chairperson; Dr. R.C. Agrawal, Registrar General and Dr. Manoj Srivastava, Registrar visited the station.

### 2.8.25 Govind Ballabh Pant University of Agriculture and Technology (GBPUA & T), Pantnagar

The Centre is acting as DUS centre for forage sorghum (*Sorghum bicolor* (L.) Moench. A total of 53 reference varieties were under the maintenance breeding and characterization, belonging to the University itself as well as DSR, Hyderabad; ICRISAT and other. The progress of DUS testing with regards to six applications received from Authority is as under:

**Table-32 : Progress of DUS characterization**

S. No.	Name of the variety/ hybrid/parental lines	Status
1	UTMCH 1310	Multicut forage sorghum hybrid in AVT II (All India)
2	104 A	Female parent of UTMCH 1310
3	104 B	Maintainer line
4	UTMC 539	Multicut forage sorghum variety in AVT II (State)
5	Pant Chari 7	State released forage sorghum variety (Notified in 2012)
6	Pant Chari 8	State released forage sorghum variety (Notified in 2012)

The University has so far filed four applications including three VCK and one new variety of forage sorghum for registration and certificates have already been issued for three VCKs .

### 2.8.26 Division of Vegetable Sciences, Indian Agricultural Research Institute (IARI), New Delhi

It is a DUS centre for cauliflower and cabbage and the progress of DUS testing is as under:

**Table-33 : Status of DUS testing**

Crops	New		Total	Date of Monitoring	Chairman
	1 <sup>st</sup> yr	2 <sup>nd</sup> yr			
Cauliflower	1	7	8	20 December, 2013 and 24 February, 2014	Dr. P. Kalita, Head, Division of Vegetable Sciences, IARI, New Delhi
Cabbage	–	6	6		
<b>Total</b>	<b>1</b>	<b>13</b>	<b>14</b>		

### 2.8.27 IARI, Regional Station (Vegetables), Katrain, Kullu Valley, Himachal Pradesh

IARI (RS) is a Co-Nodal Centre for vegetable DUS Testing. The morphological characters relating to flowers and seeds are recorded at Katrain. The centre has maintained 13 reference varieties of cabbage and 11 of cauliflower which mainly belong to ICAR / SAU system. With regards to DUS testing, one variety each of cauliflower and cabbage belonging to new category of private seed industry was tested.

### 2.8.28 Regional Station, IARI, Karnal

Regional Station, IARI, Karnal is one of the Co-Nodal DUS centres for rice. There are 10 example varieties of rice under maintenance breeding and characterization at the station. The progress of DUS testing during the reporting year is as under:

**Table-34 : Progress of DUS testing**

Crop	New		FV	Date of Monitoring	Monitoring team
	1 <sup>st</sup> yr	2 <sup>nd</sup> yr			
Rice	1 (Public Sector)	3 (Private Sector)	2	21 October, 2013	Dr. S.S. Atwal, Head, Karnal Regional Station Dr. D.S. Pilonia, PPV&FRA
<b>Total</b>	<b>1</b>	<b>3</b>	<b>2</b>		



One farmer variety, namely Karad, was mixture population of two types (purple awned and white awned plants). Dr. R.R. Hanchinal, Chairperson, PPV&FR Authority visited this centre on 16 October, 2013.

### 2.8.29 Indian Institute of Horticultural Research (IIHR), Bengaluru

Vegetable Division: IIHR is the DUS centre for tomato, brinjal, okra and garden pea. It has maintained reference varieties of these vegetables for characterization. The current status is as under:

**Table-35 : Progress of maintenance breeding/characterisation**

Name of the species	No. of varieties	Source(own released/ICAR/SAU)
Tomato	28	Own released –8, ICAR–9 and SAU–11
Brinjal	35	Own released –8, ICAR–12 and SAU–15
Okra	19	Own released, ICAR and SAU
Garden pea	26	Own released–11, ICAR–6 and SAU–9

During the reporting year, the progress of DUS testing was as under:

**Table-36 : Status of DUS testing**

Crops	New		Total	Date of Monitoring	Chairman
	1 <sup>st</sup> yr	2 <sup>nd</sup> yr			
Tomato	21	39	60	20 January, 2014	Dr. O. Sridevi
Brinjal	64	23	87	5 February, 2014	Dr. B. Fakruddin
Okra	15	8	23	28 September, 2013	Dr. O. P. Dutta
<b>Total</b>	<b>100</b>	<b>70</b>	<b>170</b>		

**Brief observations during monitoring**

**Okra:** Dr. O.P. Dutta, Chairman DUS Monitoring Committee and other members were satisfied with the crop growth and development. The representatives from two seed companies, namely M/s JK seeds and M/s Nuzuveedu, participated and were satisfied with performance of DUS trials.

**Tomato:** Ten companies participated in the monitoring and examined their entries in the field on 20 January, 2014 under the Chairmanship of Dr. O. Sridevi, Prof and HOD, PB&G, UAS, Dharwad.



**Brinjal:** Five private sector seed companies participated and examined their entries in the field on 5 February, 2014 under the Chairmanship of Dr B Fakruddin, Prof and HOD,



Deptt. of Biotechnology, UHS Bagalkot, GKVK Campus.

**2.8.30 Indian Institute of Spices Research (IISR), Kozhikode**



IISR is serving as DUS Centre for black pepper, small cardamom, ginger and turmeric. The progress of maintenance breeding and characterization during the reporting year is as under:

**Table-37 : Progress of maintenance breeding / characterization**

Name of the species	No. of varieties	Source (own released/ICAR/SAU)
Black pepper ( <i>Piper nigrum L.</i> ),	21	Released/ VCK/SAU/ germplasm
Small cardamom ( <i>Elettaria cardamomum Maton</i> )	15	Released/ VCK/SAU
Ginger ( <i>Zingiber officinale Rosc.</i> )	29	Released/ VCK/SAU/ germplasm
Turmeric ( <i>Curcuma longa L.</i> )	36	Released/ VCK/SAU/ germplasm

The progress of registration of varieties in respect of black pepper and small cardamom with Authority is as under:

**Table-38 : Applications filed for registration**

Crop	No.	Category	Status
Black pepper	3	Farmers' varieties	Expected to get instructions for On-site DUS tests
Small cardamom	4	Farmers' varieties	Expected to get instructions for On-site DUS tests

### 2.8.31 Junagadh Agricultural University (JAU), Jamnagar

Pearl millet Research Station, Junagadh Agricultural University, Jamnagar is the Co-Nodal centre for DUS testing in castor. Two reference varieties of castor belonging to ICAR and a private company were characterized in the reporting year. Two new varieties, one from public and the other from private sector belonging to new variety category were under DUS testing. Two booklets entitled “Gujaratna Mukhy Pakoni Beej Utpadan Technology” and “Research Achievements in Pearl Millet”, were brought out by Pearl Millet Research Station, JAU, Jamnagar.

### 2.8.32 Project Coordinator, (Sesame & Niger), JNKVV, Jabalpur

PC, (Sesame and Niger) at JNKVV, Jabalpur is a designated Nodal Centre for DUS testing. A total of 85 varieties of sesame (*Sesamum indicum* L.) and 15 varieties of niger (*Guizotia abyssinica*) belonging to SAUs were under maintenance breeding and characterization. Maintenance and characterization of open pollinated varieties is difficult because niger is a cross pollinated crop due to the self incompatibility nature. Hence, difficulties were faced while developing the descriptors and DUS test guidelines.

### 2.8.33 Seed Technology Research Unit, Mahatma Phule Krishi Vidyapeeth (MPKV), Rahuri

DUS testing in Sorghum, pearl millet and chick pea was conducted at MPKV as Co-Nodal centre and DSR, Hyderabad as Nodal centre. During the reporting year, 21 example varieties were under maintenance breeding/characterization. The progress of DUS testing is as under:

**Table-39 : Status of DUS testing**

Crops	New		VCK	Total	Date of monitoring	Chairman
	1st yr	2nd yr				
Sorghum (Kharif)	9	7	6	22	3-4 October, 2013	Dr. P.A. Navale

Pearl millet	25	19	11	55	30 January 2014	Dr. J.V. Patil, Director, DSR, Hyderabad
Sorghum (Rabi)	3	5	1	09		
Total	37	31	18	86		

All the entries sent by Nodal center for testing have been included in the trial and conducted as per crop specific



guidelines. The population of each entry in the trial in all replications was properly maintained. The quality of the trial was satisfactory. All the traits suggested by claimant have been recorded and the detailed observations were given in the prescribed form. *Rabi* trials must be planted positively by mid-September to represent *Rabi* sorghum correctly and seeds should be made available to the centre by the PPV&FRA to the centre latest by 31 August, 2014. Dr. R.R. Hanchinal, Chairperson; Dr. Ravi Prakash; and Dr. Tejbir Singh, Registrars, PPV&FRA visited the trial on 3-4 October, 2013.

### 2.8.34 National Research Centre for Orchids (NRCO), Pakyong, Sikkim

NRC for Orchids has developed DUS test guidelines for Cymbidium, Dendrobium and Vanda through a National Core Committee in consultation with the Nodal Centre. After the finalization and approval of the guidelines by the Task Force, these three species have been notified by the Department of Agriculture & Co-operation, Ministry of Agriculture for registration on the recommendation of the PPV&FRA. Four more species of Orchids namely *Phalaenopsis*, *Paphiopedilum*, *Oncidium* and *Cattleya* have been taken for developing their DUS guidelines. The centre has maintained 157 reference varieties of all the species of orchids for the purpose of maintenance breeding and characterization. The progress of maintenance breeding and characterization during the reporting is as under:

**Table-40 : Progress of maintenance breeding/characterization**

Name of the species	No. of varieties	Source (own released/ ICAR / SAU)	Name of the species	No. of varieties	Source (own released / ICAR/SAU)
<i>Cymbidium</i>	30	VCK	<i>Cattleya</i>	8	VCK
<i>Dendrobium</i>	14	VCK	<i>Oncidium</i>	24	VCK
<i>Vanda</i>	23	VCK	<i>Paphio-pedilum</i>	8	Species (For initial characterization)
<i>Phala-enopsis</i>	50	VCK			
<b>Total</b>	<b>117</b>			<b>40</b>	

### 2.8.35 Punjab Agricultural University (PAU), Ludhiana

Punjab Agricultural University, Ludhiana is a designated DUS test centre for cotton and wheat from 2011. Seed Technology Centre is testing different candidate varieties of cotton and wheat along with the respective reference varieties for their registration and protection. In cotton, seeds of 80 varieties were received including 72 tetraploids (47 candidate and 25 reference varieties) and eight diploids (six Candidate and two Reference varieties) from Authority. The crop was sown on 16, 17, 23 and 27 May, 2013. Monitoring of DUS trial of cotton trial was conducted on 25 September, 2013 and a satisfactory report was made by the monitoring team.

### 2.8.36 Sugarcane Breeding Institute Research Centre, Agali, Palakkad

The maintenance breeding of 182 reference and example varieties of tropical sugarcane varieties including six newly added varieties was done at Sugarcane Breeding Institute Research Centre, Agali. Varieties with poor establishment were replanted and all the varieties were maintained in the field. The DUS characters were observed at 240 days and 300 days and recorded on 50 varieties to study the stability of expression of these characters. Among the characters studied the shape of inner auricle, presence of bud cushion, bud tip in relationship to growth ring and bud size were found to vary in a few varieties. The expression of inner auricle shape was found to be unstable in some varieties with deltoid and lanceolate auricle. A total of 185 reference varieties, including three new varieties added, were planted initially as single budded setts in polybags and were transplanted in the field during February, 2014. All the varieties had established well in the field. Three varieties of sugarcane, namely Co 06027, Co 06030 (Tropical) and Co 05009 (Sub-tropical) from Sugarcane Breeding Institute, Coimbatore were notified for release.

### 2.8.37 Central Institute of Arid Horticulture (CIAH), Bikaner

The Institute had already developed the DUS guidelines for Jujube (Ber), *Ziziphus mauritiana* Lamk, in the previous year which have been notified by the Department of Agriculture & Co-operation for filing applications for registration under the provisions of the PPV&FR Act, 2001. During the reporting year the Institute has maintained 25 varieties of common knowledge (VCK) of Ber which were procured from various ICAR institutes, SAUs etc. and observations were recorded for various characters for developing the database. This Centre is also developing DUS guidelines for datepalm.

### 2.8.38 Indian Institute of Sugarcane Research (IISR), Lucknow

The Centre has maintained and characterized 142 reference collection of sugarcane varieties mainly procured from ICAR / SAUs. Two varieties of sugarcane, namely Co 0118 and Co 0238, were tested in the second year at Lucknow and Regional Centre of SBI at Karnal during the reporting year. After completion of monitoring, the results were under finalization for submitting to the Authority. Out of 36 applications filed with Authority so far, certificates of registration in respect of 35 have been issued and only one application is pending.

### 2.8.39 Seed Research and Technology Centre (SRTC), Andhra Pradesh Agriculture University, Rajendranagar, Hyderabad

This Centre is responsible for DUS testing in maize, black gram and green gram and also undertaking the work of maintaining the reference varieties for the purpose. The status of DUS testing in the reporting year is as under:

**Table-41 : Progress of DUS testing**

Crops	New		FV	Total	Date of Monitoring	Chairman
	1 <sup>st</sup> yr	2 <sup>nd</sup> yr				
Maize					30 September, 2013 and 1 October, 2013	Dr. R. C. Sharma, Former Dean, College of Horticulture, University of Horticulture and Forestry, Nauni, Solan
Hybrids	30	28	5 (1 <sup>st</sup> year)	63		
Inbreds	13	15		28		
Blackgram	1		1	1		

The trials have been laid out, conducted and characterization was done as per the DUS test guidelines prescribed by PPV & FRA with good field maintenance.

## 2.8.40 University of Agricultural Sciences (UAS), Dharwad



The University is a designated DUS testing Co-Nodal Centre for cotton, soybean and wheat and is also maintaining reference varieties in the above crops. During kharif 2013–14, 33 candidate varieties of cotton were tested. Further, 132 varieties of wheat and 98 varieties & 2 candidate varieties in soybean have been tested for their DUS characteristics. The progress of DUS testing during 2013–14 is as under:

**Table-42 : Progress of DUS testing**

Crops	New		Date of Monitoring	Chairman
	1 <sup>st</sup> year	2 <sup>nd</sup> year		
Cotton	33	16	29-30 November, 2013	Dr. S.S.Patil, UAS
Soybean		2 (NSO-84 & Anjali)	3 October, 2013	Dr. M.K Kuchlan, DSR, Indore
Wheat (Durum)	1(GG-04)	–	12 December, 2013	Dr. Sushila Kundu, DWR, Kamal
<b>Total</b>	<b>34</b>	<b>18</b>		

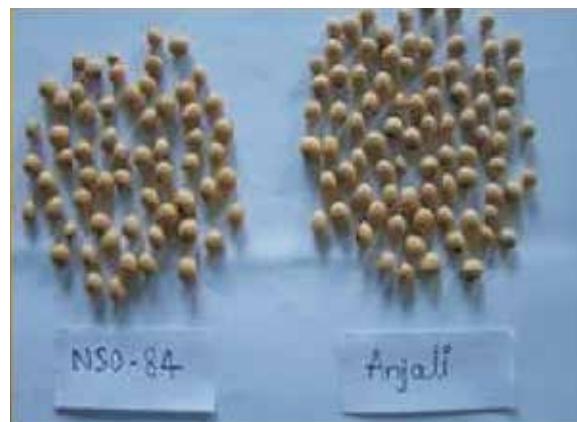


Boll Shape of Cotton

### Brief observations during monitoring

- a. **Cotton:** Character such as plant stem hairiness, plant growth habit, days to 50% flowering, stem

pigmentation, leaf appearance, flower petal colour, flower pollen colour, boll shape, boll prominence of tip, leaf shape were observed and recorded.



- b. **Soybean:** Character such as hypocotyl pigmentation, plant growth habit, days to 50% flowering, leaf shape, leaf colour, flower petal colour, plant height, pod pubescence, plant growth habit, plant growth type were observed and recorded.
- c. **Wheat:** Character such as coleoptile color, plant: growth habit, foliage color, flag leaf: anthocyanin coloration of auricles, flag leaf : hairs on auricle, plant: flag leaf attitude were taken into consideration and also recorded.

## 2.8.41 Directorate of Sorghum Research (DSR), Hyderabad

The Centre has maintained 115 reference varieties of sorghum during the reporting year which mainly belonged to ICAR as well as released by SAUs. DSR is serving as the main Nodal Centre for DUS testing and the progress of DUS trials during 2013–14 is as under:

**Table-43 : Progress of DUS testing in FY 2013–14**

Crop – Sorghum	New		VCK	Total	Date of Monitoring	Chairman
	1 <sup>st</sup> yr	2 <sup>nd</sup> yr				
<i>Kharif</i>	9 (7Pvt+ 2 Pub)	7 (6Pvt+ 1 Pub)	7 (4 Pvt+ 3 Pub)	23	1 October, 2013	Dr. R.C. Sharma, Former Dean, College of Horticulture University of Horticulture and Forestry, Nauni, Solan
<i>Rabi</i>	3 (All Pvt)	5 (All Pvt)	1 (Pub)	9	7 February, 2014	Dr. J.V. Patil, Director, DSR, Hyderabad

## Brief observations during monitoring

### ● *Kharif, 2013*

The trials were sown as per the recommended sowing time for the region. The layout and maintenance of the trials were satisfactory. The crop growth and expression of morphological characters were good in most of the candidate varieties. Proper care has been taken to conduct the trials by following recommended package of practices. In some of the candidate varieties, like KSR 6171, KSR 6178, KSMS 283, NS 509A, RS 627, PSV 2, SONA–NSH 27 (1<sup>st</sup> year entries); DGJ 014, MIJ 008, 463A and MIJ 010 (2<sup>nd</sup> year entries), there was slight difference for observed and claimed traits. In case of KSMS 6178, the expression was poor and entry was not looking like the parental line.

### ● *Rabi, 2013–14*

In some of the candidate varieties, like Aparna, KSR 6313, KSR 6310, KSMS 237, NRJ 01 and NRJ 02, there was difference for observed and claimed traits. In case of NTJ 4, the expression was very poor as it might be adapted to *Kharif*/ late *Kharif* season, and hence has to be grown in suitable season only. In case of KSR 6313 and KSR 6310, many traits have been claimed by the applicant, and it has to be restricted to only limited traits. The Centre has filed 10 applications of sorghum belonging to new category with the Authority and the progress of certificates of registration is as under:–

**Table-44 : Status of registration of New / VCK / Extant notified**

Crops	Varieties notified under Seeds Act, 1966 (since 1999)	Applications filed for registration			Certificate issued	Remarks
		Extant	Notified	New/VCK		
Sorghum	51	41	27	32	35	Under DUS testing – 25 PVJ O3 issued – 03 Pending – 01 Applications closed – 07 Non availability of Information – 29

### 2.8.42 C.S. Azad University of Agriculture & Technology (CSAUA &T), Kanpur

This is a centre for DUS testing in wheat, rapeseed & mustard and linseed. The Centre has maintained and characterized the reference collection of the mandated crops as under:

**Table-45 : Progress of maintenance breeding/characterization**

Name of the species	No. of reference varieties	Source(own released/ICAR/SAU)
Wheat	90	ICAR/SAU
Rapeseed & mustard	08	ICAR/SAU
Linseed	06	SAU



The 14 entries (6 DUS & 8 reference) of mustard crop were sown on 15 October, 2013. The data on 23 characters were recorded in five entries meant for DUS testing. All the required precautions were taken in maintenance breeding for maintaining the genetic purity. The crop was harvested on 14 March, 2014 and harvested seeds of each entry have been kept in proper storage at ambient condition. The five DUS entries were planted with reference collection of wheat crop sown on 25 November, 2013. The data on 39 characters were recorded in five DUS entries.



During the reporting year, the Centre has also conducted the DUS trial of wheat and rapeseed & mustard as under:

**Table-46 : Progress of DUS testing in 2013–14**

Crops	New		Date of Monitoring	Chairman of the Monitoring Team
	1 <sup>st</sup> yr	2 <sup>nd</sup> yr		
Rapeseed & Mustard	05	01	6 February, 2014	Dr. D.K. Yadav, IARI, New Delhi

Wheat	05	–	26 March, 2014	Dr. Mahesh Srimali, RAU, Durgapura, Jaipur
<b>Total</b>	<b>10</b>	<b>01</b>	<b>–</b>	<b>–</b>

DUS test entries of wheat are GG–24, GG39, Sanjivani, HDCSW–16 and HDCSW–18. Likewise, in mustard DUS entries are Krishna Kranti, BS–2, 44S01, Nirmal bold –64, Nirmal bold 42 and Coral –437.

## 2.9 National Review Meeting of DUS Centres / Projects

### 2.9.1 Brainstorming Session

A Brainstorming session to review the DUS procedure and financial support mechanism was held under the Chairmanship of Prof. S. K. Datta, DDG (Crop Sciences), ICAR on 5 December, 2013 at New Delhi. Apart from Prof. R. R. Hanchinal, Chairperson; Dr. R. C. Agrawal, Registrar General, Registrar(s) and other officers of the Authority, other dignitaries, including Dr. Atanu Purakayastha, Joint Secretary (Seeds), DAC; Dr. Indu Sharma, Project Director (Wheat); Dr. O. P. Yadav, Project Director (Maize), Dr. S. Rajendra Prasad, Project Director (Directorate of Seed Research); Dr. N. K. Dadlani, Director(NSAI); representatives from Seed Industry, Nodal officers (DUS) and scientists from ICAR Institutes / SAUs and officials from DAC participated in the session. The main objective of this Brainstorming session was to elicitate the functioning of DUS centres and to identify a variety in its early stage by synchronizing the concept of DUS–VCU system under All India Coordinated Research Project (AICRP). During the Brainstorming session lively discussions were held among scientists and free exchange of views on the manner of maintenance of DUS centres and DUS testing. It was decided that a Committee consisting of Dr. R. K. Chowdhary, Former Project Coordinator (NSP) as Chairperson along with Dr. O. P. Yadav, Project Director (Maize) and Dr. N.K. Dadlani from NSAI will examine the issue of DUS testing and maintenance of centres.

### 2.9.2 8<sup>th</sup> Review Meeting of DUS Centres / Projects at UAS, Dharwad

During the reporting year, the Authority conducted only one review meeting with DUS Centres / Projects which were held on 28 February–1 March, 2014 at UAS, Dharwad. It was 8<sup>th</sup> reivev meeting wherein more than 100 representatives from DUS centres / DUS projects, officers from ICAR, SAUs, Seed Industry and other departments were present. The reivev meeting continued for two days and spread over eight technical sessions including inaugural session. The review meeting was a good opportunity for

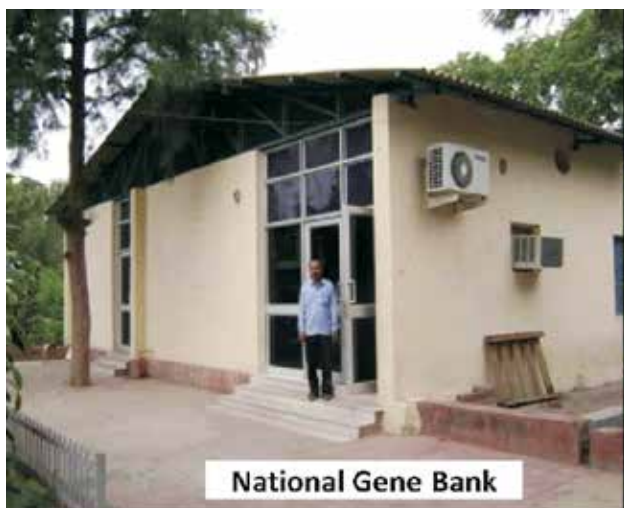
having interactions with the Principal Investigators with regards to issues pertaining to the mandate and activities of the Authority and entrusted to them. Different sessions were focused on different areas like cereals, vegetables, fruits, forestry, financial & technical matters and matters related to legal & policy. In the inaugural function the Vice–Chancellor of the UAS, Dharwad, Director Research and Vice–Chancellors of other SAUs were present. Besides, Chairman and Registrar General from PPV&FR Authority, senior officers of the Authority including Registrars, Joint Registrars were present. Some of the highlights of the recommendations of this review meeting are as under:

- Brainstorming sessions may be organized to develop a system by consensus for testing of EDVs for registration, and also to finalize the list of priority flowers/ornamental plants and exotic flowers for registration under the Act as per the available UPOV guidelines with relevant stakeholders.
- There is a need for detailed description and more number of characteristics along with good quality photographs of candidate variety in the PVJ to invite opposition.
- Complete passport data and particulars of characters of the candidate variety can be provided to the DUS test centers for finalization of DUS trials with suitable example / reference varieties.
- To revisit DUS Test Guidelines to allow amendments in light of experience in some crops.
- Regular capacity building of PIs/Co–PIs/ Research Associates / SRF is required for examination and statistical analysis of data relating to the DUS trials.
- DUS trial data generated at the DUS Testing Centers should be submitted invariably to the Authority in the electronic form in standard crop specific format within three months from the date of completion of field trials.
- Utmost care and sincere efforts may be taken by the concerned institute while developing Field Gene Banks / repositories at BAU, Ranchi and CAZRI, Jodhpur.
- Efforts may be made for registration of Extant and other categories of varieties immediately after gazette notification for apple, walnut, apricot, cherry, almond and pear.
- DUS test guidelines for elephant foot yam, taro, bamboo spp., neem, karanj and jatropa showed be expedited by the respective agencies.
- The DUS test guidelines for poplar and willow will

be developed in time bound manner looking into the intricacies of the breeding of these forestry spp.

- To find solution to accommodate large entries for DUS testing of the farmers category by amending in the length of rows and number of plants taken for recording observations.
- Opening of new gene banks may be taken only after review of functioning of existing field gene banks by a committee and in-house discussions.
- IIHR, Bengaluru may nominate a suitable officer to have a proper coordination among various projects assigned by Authority and to have a proper liaison instead of contacting individual PI of each of the projects.
- Authority may consider conferring of reward to best DUS test Centre, best research person in DUS test centre/center filling maximum number of operators / collecting maximum number of PGRs and landraces, farmers' varieties and traditional varieties.
- DUS centers are advised to follow austerity measures while utilizing funds under DUS testing and avoid seeking funds under non-recurring contingency lead.

## 2.10 National Gene Bank



The necessity of having a separate facility for storage and maintenance of seeds of registered varieties was felt during the inception years and after a detailed discussion with relevant stakeholders during 2007, the National Gene Bank of PPV&FR Authority was established at the old building of National Bureau of Plant Genetic Resources (NBPGR), Pusa, New Delhi. The Authority is managing the rented facility for safe custody under medium term storage. The working of medium term facility is monitored by the

technical experts of NBPGR and electrical engineers. The temperature of bank is maintained at 4°C and the relative humidity has been adjusted to 35%. The relative humidity and temperature of the storage module and the DUS test



repository are recorded regularly by the staff and major problems, if any, are brought to the notice of technical personnel at NBPGR. Technical help was offered to the Authority officials for packaging, sealing and processing the variety samples for DUS test. True (“orthodox”) seeds of registered varieties and the seed samples for varieties undergoing DUS test/grow out test are stored under the medium term storage conditions.

Section 27 of the PPV&FR Act, 2001 provides for the National Gene Bank and prescribes that the breeder shall be required to deposit such quantity of seeds or propagating material including parental line seeds of registered variety in the National Gene Bank. Further, as per the PPV&FR Rules 2003, the samples of seeds and propagules shall present the maintainable standards of genetic purity, uniformity and germination, sanitary and phyto-sanitary standards. The mandated activities are significantly different in comparison to any *ex-situ* germplasm bank such as storage under medium term, seed handling, re-packaging, dispatch for field-testing at DUS test centers required for plant variety protection, evaluation of seed quality parameters etc. and the legal necessities are to be followed. The seeds stored for registered varieties can also be utilized for resolving dispute settlement, compulsory licensing and other such issues as deemed fit under the requirements of the Act.

### 2.10.1 Medium Term Storage (MTS) of seeds of Registered Varieties

Seed samples of 148 extant varieties notified under



section 5 of the Seeds Act, 1966; 46 VCK varieties, 60 new varieties, and 76 farmers' varieties (for which the registration certificates were already issued) are being kept in seed cabinets designed specifically for seed storage. These are being kept under controlled climatic conditions at 4°C temperature with 30±5 % relative humidity to ensure that seed samples are physiologically viable for a long duration. The seed samples of registered varieties are stored up to the period of protection and viability will be checked at prescribed intervals as per crop specific standards and requirement. Details of seed samples conserved in the National Gene Bank are given as under:

**Table-47 : Progress of seed samples of registered varieties conserved in the National Gene Bank under medium term storage condition (as on 31 March, 2014)**

S. No.	Crops	National Gene Bank (Registered varieties kept at 4°C)				Total
		New	Farmers'	VCK	Extant	
1.	Wheat	3	2	–	89	94
2.	Maize	28	–	22	76	126
3.	Rice	22	50	08	105	185
4.	Pearl millet	6	–	11	48	65
5.	Sorghum	8	–	–	36	44
6.	Cotton	30	–	5	64	99
7.	Jute	1	–	–	10	11
8.	Pigeon pea	–	–	–	18	18
9.	Green gram	–	–	–	22	22
10.	French bean	–	–	–	5	5
11.	Field pea	–	–	–	20	20
12.	Black gram	–	–	–	12	12
13.	Lentil	–	–	–	10	10
14.	Chick pea	–	–	–	34	34
15.	Soybean	–	–	–	5	5
16.	Sunflower	–	–	8	5	13
17.	Castor	–	–	–	4	4
18.	Sesame	–	–	–	4	4
19.	Mustard	–	–	–	20	20
20.	Brinjal	–	–	–	1	1
21.	Cauliflower	–	–	–	2	2
22.	Okra	–	–	–	–	–

S. No.	Crops	National Gene Bank (Registered varieties kept at 4°C)				Total
		New	Farmers'	VCK	Extant	
23	Rapeseed	–	–	–	3	3
24	Safflower	–	–	–	1	1
25	Small cardamom	–	–	–	1	1
26	Groundnut	–	–	–	9	9
27	Gobi sarson	–	–	–	4	4
28	Linseed	–	–	–	2	2
<b>Total</b>		<b>98</b>	<b>52</b>	<b>54</b>	<b>610</b>	<b>814</b>

## 2.10.2 Training-cum-awareness programme



During the period under report, a training on "*Conservation of Orthodox Seeds in Gene Bank*" was organized at NBPGR, New Delhi during 21–22 March, 2014 in collaboration with PPV&FR Authority. Trainees (19) from different ICAR Institute (11), SAUs (01), Private Sector (4), CSIR (02), and PPV&FRA (1) participated. Resource persons with rich expertise in their field of research for the same were drawn from DUS test centres, PPV&FRA and NBPGR. The programme included 15 lectures and three practicals on various aspects of conservation of seeds in gene bank.



### 2.10.3 Short Term Storage of Seeds for varieties undergoing DUS test

DUS test(s) are performed as per the statutory provisions as under:

- Two years at two locations for varieties under new category; and
- One year at two locations for varieties of common knowledge (VCK); and farmers' varieties.

The applicant is required to submit sufficient quantities of seeds as per crop specific guidelines along with registration and DUS test fee for new and VCK category. In case of farmers' varieties, the applicant is also required to submit the prescribed quantities of seeds only as farmers are exempted from payment of any fee for DUS testing / grow-out test.

Seed samples of new varieties (410), VCK (228) and EDVs (both including parental materials), extant notified (62) and farmers' varieties (168) are being maintained under short-term storage as on 31 March, 2014. Representative seed samples are sent to DUS test centres and rest of the samples are kept for contingency. The seed packets are stored at  $20\pm 2^{\circ}\text{C}$  till the process of grant of registration is completed. However, once a candidate variety is eligible

for grant of registration certificate, applicants are advised to supply fresh seed samples for storage under medium term condition.

### 2.10.4 Seed Standards

Applicants are required to submit seed material sealed in triple layer aluminum foil pouch(s) of prescribed size with proper labeling as under:

- Denomination of candidate variety,
- Application acknowledgement number as allotted by the plant varieties registry,
- Category(new/extant/VCK/farmers' etc),
- Year of harvest, and
- Seed quality parameter (moisture %, germination % and physical purity %).

The entire seed lot shall be equally divided in ten (for new varieties) or five (for VCK or Farmers' varieties) or two (extant varieties notified under the Seeds Act, 1966) seed packets/pouches. Seed lots must adhere to the prescribed standards as per the crop specific DUS guidelines. An illustrative list for seed standards for some of the major crops are given as under:

**Table-48 : Seed Standards for medium term storage and DUS testing**

S. No	Crop	Seed Requirement (gm)		Germination %	Moisture %	Physical Purity %	Tentative Season – Months for seed submission for DUS testing	Prescribed size of seed packets (mm)
		Candidate	Parental line					
1	Rice	3000	1500	80	11–12	98	<i>Kharif</i> –March–Apr	230x300
2	Barley	1500	1000	95	8	98	Aug–Sept.	230x300
3	Bread Wheat	3000	1500	95	8–9	98	<i>Rabi</i> –Aug	230x300
4	Other <i>Triticum</i> sp	3000	1500	95	8–9	98	Same as wheat	230x300
5	Maize	3000	1500	80 (inbred/SCH) 90(var/DCH)	8–10	98	<i>Kharif</i> –Mar–Apr <i>Rabi</i> –Aug	230x300
6	Sorghum	3000	1500	80 (inbred/SCH) 90 (var/DCH)	10–12	98	<i>Kharif</i> – March <i>Rabi</i> –Aug	230x300
7	Pearl millet	1000	500	80 (inbred/SCH) 90 (var/DCH)	10–12	98	<i>Kharif</i> – <i>March</i>	165x220
8	Green gram	1000	N.A.	80	8–9	98	<i>Kharif</i> –March	230x300
9	Kidney bean	3000	N.A.	80	8–9	98	June–July	230x300
10	Chickpea	2000 (desi) 3000(kabuli)	N.A.	80	8–9	98	<i>Rabi</i> –Aug	230x300

11	Pigeon pea	2000	1500	80	8-9	98	<i>Kharif</i> -Mar	230x300
12	Lentil	1000	N.A.	80	8-9	98	<i>Rabi</i> -Aug	230x300
13	Field Pea	2000	N.A.	80	8-9	98	<i>Rabi</i> -Aug	230x300
14	Black gram	1000	N.A.	80	8-9	98	<i>Kharif</i> -March	165x220
15	Jute	1000	500	85	9	97	Pre- <i>Kharif</i> -early Jan	165x220
16	Cotton	2000	1000	75	10	98	<i>Kharif</i> - North- Feb Peninsular- South-May	230x300
17	Tomato	15 (open field) 8 (Greenhouse)	same	85	8	98	April- May	165x100
18	Cabbage	15	15	*	*	*	April- May	165x100
19	Cauliflower	15	15	*	*	*	April- May	165x100
20	Brinjal	15(open)	15(open)	85	8	98	April- May	165x100
21	Bitter gourd	300 m or 1500 no	-	80	8	98	April	230x300
22	Bottle gourd	250 gm or 1500 no	-	80	8	98	April	230x300
23	Cucumber	50 gm or 1500 no	-	80	8	98	April	230x300
24	Pumpkin	200 gm or 1500 no	-	80	8	98	April	230x300
	-	80	8	98	April	230x300		
25	Rapeseed-Mustard	500	250	85	8	98	Aug-Sept	165x100
26	Soybean	3000	—	70	9	98	Apr-May	230x300
27	Sunflower	3000	2000	70	9	98	July-Aug	230x300
28	Safflower	3000	1500	80	9	98	June-July	230x300
29	Groundnut	3000 (Spanish & Valencia) 8000(kernel) for Virginia bunch and runner type	1500 4000	80	9	98	<i>Kharif</i> : May-June <i>Rabi</i> : Aug-Sept	300x450
30	Linseed	500	250	85	9	98	Jul-Aug	165x100
31	Castor	6000	2500	70	10	98	April-May	300x450
32	Sesame	500	250	80	9	97	April -May	165x100
33	Onion	100 1200 bulblet (multiplier) 50 bulbs(MS lines)	50	70	*	*	As per respective sowing seasons	
34	Garlic	2000 viable clove	—	*	*	*	Aug-Sept	-
35	Coriander	250	-	80	8-9	98	Aug-Sept	165x100
36	Fenugreek	250	-	80	8-9	98	Aug-Sept	165x100

\*as per breeder seed standards

## 2.11 Field Gene Bank

### 2.11.1 Dr. Y.S. Parmar University of Horticulture and Forestry, Regional Horticultural Research and Training Station (RHR&TS), Mashobra, Shimla

The progress of maintenance breeding blocks established at RHR&TS, Mashobra under the project is as under:

**Table-49 : Progress of maintenance breeding**

S. No.	Name of species	No. of varieties	Source
1.	Apple	249	SAUs – Himachal Pradesh, J&K and Uttrakhand ICAR – NBPGR, Phagli and CITH, Srinagar Deptt. of Progeny-cum- Hort. (HP) demonstration orchards of Deptt. of Hort. (HP)
2.	Pear	64	-do-
3.	Cherry	45	-do-
b) Variety collections (Reference Varieties) blocks			
1.	Apple	99	SAUs – J&K, and Uttrakhand ICAR – NBPGR, Phagli and CITH, Srinagar Deptt. of – Progeny-cum- Hort. (HP) demonstration orchards of Deptt. of Hort. (HP) and Farmers orchards
2.	Pear	23	-do-
3.	Cherry	26	-do-

Variety collection blocks of varieties of common knowledge for apple, pear and cherry were established. The varieties identified by CITH, Srinagar for the development of DUS descriptors and example varieties for different fruits based on UPOV guidelines were selected. Variety collections were made by collecting scion wood of each variety from different available sources and planting two plants of each source along with sources of the same variety.



Shapes of the leaves apple

Characterization of apple (80 varieties) and cherry (24 varieties) was carried out in the old existing germplasm blocks of the station. In pear, 55 varieties were characterized for vegetative traits in the new plantation established under

the project. Table of characteristics for apple (39), pear (15) and cherry (27) traits were tabulated after recording observations. Under the project, a total number of 1886 grafted plants have been planted with respect to apple, pear and sweet cherry in respective maintenance breeding and variety collection blocks.

### 2.11.2 Central Arid Zone Research Institute (CAZRI), Jodhpur

CAZRI, Jodhpur was assigned a project for establishment of Field Gene Bank for Arid Region species by the PPV& FR Authority in the previous year. The Center is engaged in collection, evaluation, characterization and documentation of major arid crops/varieties such as moth bean (*Vigna aconitifolia*), cluster bean (*Cyamopsis tetragonoloba*), pasture grass (*Cenchrus ciliaris*, *C. setigerus*), henna (*Lawsonia inermis*) and arid fruit (*ber*) under rainfed field conditions. Apart from these crops, the center is also collecting the perennials like khejari (*Prosopis cineraria*), toothbrush tree (*Salvadora*) and babul (*Acacia senegal*) etc. and establishing them under field conditions. The progress of development of Field Gene Bank is as under:

**Table-50 : Progress of maintenance breeding/characterization**

Name of the species	No. of varieties	Source (own released /ICAR/SAU)
<i>Vigna aconitifolia</i>	14	RMO-257, RMO-423, RMO-435, RMO-40, RMO-225, RMB-25 CAZRI Moth-1, CAZRI Moth-2, CAZRI Moth-3, Jwala, Maru Moth, IPCMO-880, GMO-1, GMO-2
<i>Cyamopsis tetragonoloba</i>	34	RGC 986, RGC 1078, BG 1, M 83, MARU GUAR, RGC 1066, BG 2, NUZIVEEDU, HG 258, HG4-875, BG 3, NEO, RGC 471, RGR-6, HG 365, M 83, HVG 2-30, SUVIDHA, HFG 119, KOMAL, HG 563, PMB, RGC 1031, Thar Bhadri, NPBGR PHB, HG 884, RGM-112, ANKUR SUNNY, RGR 7, FS 277, RGC 1003, HG 75, RG, 1088, RGC 936
<i>Cenchrus ciliaris</i>	6	CAZRI 358, CAZRI 585, CAZRI 2178, CAZRI 2221, CAZRI 75, IGFRI 3018
<i>Cenchrus setigerus</i>	1	CAZRI 76
<i>Ziziphus mauritiana</i>	36	CAZRI Gola, Gola, Umran, Seb, Goma kirti, Chonchal, Gola, Gurgoan, Laddu, Akrota, Popular Gola, Sua, Thar Bhubraj, Ponda, Wilayati, Narikeli, Thar Sevika, Tikadi, Ilayachi, Rashmi, Katha, Aliganj, Mundia, Banarasi Karaka, ZG-3, Kali, Bagwadi, Banarasi Pebandi, Maharwali, Senaur-5,

		Thornless, Chuhara, Kaithli, Jogia, Dandan, Seb xKatha F1 Hybrid, BC1=F1(SebxTikadi)xSeb
<i>Lawsonia inermis</i>	20 (genotypes)	Amirgarh, Anand, Dhandhuka, Khedbram, Kothara, Malav, Malpur, S K Nagar, Sarotra, Sidhpur, Vasda, Ajmer, Bikaner, Jobner, Jodhpur, Jadiya, Pali, Panchotiya, Sojat, Wav.

### 2.11.3 Birsa Agricultural University (BAU), Ranchi

The mandated crops assigned to this centre are Mango, Aonla, Guava, Citrus and Banana (Eastern Region). The planting material related to different fruit crops and their scion were collected from different centres of its own resources and other places. One farmers' variety of mango



“Chitranjan” has been planted in field gene bank. The varietal collections of citrus and banana species are doing well. Four varieties of guava were transplanted in 2nd week of July, 2013. The summary progress of the Field Gene Bank is as under:

Table-51 : Status of Field Gene Bank

Name of the species	No of varieties	Source(own released/ICAR/SAU)
Mango	43	ICAR & SAU and Farmers' Variety
Banana	30	NRC on Banana, Tiruchirapalli

Citrus	6	ICAR– Barapani Shillong, ICAR – NRC on Citrus, Nagpur & BAU, Ranchi
Guava	4	NRC on Citrus, Nagpur & BAU Ranchi

Dr. Achim Dobberman, DDG (Research) and other scientists from IRRI–Philippines visited the field gene bank along with VC, BAU, Ranchi on 7 September, 2013.

### 2.11.4 Dr. B. S. Konkan Krishi Vidyapeeth (BSKVV), Dapoli

Under the project “*Collection, maintenance, evaluation and development of descriptors of fruit, plantation crops and tree spices through Live Repository*”, this centre has maintained and characterized the germplasm of fruit plants like mango, citrus, ginger, turmeric, banana, black pepper, cardamom, jackfruit and nutmeg. The physical progress made during the reporting year is as under:

Table-52 : Progress of maintenance/Characterization

Sr. No.	Crop	No. of varieties/Ecotypes under maintenance	Characterization
1	Mango	18 Varieties (Ref. block 1) 17 Varieties in (Ref. block 2)	In progress
		90 Ecotypes (Ref. Block 1 & 2)	
		18 Varieties (Nursery)	
		52 Ecotypes (Nursery)	
2	Turmeric	13 Ecotypes	13
		31 Varieties	31
3	Cardamom	5	–
4	Citrus	4 Species	–
5	Black pepper	6	–
6	Banana	30	27
7	Nutmeg	1 Variety (3 Plants)	–
8	Jackfruit	2 Variety (14 Plants)	–

Several dignitaries including Dr. R.R. Hanchinal, Chairperson and Dr. Ravi Prakash, Registrar, PPV&FRA visited the centre on 10 January, 2014.



### 3. Activities Related to Farmers' Rights

The PPV&FR Act, 2001 is comparatively a new legislation on IPR in plant varieties, hence requires massive awareness amongst the farmers, breeders, scientists and other relevant stakeholders. The Authority believes in close association with the farmers, researchers, plant breeders, scientists, students, NGOs, and public and private organizations to disseminate its benefits. During the past eight years, Authority has released funds for training-cum-awareness programmes, Kisan Melas, Kisan Utsavs, Agricultural Fairs, National seminars & agricultural workshops and International Conferences on agriculture to sensitize the stakeholders. In order to create awareness amongst the farmers about their rights, as envisaged in the PPV&FR Act, 2001, a Farmers' Cell has been established in the Authority. The Farmers' Cell looks after the implementation of provisions of the Farmers' Rights. The Cell is also responsible for recommending financial assistance for training-cum-awareness programmes organized by various organizations / stakeholders after scrutiny and examinations of proposals received. More than 250 training-cum-awareness programmes were organized through 142 SAUs/ICAR institutes, Government Departments and NGOs with financial support from the Authority as per details in *Annexure-VII*. The details of some of the training-cum-awareness programmes are covered in Chapter-8.

The Authority has participated time to time in number of Farmers' Fairs, Exhibitions, National and International Workshops organized by various Organizations. The highlights of some of the events in which Authority participated are given as under:

#### Farmers Fair at Banswara



Dr. S.K. Datta, Deputy Director General (Crop Sciences), ICAR and Chairperson (Additional Charge), PPV&FR Authority and Dr. R.C. Agrawal, Registrar



General visited Banswara District on 27 April, 2013 for participating in the Farmer's Fair on Hybrid Seed Production which was attended by about 17,000 farmers. Dr. Agrawal delivered a lecture on the Farmers' Rights as enshrined under PPV&FR Act, 2001. There was an overwhelming response from the farmers during the event.

#### National Workshop by Confederation of Indian Industry (CII), Andhra Pradesh Technology Development & Promotion Centre, Hyderabad



Dr. R.C. Agrawal delivered a lecture on *"Insight on the Latest Practices and Procedures in the PPV&FR Authority –The Journey so far and the Road Ahead"* during *"National Workshop on Strategic Intellectual Property Management for Agriculture"* organized by CII, Andhra Pradesh Technology Development & Promotion Centre at Hyderabad from 25-27 April, 2013. The PPV&FR Authority was one of the co-sponsors of the event. Dr. S.K. Datta, DDG (Crop Sciences), ICAR and Chairperson (Additional Charge), PPV&FR Authority spoke about the objectives of the Authority and its activities.

#### Awareness Workshop at NBPGR, New Delhi

Humana People to People India (HPPI) in collaboration with PPV&FR Authority organized Workshop on PPV&FR Act under the ITPGREFA supported project *'Seeds for Life - Action with farmers in Uttar Pradesh -IGP region for enhanced Food Security in the context of Climate Change'*



at NBPGR, New Delhi on 28 May, 2013. Around 25 participants including the project leaders and area leaders of ITPGRFA funded project, and from other projects where Humana is working with farmers (Panipat and Alwar districts), participated in the workshop. Lectures on Implementation of PPV&FR Act, 2001 with special reference to Farmers' Rights and legal provisions were given by the officers of Authority. Also the steps in filling of registration forms and essential requirements for filing applications for registration under the Act were explained in detail by the staff of Authority.

#### **Workshop on “Pakoni Vividh Jaatona Sanrakshan Ane Khedut Adhikar Ange Jagrukta Tatha Prashikshan Shivir” at CAZRI, Kukma (Bhuj)**

Central Arid Zone Research Institute (CAZRI) organized one-day awareness-cum-training programme on **“Protection of Plant Varieties & Farmers' Rights Act (PPV&FRA)”** at Regional Research Station (RRS), Kukma, Bhuj on 16 January, 2014. About 150 participants, including farmers and other stakeholders, participated in this programme. On this occasion, a leaflet in Gujarati on ‘Tametana Paknu Mulya Vardhan’ prepared by Smt. Manju, SMS, KVK, Shri Ram Niwas and Shri Devi Dayal was released. Ten exhibition stalls related to agricultural implements, finance, technology, seeds etc. were also arranged along with a visit to the experimental fields.

Dr. Pragnesh Dave, Vice Chancellor, KSKV Kutch University, Bhuj Chaired the programme, and explained importance of the awareness programme in registering useful varieties from Kutch of Gujarat. He was of the view that Kutch may be first district in Gujarat in registering maximum local varieties with PPV&FR Authority. Mr.

Sanjay Kumar, SMS, KVK welcomed all the delegates and briefed the purpose of the programme, followed by a screening of video film **“Nukkad Natak”** and **‘PPV&FR Authority’** developed by the Authority.

Dr. Devi Dayal, Head, CAZRI, RRS, Kukma, Bhuj enlightened the audience with general guidelines and scope of PPV&FRA. He narrated about the local farmers' varieties available only in Kutch region such as Wheat - Tukda/Kantha, Groundnut – Magadi, Sorghum – Gundari, Pearl Millet – Rajka Bajri, Guar – Desi Guar (pink colour), and medicinal plants (Guggal, Geloy, and Shankpushpi) etc., which are still not registered due to lack of DUS guidelines.

Dr. C.J. Tank, Associate Professor (Genetics), SDAU, Dantiwada emphasized on agricultural biodiversity of Kutch region and importance of its evaluation and registration of regional germplasm. Dr. C.M. Murlidharan, Research Scientist, Date palm Research Station, Mundra talked on protection of local date palm varieties of Kutch, which can be easily registered under PPV&FR Act. In addition, he explained tissue-culture technique, which resulted in the unique Banneer variety of date palm, which is sweeter than other available varieties. Dr. P.K. Swarnkar, Assistant Director, Farmers' Training Centre, Bhuj highlighted role of Farmers' Training Centre, Bhuj in creating awareness among the farmer groups about PPV&FR Act & its objectives. Ms. Khyati Buddhbhatti, Teacher, Doon Public School, Madhapar discussed about different activities and dramas/ plays being organized in the school developed by teachers. She agreed that teachers may create some sort of play where students may perform street plays in villages to make the farmers aware about their rights as mentioned in PPV&FR Act.

In the workshop, three progressive farmers of the region, Shri Pravenn Bhai Dabasiaya from Reldi-Moti, Shri Kanti Bhai Bhimani from Ratnapar, and Shri Manoj Bhai Solanki from Chintan Farm, Kukma shared their views and thoughts on organic farming and how PPV&FRA can be useful for the local farmers of Kutch region. The entire programme in Gujarati was conducted by Shri Ravi Bhavsar and Dr. Rupesh Nakar, CAZRI, RRS, Bhuj.

#### **Govind Ballabh Pant University of Agriculture and Technology (GBPUA&T), Pantnagar**

A Workshop on **“Harnessing Intellectual Property & its Management for Growth and Prosperity”** was jointly organized by GBPUA&T, Pantnagar and National Research Development Cooperation, New Delhi at College of Agriculture, Pantnagar on 25 January, 2014. Dr. H.S. Chawla, Professor & Head, Genetics & Plant Breeding



& Nodal Officer welcomed the participants. While inaugurating the function, he expressed his views about the importance of intellectual property for the growth and prosperity of the society at large, where innovations are the growth engine of the society and should be protected legally and plant variety is the latest addition to intellectual property. Shri V.K. Jain, Manager, National Research Development Cooperation (NRDC) informed that the objective of the NRDC is development, promotion and commercialization of technologies for the welfare of the society. Dr. Tejbir Singh, Registrar delivered a lecture for the awareness of the PPV&FR Act, 2001 with reference to Farmers' Rights. Speakers delivered lectures on other topics such as IP & Agricultural Innovation System of India, Indian Patent System, Disclosure of Invention for Patent Protection, Search for State-of-Art, Searches in the field of Inventions and Strategies for Transfer of Technologies. The scientists of the Agriculture College, Research Scholars, Post Graduate & Under Graduate Students including farmers from the neighboring area participated in the event.



#### **Inauguration of Community Seeds Bank at village Adoli, Ujhani, Badaun**

The **Humana People to People India (HPPI)** invited **Shri D.S. Mishra, Joint Registrar**, PPV&FR Authority as Chief Guest for the inauguration of Community Seed Bank at village Adoli, Ujhani, Badaun on 6 February, 2014. On this occasion, Ms. Anne Marie Moeller, Senior Advisor, Partnership, HPPI was also present along with Dr. S.B Singh, In-charge, Zonal Research Centre, Ujhani; Dr. Arjun Singh, Agriculture Scientist, KVK, Ujhani; Shri Vipin Chander Pal, Block Development Officer; Shri Ramdin, Gram Pradhan, Adoli; and Smt. Manorama Devi, Gram Pradhan, Burrafaridpur village. The programme was anchored by Shri Dharampal Gurjar, Project Coordinator,

Seeds for Life Project, UP. Shri O.P. Yogi, Project Leader, HPPI informed various activities undertaken by the NGO in district Badaun under Project the Seeds for Life of ITPGRFA. More than 250 participants including farmers, ladies, school children and the representatives of Agriculture Department and KVK were present. The Community Seed Bank was inaugurated by the Chief Guest in the presence of Ms. Anne Marie Moeller, farmers and other project representatives. The community seeds bank has initial collection of seeds of 27 varieties of rice, about 24 varieties of wheat and few samples of pulses (urd), species (chillies) and vegetables (bottle gourd, pumpkin) kept in earthen pots and glasswares conserved by local farmers.

Dr. S.B Singh, Project Coordinator, KVK explained the importance of Community Seeds Banks and its maintenance with the agronomical practices of cultivation of cereals. Shri Mishra informed about the importance of registration of farmers' varieties and their conservation of plant genetic resources for the purpose of Plant Genome Saviour Community Awards, Rewards & Recognitions under PP&FR Act, 2001. Ms. Anne Marie Moeller appreciated the role of farmers of the village and the local representatives of his project for developing a Community Seeds Banks for the benefits of the farmers and hoped that the villagers will take care of the Seed Bank and its management in the future. The local representatives of the farmers presented the highlights of different welfare activities undertaken. A field visit was organized where in the various initiatives like vermi compost, solar lamp light and evaluation of 20 wheat varieties in the field of Shri Bhagwan Sahai, a farmer field taken by HPPI in the Adoli were observed by the participants. Smt. Laxmi Devi, Saraswati Self Help Group, Roli, Badaun explained the benefits accrued to the villagers from the solar light lamp to different families. Shri Dayaram Rajput, President, Hathiya Farmer Club Group, Bhawanipur Jai Matarani Farmers Club also showed cultivation of Chillies at his farm near Adoli.

#### **9<sup>th</sup> International Agriculture & Horticulture Expo, 2013 at Pragati Maidan, New Delhi**

A National Seminar and Exhibition under the above event was organized on 26-28 July, 2013 at Pragati Maidan, New Delhi. Dr R.C. Agarwal, Registrar General and Dr Ravi Prakash, Registrar of PPV&FRA delivered lectures on PPV&FR Act and Farmers' Rights in the Seminar. Besides, Dr. Tejbir Singh, Registrar and Shri R.R. Pradhan, Legal Advisor, PPV&FRA also participated in the event to showcase the various activities of the Authority through mass media. The Expo was inaugurated by Dr. Charan

Das Mahant, Minister of State for Agriculture and Food Processing Industries, Govt. of India. More than 3000 progressive farmers participated in the seminar. More than 150 Exhibitors from India and abroad participated in the exhibition and thousands of farmers benefitted from the exhibits displayed in the PPV&FRA stall. This stall was useful for the farmers and students/ scientific communities of SAUs and others.

### 3.1 National Gene Fund

The National Gene Fund was constituted by the DAC, Ministry of Agriculture, Government of India under the PPV&FR Act, 2001 by giving an initial contribution of ₹ 50.00 lakh to the Authority. The Authority is operating and maintaining a separate account for the purpose. The contributions in the National Gene Fund include:

- Benefit sharing received from the breeder of a variety or an essentially derived variety registered under the PPV&FR Act, 2001,
- Annual fee received by PPV & FR Authority,
- Compensation deposited and
- Contributions by National and International organizations

As per the Act, the National Gene Fund can be applied for meeting:

- Any amount payable by way of benefit sharing,
- Compensation payable,
- The expenditure for supporting the conservation and sustainable use of genetic resources including *in-situ* and *ex-situ* collections and for strengthening the capability of the Panchayat in carrying out such conservation and sustainable use; and
- The expenditure of the schemes relating to benefit sharing.

**Table-53 : Status of National Gene Fund during 2013-14**

Items	Amount in ₹
Opening balance as on 01 April, 2013	1,80,56,495
Contribution to Gene Fund	85,00,000
Annual fee received	19,05,498
Bank interest	13,61,096
<b>Total</b>	<b>2,98,23,089</b>
Less:	
Expenditure incurred on PGSC Award (2011-12) including administrative expenses	61,10,817
<b>Closing balance as on 31 March, 2014</b>	<b>2,37,12,272</b>

### 3.2 Plant Genome Saviour Community (PGSC) Awards for the year 2011-12



PPV&FRA in collaboration with the DAC, Ministry of Agriculture organized the 5<sup>th</sup> Plant Genome Saviour Community Award Ceremony on the 22 May, 2013 at New Delhi. The Chief Guest, Minister of State for Agriculture and Food Processing Industries, **Shri Tariq Anwar** presented the Plant Genome Saviour Community awards, rewards and recognition certificates to the farming communities / farmers for their dedicated and untiring efforts in the conservation, management and improvement of plant genetic resources.

The awards function was graced by a galaxy of dignitaries including Dr. S Nagarajan and Dr. P.L. Gautam, former Chairpersons, PPV&FR Authority; Vice Chancellors (Dr. B.S. Dhillon, PAU, Ludhiana; Dr. S.K. Sharma, HPKV, Palampur; Prof. O.P. Gill, MPUAT, Udaipur); Dr. S.A. Patil, Chairman, Karnataka Krishi Mission; representatives of DAC; DDGs, Directors, ADGs, Project Directors and Project Coordinators of ICAR; representatives from the foreign embassies, Consultative Group on International Agricultural Research (CG centers), United Nations Development Programme, foreign delegates from the Netherlands; members of the Authority, farmers, farm women and media persons from Press Information Bureau, All India Radio, Doordarshan and correspondents.

Four Farming Communities viz. **Seed Saver Farmers' Group, Nandurbar, Maharashtra; Rice Farming Communities, Palakkad, Kerala; Sanjeevini Rural Development Society (SRDS), Vishakhapatnam, Andhra Pradesh and Deepaoli Women's Self Help Group, Thiruvannamalai, Tamil Nadu** were conferred the Plant Genome Saviour Community Award(s) consisting of ₹ 10 Lakh in cash, citation and memento; 10 farmers were conferred the Plant Genome Saviour Farmer Reward of ₹ 1 Lakh each, citation and memento and Plant Genome Saviour Farmer Recognition certificates were presented to 15 farmers.

**Awardees of Plant Genome Saviour Community Awards, 2011-12**

(₹10 lakh, Citation and Memento)



- 1 **Seed Saver Farmers Group** in Jawahar Block, Thane Distt., Pune, Maharashtra for conservation and revival of landraces of cereals, pulses, oilseeds, vegetables and fruits in tribal blocks. The group has been successful in reviving various landraces in paddy, finger millet, proso millet and other crops. The group has used innovative methods of seed treatment, seed storage, pest and disease management etc. The group has also conserved rice landraces having drought resistance, resistance to water logging, aromatic and medicinal value.
- 2 **Sanjeevini Rural Development Society**, Dumbriguda Mandal, Vishakapatnam, Andhra Pradesh for landraces of various crops of cereals, millets, small millets, oilseeds, pulses and vegetables that have been conserved in these areas. It covers more than 5000 acres of land including 2000 acres of Poduland is being covered by paddy, ragi, pulses, corn and vegetables. The society is also managing 33 grain banks for storage of food grains of the traditional varieties to ensure availability during drought periods.



- 3 **Deepaoli Women's Self Help Group**, Thiruvannamalai, Tamil Nadu for cultivation of

agricultural crops little millet (locally known as samai), cumbu, ragi, paddy and horse gram; and horticultural crops like mango, custard apple, jack fruit and tamarind. Pudupattu village is a region with rich biodiversity of millets. About 20 landraces of little millet are being conserved in the region e.g., Vellan Chittan Samai, Perum Samai, Pudur Nattu Samai, Chittan Samai, Perun Chittan Samai and Kallathoor Samai etc. Besides, little millet, unique types of ragi (Vellai poo ragi) and cumbu (Pudu pattu type) are also conserved and cultivated in the region.



- 4 **Akampadam Chimpachala Punchakkadu Padasekhara Samithi** representing Rice Farming Communities, Palakkad, and Kerala for conservation of traditional varieties of rice which are resistant/ tolerant to major biotic and abiotic stresses and is used as donor of genes in major rice improvement programmes. These communities are also involved in the Participatory Rice Improvement Programmes of Kerala Agricultural University and contributed to the development and release of two high yielding varieties viz, Kunju kunju Varna and Kunju kunju Priya selected from Kunju kunju. They also have developed special systems of cultivation like Kootumundakan, Karinkora, Fringe cropping etc.



## Awardees of Plant Genome Saviour Farmer Rewards, 2011-12

(₹ 1 lakh, Citation and Memento)

- 1 **Shri P. Devakanta, Imphal**, Manipur was awarded for conservation of local varieties of rice viz. Kumbi,



Changlei, Moirang Phou Yenthik, Phoudum, Phourenmubi, Phoungang and Taothabi and doing commendable work for conservation of local rice varieties and spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties

- 2 **Shri Mahaveer Singh Arya, Churu**, Rajasthan for conservation of wheat, mustard, radish, pearl millet and cluster bean varieties. He has developed wheat varieties viz Kishan Kranti, Vardan Pragati and Mahan and awarded for doing commendable work for conservation of above mentioned crops and spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties



- 3 **Shri N. Vasavan, Kannur**, Kerala for conservation of 30 varieties of cashew, four of arecanut, two of pepper, ten of coconut, 20 of jack fruit and seven of medicinal plant varieties. He also developed innovative method for controlling tea mosquito bug in cashew. He has developed low cost branch pruner and doing commendable work for conservation of plantation crops and spices and spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties



- 4 **Shri Purnanand Venkatesh Bhat, Uttar Kannada, Karnataka** for conservation of local landraces of



nutmeg, pepper, arecanut, coconut and turmeric. He has also developed various innovation methods of conservation of monoecious, bi-sexual plant at seedling stage and doing commendable work for conservation of above mentioned varieties and spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties.

- 5 **Shri Jai Prakash Singh, Jhakhini, Varanasi, Uttar Pradesh** for conservation of landraces of wheat, paddy,



pigeon pea, kidney bean, mustard and wood apple. The farmer has developed a wheat variety JP 8661 and doing praiseworthy work for conservation of above

mentioned crops and spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties

- 6 **Sri Pravat Ranjan Dey**, Panpara, Nadia, West Bengal for conservation of sweet, scented mango variety



Sujata and sharing its planting materials among 60 farmers and doing laudable work for conservation of scented mango variety and spreading awareness among farmers about agro-biodiversity and conservation.

- 7 **Ushagram Trust**, Nadia, West Bengal for conservation of 11 varieties of rice and 52 medicinal



plants. He has done commendable work for conservation of rice and medicinal plants and spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties.

- 8 **Shri Chandra Shekhar Singh**, Varanasi, Uttar Pradesh is engaged in the development of paddy



varieties viz., Khushboo 1-S and Virjan (Red Rice) and awarded for doing creditable work of conservation of paddy and spreading awareness among farmers about agro-biodiversity and conservation of farmers' varieties.

- 9 **Shri Ciby George**, Pattikkad, Thrissur, Kerala for conservation of four varieties of Coconut, ten areca



nut, 11 varieties of Nutmeg, four in Pepper, five of Mango and two of Jack fruit varieties and doing significant work for conservation of above mentioned crops and spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties.

- 10 **Mr. Narendra Singh Sipani**, Mandasour, Madhya



Pradesh for conservation of maize, soybean, pigeon pea and wheat varieties. He developed wheat varieties viz. Waman, Dronacharya; maize varieties viz. Amrit, Star 2001; soybean varieties viz. Kuber, Chamatkar; pigeon pea varieties viz. Shivna, Shipra. He is doing worthy work for conservation of above mentioned varieties and spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties.

#### Plant Genome Saviour Farmer Recognitions, 2012 (Citation and Memento)

- 1 **Mr. Roshan Lal Sharma**, Mandi, Himachal Pradesh for conservation of cereals, oilseeds, vegetables, fruit plants, medicinal plants and agroforestry. He is doing commendable work of conservation of above said crops and spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties.



- 2 **Shri Sandeep Brahm Bhatt**, Kalol, Gandhinagar, Gujarat for conservation of khairi, kanghi, salai guggal, gudhal, ratti, kalihari and kaknasa. He is doing very commendable work of conservation of above said crops and spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties.



- 3 **Shri Shiv Nath Yadav**, Kondagaun, Chattishgarh for development and conservation of rice varieties viz. Shiv Dharohar –1 and Shiv Dharohar –2. He is doing commendable work for conservation of paddy and spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties.



- 4 **Shri Subash Chander Misra**, Bhogpur, Jalandhar, Punjab for conservation of Max Barlett Red variety of pear. He is doing commendable work of conservation of pear and spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties.



- 5 **Shri Mavanji Ganpat Pawar**, Thane, Maharashtra for conservation of paddy, finger millet, proso millet, local vegetables and forest species. He is doing commendable work of conservation of above said crops and spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties.



- 6 **Shri Shankar Langati**, Belgaum, Karnataka for conservation of varieties of rice, vegetables, millets and pulses. He is doing commendable work of conservation of above mentioned crops and spreading awareness among farmers about agro-biodiversity and conservation of land races and farmers' varieties.



- 7 **Shri Jitul Saikia**, Lakhimpur, Assam for conservation of 12 landraces of Muga silkworm host plants, its different types like Soom, Soalu, Mezankari, Dighloti, Gondhsorai and Patitiunda and their wild relatives. He is doing commendable work for conservation of above mentioned species and spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties.



- 8 **Shri Muobatsinh Mamuji Sindhal**, Bhuj, Kutchh, Gujarat for conservation of Guggal (*Commiphora wightii*). He is doing commendable work for conservation of Guggal and spreading awareness among farmers about conservation of medicinal plants, landraces and farmers' varieties.



- 9 **Shri Tulsi Das Sav**, Mahasamund, Chattisgarh for conservation and production of typical varieties of banana, mango, papaya, ginger and turmeric with higher productivity and disease resistance. He is doing commendable work of conservation of above said crops and spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties



- 10 **Shri Sumanta Misra**, Jalpaiguri, West Bengal for conservation and development of chilli (Golden pasha and Akashu), pointed gourd (Parwal), cotton, pulses, lime (kagzi) and guava. He is doing commendable work of conservation of above mentioned crops and spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties.



- 11 **Shri Syed Ghani Khan**, Kiragavalu, Mandya, Karnataka for conservation of mango varieties and using traditional method of cultivation. He is doing commendable work for conservation of mango and spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties



- 12 **Shri Sunil Mahadu Kamadi**, Dengachimeth, Thane, Maharashtra for conservation and development of paddy variety Ashwani; finger millet variety Dasarbendri;



proso-millet variety Dudhmogra; varieties in Black gram, Pigeon pea, Niger and Sorghum. He is doing commendable work for conservation of above said crops and spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties.

- 13 **Shri Sajeevan Kavumkara**, Ummanchira, Kannur, Kerala has been engaged in the development of food diversity centre, farm school and conservation of wild leafy species (edible) for food security. He is doing commendable work of spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties.



- 14 **Shri Manik Saikia**, Khoga, Lakhimpur, Assam for conservation of Deep water and low-lying rice variety- Negheri Bao. His variety is used as donor parent in the varietal development program leading to two released bao varieties for flood prone area of Assam and doing commendable work for conservation of deep water and low lying rice varieties and spreading awareness among farmers about agro-biodiversity and conservation of land races and farmers' varieties.



- 15 **Shri Suren Bora**, Azad, Lakhimpur, Assam for conservation and development of Sali rice variety Solpona including farmers' varieties viz. Borjahinga, Biroi and Jurai Khowa. He is doing commendable work for conservation of paddy and spreading awareness among farmers about agro-biodiversity and conservation of landraces and farmers' varieties.



Three publications were released during the awards function:

- **“Cultivated Plants and their Wild Relatives in India – An Inventory”** compiled by Drs. A K Singh, R S Rana, Bhag Mal, Brahma Singh and R C Agrawal was released by Dr. R.S. Paroda, Chairman, Haryana Kisan Ayog and Chairman, Trust for Advancement of Agricultural Sciences (TAAS). This ‘Inventory’ lists scientific names of 811 cultivated plants and their 902



genetically close wild relatives that are still growing naturally and evolving in India. They have been assigned to 15 broad groups, depending upon their primary uses, so as to enhance their easy spotting and draw attention of the target readers. For the provision of the Gene Fund, the Authority had already identified 22 Agro-biodiversity Hotspots. This publication is an attempt to revising the Agro-biodiversity Hotspots and making them more rational and user friendly.

- **“Compendium of Varieties Registered under PPV&FR Act, 2001 (Volume: I, 2009-2012)”** was released by Shri Avinash Kumar Srivastava, Additional





Secretary, Govt. of India, DAC, Ministry of Agriculture. The Compendium contains brief description along with essential characters of 545 varieties registered upto December, 2012 under the PPV&FR Act, 2001.

- **“DUS Characterization of Rice Varieties”** authored by Dr. Subba Rao and others, Directorate of Rice Research, Hyderabad was released by Dr. Atanu Purkayastha, Joint Secretary (Seeds), DAC, Ministry of Agriculture, Govt. of India.



- Dr. Atanu Purkayastha also presented eight certificates of registration to the farmers.



- An exhibition, consisting of genetic resources conserved by the awardees was also organized at the



Atrium of the symposium hall. The exhibition was inaugurated by the Chief Guest, Minister of State for Agriculture and Food Processing Industries, Shri Tariq Anwar, who interacted with the farmers and expressed keen interest in the activities undertaken by the farmers / farming community.

- The awards function was followed by an interactive National Dialogue on Farmers’ Rights under the Chairmanship of Dr. R.S. Paroda, Chairman, Haryana Kisan Aayog. Key speakers Dr. S Nagarajan, Dr. P L Gautam, Dr. R R Hanchinal, Dr. S V Patil and Dr. K D Kokate deliberated on various issues.



Dr. R.S. Paroda, Chairman, Haryana Kisan Aayog presided over the function and successfully anchored the dialogue amongst the stakeholders followed by his keynote address.

The PPV&FR Authority has initiated a number of initiatives for encouraging the provisions of farmers’ rights including projects supporting the conservation and sustainable use of genetic resources including *in-situ* and *ex-situ* collections and for strengthening the capability of the panchayat in carrying out such conservation and sustainable use. To protect the rights of community, the Authority have requested the State Agricultural Universities/ ICAR institutes and government Departments to act as notified centres for any claim attributable to the contribution of the people of that village or local community in the evolution of any variety for the purpose of staking a claim on behalf of such village or local community under section 41 of the PPV&FR Act. The Authority has also received 1641 farmers’ varieties belonging to 38 crops in 16 states with maximum number of farmers’ varieties received in rice (1281) followed by maize (47), mango (31), sorghum (28) and black gram (24). The maximum number of farmers’ varieties were received in rice in Assam (312) followed by Chattisgarh (207), Manipur (157), Meghalaya (131) and West Bengal (104) (**Annexure- VIII**). Besides, the Authority has also undertaken several projects related to conservation of *in-situ* and *ex-situ* collections of Plant Genetic Resources and the highlights of some of the projects are as under:

- **Collection, characterization and conservation of indigenous landraces of Colocasia (*C. esculenta* L.) from North-Eastern Hill, ICAR Research Complex for NEH Region, Nagaland**

This project has following objectives:

- Survey and collection of indigenous landraces/ cultivars of Colocasia,
- Studies on morphological variation and evaluation of ex-situ collection for traits relevant for use in germplasm enhancement,
- Evaluation and characterization of collected landraces/cultivars as per the standard descriptors and also to prepare the descriptor of Colocasia,
- Documentation and conservation of indigenous landraces, and
- Awareness and training on protection of plant varieties and farmers' rights.

The North East region has its own unique combination of living species, habitats and ecosystems, which together make up its diversity rich resources. Colocasia (*C. esculenta* L.) or taro is one of the important tuber crops which has been grown by farmers in rainfed ecosystem and considered as an important food crop after rice. It has a wide variability and a large number of local cultivars are grown in different parts of northeast region especially in Nagaland.



Systematic survey was conducted to collect the colocasia germplasm from Northeastern Hills. A total of 126 different germplasm have been collected from West Garo hills of Meghalaya, West Siang district of Arunachal Pradesh, Nagaland and adjoining Assam, Imphal East and Senapati district of Manipur. The collected germplasm was evaluated for their morphological description. About 117 different germplasm have been identified and planted for further evaluation. The trials were conducted in Research Farm, ICAR Nagaland centre, Jharnapani. The standard

package of the practices prescribed by the Central Tuber Crop Research Institute, Trivandrum were followed.



All lines were evaluated for characterization. Out of 117 lines, 110 lines were showing different characters morphologically. Four lines were not taro and they have been identified as *Xanthosoma* sp. Three lines were very similar to other lines. However, nearly 30–35 lines were showing similarity in corm characters with other lines. They will be confirmed in next evaluation. The DUS characters were finalized and they will be confirmed in next evaluation.



- **Agro-Biodiversity conservation and training on Farmers' Rights in Jharkhand and Meghalaya, Gene Campaign**

The project was implemented with the following objectives:



- *In-situ* and *ex-situ* conservation of agro-biodiversity

of rice and other traditional crops,

- Characterization of important traditional rice varieties, and
- Generate awareness and promote farmers' rights at the field level and enable farmers and Civil Societies to register farmers' varieties with PPV&FRA.

The project is on community led conservation of agrobiodiversity to collect traditional varieties of crop plants, landraces, farmers' varieties from their fields along with knowledge about the varieties in Jharkhand and Meghalya. Jharkhand which is among the 22 agro-biodiversity hotspot regions, is an important region where some areas are still under traditional cultivation and sown with traditional varieties but hybrid rice is being promoted aggressively. The conservation of genetic diversity is essential and can be linked to long term food and livelihood security of the rural and tribal community. In India, particularly the North East is a secondary center of origin for rice, a large number of indigenous varieties existed suiting the local agro climatic conditions. Under the extension programme run by the state government, a large number of traditional varieties disappeared and replaced by high yielding varieties with better yield potential. Loss of these varieties is a genetic erosion since many of the good traits like disease resistance flood resistance etc. would also be lost forever which could have helped in developing new plant varieties with additional traits.

The achievements of project are as follow:

- Three gene seed banks have been established to make available the traditional seeds of farmers' varieties conserved since generations for cultivations by the fellow farmers. Management committees have been constituted for smooth management and maintenance of the gene seed banks. The committee comprises of 6-8 members who were given training on book keeping and record maintenance of germplasm availability, supply to farmers, seed recollecting, cleaning and seed drying.
- The project has increased the awareness and created interest in the conservation of the genetic diversity of rice and its importance to food security.
- The farmers' community has collected traditional varieties of crop plants, landraces from farmers' fields along with their knowledge.
- Germplasm of 362 traditional paddy varieties were collected.
- 193 farmer varieties were characterized for registration with PPV&FRA.
- Three training programs were conducted on seed bank

management and conservation of traditional varieties.

- Awareness programs were conducted in 36 villages.
- The project is also helpful in conservation of valuable genetic material at a time when the world is looking for genes to cope up with drought, salinity, heat and diseases more than before, because of the climate change.
- **Acquisition of farmers' varieties of different crops in the State of Odisha, documentation and conduct of Grow-out-test for data generation on DUS descriptors for PP&FRA**



Some Farmers' Paddy Varieties Filed with PPV&FRA

The main objectives of the project are as under:

- Survey and acquisition of farmers' varieties of different crops in the state of Odisha,
- Documentation of passport data, and
- Data generation on DUS characters for submission of applications with the PPV&FRA on behalf of farmers.



The project basically aimed at facilitating registration of the farmers' varieties of different crops including paddy with PPV&FRA. The geographical area of Odisha has been considered for this activity. The seeds of the farmers'

extant varieties were collected along with their passport information. The data was compiled and authorization of the farmers was obtained for acting on their behalf to submit the applications for registration of their varieties as farmers' varieties with PPV&FRA. Location specific testing was conducted by using state government agriculture network and involving the NGOs located at different places for generation of information on the essential characters on these varieties of crop plants. Exposure visit of the local farmers was encouraged to these experiments in different places, so that they can select for themselves the varieties as per their requirement.

#### Achievements

- Survey and acquisition of farmers' varieties of different crops in the State of Odisha was under process, 897 paddy varieties and 50 varieties of pulses have been collected.
- Passport data on these varieties were compiled.
- Grow out tests of the rice varieties were carried out at different places in the state and data generated as per DUS guidelines.
- Applications of 897 paddy farmers' varieties along with seeds with panicles of 803 number has been submitted to PPV&FRA for registration.

## 4. Development of DUS Test Guidelines

### 4.1 Task Force on Development of DUS Test Guidelines

The Authority is guided by its apex committee known as Programme, Planning and Policy Committee (PPPC) on various policy and technical matters. It was decided in the last PPPC meeting that the Authority should develop DUS test guidelines for horticultural crops, vegetables, ornamentals, seed spices, beverage and forestry. During the reporting period, a number of DUS test guidelines for fruits, vegetables, flowers, spices, tea and forestry plants were finalized and approved by respective Task Forces. Simultaneously, Task Forces were also constituted for validation of the DUS descriptors for development of the DUS test guidelines. Identification of suitable morphological characteristics (qualitative & quantitative) play a very important role in the development of DUS guidelines. Morphological characters have traditionally formed the basis of varietal descriptions and for the examination of novelty. These characteristics are information for PVP applications along with pedigree and also the special characters which may include biochemical and molecular characteristics. These morphological characters are measured on qualitative and quantitative scale. These characteristics along with their data is shaped as criteria for the purpose of Distinctiveness, Uniformity and Stability. The highlights of the development of DUS testing guidelines for some of the crop species are as under:

#### Fruits

##### 4.1.1 National Research Centre for Citrus (NRCC), Nagpur (Citrus)

Second meeting of Task Force on developing DUS test guidelines for citrus was held on 18 November, 2013 at New Delhi under the Chairmanship of Dr. V.A. Parthasarthy, Former Director IISR, Calicut and Dr. S.N. Pandey & Dr. Umesh Srivastava, former ADGs (Horticulture); ICAR, Dr. H. Ravishankar, Director, CISH, Lucknow and Dr. I.P. Singh, Principal Scientist and Principal Investigator (PI) of the citrus Project from NRC for citrus, Nagpur as members of the Task Force. Dr. R.R. Hanchinal, Chairperson and Dr. R.C. Agrawal, Registrar General of the Authority also participated in the meeting along with the officers of the Authority. Dr. I.P. Singh, PI made a detailed presentation on the DUS guidelines of acid lime and mandarin. The Task Force discussed detailed descriptors under the guidelines

and extensive suggestions were made by members. Chairman of the Task Force requested the PI to include the various suggestions given in the meeting and circulate the draft guidelines amongst the members for finalisation.



##### 4.1.2 Central Institute for Sub-tropical Horticulture, Rehmankhera, Lucknow (Jamun)

The Authority has assigned a project entitled “*Development of morphological descriptors and DUS test guidelines for jamun (Syzygium cuminii)*” to Central Institute for Sub-tropical Horticulture (CISH), Lucknow as Nodal centre and CHES, Vejalpur (Godhra) as Co-Nodal centre for the period 2012-15. The objectives of the project are: Conservation of jamun accessions/varieties in field gene bank. Characterization of jamun accessions on the basis of morphological descriptors and physio-chemical properties. Identification of characteristics for distinctiveness, grouping characteristics and developing important descriptors to be used as DUS criteria.

During the reporting period, observation were taken from 10 varieties / accessions of jamun on various characteristics, e.g. tree vigour, habit, one year old shoot-thickness, one-year-old shoot-length of internode, leaf blade attitude with respect to shoot, leaf blade length/width and others.

The observation taken from 10 varieties/ accessions of jamun planted in field gene bank of CISH, Rehmankhera were recorded on flower characters, fruit characters, fruit quality and yield and seed characters. The flowering time of all the accessions were observed during April month.

#### 4.1.3 Central Horticultural Experiment Station (CHES–CIAH-ICAR), Vejalpur (Godhra), Panchmahal (Jamun)

During the reporting period, the CHES also maintained 10 jamun genotypes / accessions. Detailed characters like vegetative and fruiting attributes were recorded to develop the DUS descriptor in 10 genotypes (CISH J 23, CISH J 25, CISH J 34, CISH J 37, CISH J 40, Gokak-I, CISH J 26, CISH J 36, Konkan Bhadoli (K.B.) and KJPKM-II) . It was observed that CHESJ-9 and CHESJ-10 of spreading type, while CHESJ-11 and CHESJ-12 were of semi- spreading type. Leaf was elliptical lanceolate in CHESJ-9 and CHESJ-10, while it was broadly elliptical in CHESJ-11. Leaf length was 16.80 cm, 18.10 cm, 17.60 cm and 16.80 cm in CHESJ-9, CHESJ-10, CHESJ-11 and CHESJ-12 respectively. Leaf breadth was 8.40 cm, 9.30 cm, 7.70 cm and 8.40 cm in CHESJ-9, CHESJ-10, CHESJ-11 and CHESJ-12 respectively. Fruit shape of CHESJ-9, CHESJ-10 and CHESJ-11 was oblong, while it was Ovoid in CHESJ-12. TSS (Degree Brix) was recorded 16.00, 17.20, 15.40 and 15.80 in CHESJ-1, CHESJ-2 CHESJ-3 and CHESJ-4 respectively.

and creating facilities for DUS testing in litchi (*Litchi chinensis*)” was undertaken at ICAR Research Complex for Eastern Region, Ranchi during 2011-14 in collaboration with CISH, Lucknow and GBPUA&T, Pantnagar to validate litchi descriptors for their utility for developing DUS guidelines and to develop characteristic database of litchi varieties. A total of 34 tentative characters were identified for DUS testing of litchi. Out of these, characters like young leaf colour, leaflet blade shape, leaf margin curvature, length of paracladia, time of opening of male flower, flower disc colour of hermaphrodite flowers, fruit shape, time of fruit maturity and seed shape were recorded to be consistent for distinguishing the litchi genotypes.



Based on the results of characterization for three years, the document on draft guidelines on DUS testing of litchi has

Table-54 : Fruit quality of different elite Jamun genotypes

Characters	CHESJ-9	CHESJ-10	CHESJ-11	CHESJ-12	CHESJ-13	CHESJ-14	CHESJ-15	CHESJ-16	Konkan Bahadoli	CISHJ-37
Time of harvest	June 1 <sup>st</sup> week	May 3 <sup>rd</sup> week	June 3 <sup>rd</sup> week	June 2 <sup>nd</sup> week	June 2 <sup>nd</sup> week	June 1 <sup>st</sup> week	May 3 <sup>rd</sup> week	June 3 <sup>rd</sup> week	June 2 <sup>nd</sup> week	June 2 <sup>nd</sup> week
Stone size	Small	Small	Medium	Small	Small	Small	Small	Medium	Small	Small
Stone shape	Oblong	Oblong	Oblong	Oblong	Oblong	Oblong	Oblong	Oblong	Oblong	Oblong
Fruit weight (g)	19.80	20.40	17.50	18.90	18.70	19.30	20.50	17.70	18.80	19.20
Stone weight (g)	3.00	3.20	3.230	3.40	3.30	3.00	3.10	3.30	3.50	3.00
Pulp weight (g)	16.80	17.20	14.20	15.50	15.40	16.30	17.40	14.40	15.30	16.20
TSS (Degree Brix)	16.00	17.20	15.40	15.80	16.80	16.20	17.30	15.70	15.90	16.90
Acidity	0.35	0.37	0.38	0.40	0.42	0.39	0.38	0.41	0.43	0.40

During the year, Dr. K. L. Chadha and Dr. R. N. Pal, Former DDGs (Horticulture), ICAR; Dr. B. S. Chundawat, Former Vice Chancellor, S. K. University of Agriculture Dantwada, Gujarat; Dr. N. B. Singh, Former ADG (Crop Science), ICAR; Vice Chancellor, Navsari Agricultural University; Dr. N.K. Krishna Kumar, DDG (Horticulture), ICAR; Dr B. Singh, Project Coordinator, AICRP, Vegetable Crops, IIVR, Varanasi visited the centre.

#### 4.1.4 ICAR Research Complex for Eastern Region, Research Centre, Ranchi (Litchi)

The project entitled “*Developing national repository*

been prepared which will be examined by the Task Force for detailed discussion and finalization of DUS guidelines.

#### 4.1.5 Central Sericultural Research and Training Institute (CSRTI), Central Silk Board, Mysore (Mulberry)

The Authority assigned a project on “*Development of distinctness, Uniformity, and Stability (DUS) descriptors for Mulberry (Morus sp.) and its validation*” to Central Sericultural Research and Training Institute, Central Silk Board (Ministry of Textile, Govt. of India), Mysore, Karnataka, with the following objectives:

- To develop and validate descriptors for mulberry,

- Identify distinctiveness and specific morphological, biochemical & molecular markers and its stability,
- To characterize the extent of variability,
- Development of database for the descriptors of mulberry and to add on to IINDUS, and
- Characterization of characters for assessment of DUS test and develop DUS test guidelines

#### Achievements

- Development DUS descriptors for Mulberry.
- Characterization of varieties on the basis of list of characters finalized for observation.
- Development of specific morphological characters and biochemical & molecular markers, wherever required.
- Categorization of characters for assessment of DUS test.
- Submission of draft DUS test guidelines to Authority.

#### 4.1.6 Tamil Nadu Agricultural University (TNAU), Coimbatore (Papaya)

The Centre has maintained 80 accessions of papaya and for recording observations on various morphological characters. Out of 80 accessions, 31 belonged to dioecious and the remaining 49 belonged to gynodioecious procured from various agencies / places. Among the 80 papaya accessions, studies for 67 morphological, quantitative and qualitative parameters are tabulated. Among the accessions characterized, 40 accessions fell under the category of trees with low bearing height and only one accession was with high bearing height. The colour of petiole in six accessions were red purple, 16 accessions were mixture of green and shades of red purple while, 60 accessions were pale green. The colour of venation in four accessions were purple in colour, four were greenish purple, while majority of the accessions (64) were in green colour. The fruit apex in three accessions was blunt type, 29 accessions were depressed and 50 accessions were pointed. Seed colour was grey in 49 accessions, brown black in 16 accessions, tan in 15 accessions, while brown in two accessions. Seed surface luster is dull in majority of the genotypes (63) and shiny in 19 accessions. Seed surface type is warty in 70 accessions and remaining was smooth. It has been planned to raise reference varieties for characterization of morphological traits, assessing the stability of morphological traits, documentation of qualitative and quantitative characters of DUS and development of DUS guidelines / DUS descriptors during 2014-15.

#### 4.1.7 Indian Institute of Horticulture Research (IIHR), Bengaluru (Papaya and Custard apple)

It is a new project assigned to Division of Fruit Crops, IIHR wherein they have been given the mandate of *“Developing national repository and creating facilities for DUS testing in papaya and custard apple”*. IIHR will serve as Nodal centre for custard apple and TNAU, Coimbatore as Co-Nodal centre for papaya. During the reporting year, observations were recorded on 80 accession of papaya released by ICAR institutes, SAUs and collections from homestead garden. Based on the proposed DUS descriptor using 67 morphological traits, 80 accessions were being characterized. In custard apple, 10 released varieties as well popular cultivars / accessions were described based on proposed DUS characters consisting of 40 traits.

#### 4.1.8 Central Institute for Arid Horticulture (CIAH), Bikaner (Date palm)

The centre has maintained 42 date palm reference varieties, mostly exotic and evaluated for morphological and quality characters. The morphological characters viz. leaf size, leaflet size, rachis length, number of thorns per feet, height of palm, size of thorn, length of thorn, inter thorn distance, leaflet folding angles, leaflet apex shape, spines shape, spine size, number of leaflet per feet, distance to leaf per feet, date of spathe emergence, date of completion of emergence, opening of spathe, date of pollination and spathe size were recorded. A wide genetic diversity with respect to plant morphological characters was observed among the date palm varieties. The plant height ranged from 160 -890 cm, rachis length ranged from 121- 347.5 cm, leaf length ranged from 121 – 347.5 cm, whereas leaf width ranged from 28.5-77.5 cm. The number of thorns ranged from 8-22 per leaf whose length and breadth ranged from 4.02-12.48 cm and 0.13 – 0.47 cm, respectively. Similarly, number of strands per spathe ranged from 11-72, number of berries per strand ranged from 13-39 and number of bunches per plant ranged from 1-10 giving an average yield ranging from 0.78 – 79.9 kg per tree. Fruit weight ranged from 7.52-23.46 g whereas weight of stone ranged 0.7-1.87 g. Per cent fruit set ranged from 17.39-91.4%. Observations on spathe emergence revealed that due to low temperature, the spathe emergence was delayed. The observations on flowering and fruiting is to be recorded next year.

In addition to quantitative characters, qualitative characters also showed variation among the varieties e.g. fruit colour varied from yellow to red in some varieties. The spines showed variation in the shape which were either needle like or curved. The stone shape varied from oval to

ovate with mid margin. In some varieties the groove was shallow while in others the groove was deep. Fruit apex was uniformly pointed with smooth skin and round calyx end. Thus, the date palm varieties can be identified using qualitative as well as quantitative characters of vegetative and fruit parameters.

Group of farmers from different parts of country viz. Gujarat, Rajasthan and Uttar Pradesh visited the experimental block of date palm. The entrepreneurs who wanted to take up date palm cultivation in Rajasthan also visited the farm and were given information about date palm cultivation.

#### 4.1.9 Central Institute for Arid Horticulture (CIAH), Bikaner (Watermelon & Muskmelon)

During Kharif 2013, nine varieties of watermelon and 13 of muskmelon were evaluated in randomized block design (RBD) with three replications to validate DUS testing guidelines for various descriptor states according to the DUS minimal descriptors. Observations on 31 traits of watermelon and 32 traits of muskmelon were recorded. IIVR, Varanasi is functioning as Co-Nodal centre for both the melons and the data recorded on various characteristics were also validated. Based on the results, grouping traits were identified to facilitate the assessment of distinctiveness of varieties. The important traits along with example varieties are presented as under:

**Table-55 : Grouping traits in watermelon and muskmelon**

Watermelon		
Trait	State	Example variety
Sex expression	Monoecious	Arka Manik, Durgapura Lal
	Andro-monoecious	AHW-65
Fruit: shape in longitudinal section	Flat globe	Sugar Baby
	Cylindrical	Charleston Grey
	Elongated globe	Asahi Yamato
Fruit: ground colour of skin	Green	Arka Manik, Durgapura Lal
Fruit: colour of Flesh	Yellow	Durgapura Kesar
	Reddish Pink	AHW-65
	Red	Sugar Baby
Muskmelon		
Trait	State	Example variety

Sex expression	Andromonoecious	Kashi Madhu, Pusa Madhuras
Fruit: shape in longitudinal section	Ovate	MHY-5
	Oblate (Flat globe)	GMM-3, Kashi Madhu
	Obovate	Durgapura Madhu
Fruit: rind colour	Yellow	Kashi Madhu, Pusa Sharbati
	Yellow Green	Durgapura Madhu
	Orange	Arka Jeet
Fruit: sutures	Absent	Arka Jeet, MHY-3
	Present	Hara Madhu, Kashi Madhu
Fruit: surface netting	Absent	Arka Jeet, MHY-5
	Moderate	RM-50, Arka Rajhans, Punjab Sunehri
Fruit: flesh colour	Creamish white	Arka Jeet
	Grey orange	GMM-3
	Yellowish green	Durgapura Madhu
	Green	Hara Madhu

Draft DUS descriptors of watermelon and muskmelon circulated to members of Task Force for suggestions/comments. The draft of DUS descriptors of muskmelon and watermelon was discussed in the Meeting of the Task Force at PPV&FR Authority on 12 March, 2014 for finalization of the DUS guidelines.

**Table-56 : Progress of maintenance/characterisation**

Name of the species	No. of varieties	Varieties with source
Watermelon [ <i>Citrullus lanatus</i> (Thunb.) Mansf.]	09	Charleston Grey, Asahi Yamato (NBPGR, New Delhi), Arka Manik (IIHR, Bengaluru), Sugar Baby (IARI, New Delhi), Durgapura Lal, RW 187-2 (ARS, Durgapura), AHW-19, AHW-65, Thar Manak (CIAH, Bikaner).
Muskmelon ( <i>Cucumis melo</i> L.)	13	Arka Jeet, Arka Rajhans (IIHR, Bengaluru), MHY-3, MHY-5, RM-43, RM-50, Durgapura Madhu (ARS, Durgapura), Kashi Madhu (IIVR, Varanasi), Pusa Madhuras, Pusa Sharbati (IARI, New Delhi), GMM-3 (GAU, Anand), Punjab Sunehri, Hara Madhu (PAU, Ludhiana).



#### 4.1.10 Central Horticultural Experiment Station (CHES), Vejalpur (Tamarind & Chironji )

Central Horticultural Experiment Station, one of the research stations of the CIAH, Bikaner, has been given the project on “*Validation of DUS descriptors for chironji (Buchananialanzan Spreng.), tamarind (Tamarindus indica L.) and Jamun.*” The progress in each of the crop is as under:

##### Chironji

Detailed characters like vegetative and fruiting attributes were recorded to develop the DUS descriptor. After studying 10 genotypes it was observed that CHESC-1, CHESC-2 and CHESC-3 were of semi tall type, while CHESC-4 was of tall type. In case of CHESC1, CHESC3, CHESC4, the tree form was semi spreading while, it was drooping type in case of CHEC2. Foliage was dense and leaf was elliptical lanceolate. Leaves thickly coriaceous, broadly oblong, obtuse, reticulate veined in all genotypes. Panicle length was 22.00 cm, 24.10cm, 25.10 cm and 18.00 cm in CHESC-1, CHESC-2, CHESC-3 and CHESC-4 respectively. TSS (Degree Brix) was recorded 24.10, 24.70, 23.80 and 23.00 in CHESC-1, CHESC-2 CHESC-3 and CHESC-4 respectively.

##### Tamarind

The centre has collected 10 genotypes/ cultivars for study and recorded of observations. All cultivars were having semi- tall character. PKM-1, T-263 and Goma Prateek had semi spreading type growth habit, while Pratisthan was of drooping type growth pattern. Number of leaves/shoot (Annual extension growth) was 42.00,40.12,41.00 and 34.10 in PKM-1, Pratisthan, T-263 and Goma Prateek respectively. Length of panicle was 12.00 cm, 10.00 cm,13.40 cm and 15.50cm in PKM-1, Pratisthan, T-263 and Goma Prateek respectively. Number of fruits per panicle was 3.00,4.10, 3.10 and 3.80 in PKM-1, Pratisthan, T-263 and Goma Prateek respectively. Fruit colour was brown in PKM-1, T-263 and Goma Prateek, while it was reddish brown in case of Pratisthan.

##### Small millets

#### 4.1.11 GKVK, UAS, Bengaluru (Minor millet)

The Project Co-ordinating Unit at the UAS, Bengaluru has been given a project on “*Validation of DUS descriptors for developing of DUS testing guidelines for finger millet and other small millets along with the database and reference varieties*”. The PC unit has maintained and characterized the example varieties of finger millet and other small millets and recorded the morphological

characteristics as under:

Table-57 : Progress of reference varieties

Name of the Crop	Name of the species	No. of reference varieties	Source
Finger millet	<i>Eleusine coracana</i>	88	own released/ ICAR/SAU
Proso millet	<i>Panicum miliaceum</i>	23	-do-
Kodo millet,	<i>Paspalum scrobiculatum</i>	33	-do-
Little millet	<i>Panicum sumatrense</i>	29	-do-
Barnyard millet	<i>Echinochloa utilis</i>	21	-do-
Foxtail millet	<i>Setaria italica</i>	27	-do-

Task Force has been constituted and a review meeting for the development of the DUS guidelines was held at the GKVK campus on 19 May, 2013 wherein Dr. R.R. Hanchinal, Chairperson, PPV&FRA also participated. The validation of observation recorded on various morphological and genotypical characteristics were also done at other Co-Nodal centres.

##### Flowers

#### 4.1.12 Tamil Nadu Agricultural University (TNAU), Coimbatore (Jasmine)

During the reporting year, 65 genotypes of jasmine have been collected from various sources and were maintained in the field. Of the 65 collections, 58 types fall into 11 known species namely, species *Jasminum sambac*; *J. auriculatum*; *J. grandiflorum*; *J. pubescence* (Syn. *J. Multiflorum*); *J. humile*; *J. primulinum*; *J. doctotomum*; *J. angustifolium*; *J. rigidum*; *J. flexile* and *J. callophyllum*. The remaining seven types are unknown species and their taxonomic status is yet to be verified. Morphological characterization and assessment of flower yield and quality parameters of the most popular commercial cultivated types belonging to the three species namely *J. sambac*, *J. auriculatum* and *J. grandiflorum* have been done. Observations on morphological, physiological and quality parameters were recorded during the critical stages of growth and development.

#### 4.1.13 Indian Institute of Horticulture Research (IIHR), Bengaluru (Carnation & Jasmine)

##### Carnation

DUS guidelines for carnation (*Dianthus caryophyllus* L) were finalized as Co-Nodal centre for which the data on two flushes of 50 genotypes have been recorded. Out of 50

genotypes, one belongs to IIHR and eight belong to State Department of Horticulture and the remaining 41 were the local collection from the farmers field. The characters recorded were finalized in the first meeting of the Task Force for finalization of DUS test guidelines for carnation which was held on 18 April, 2013 at IIHR as main centre. The data obtained will be finalized in the consultation with the main centre in the next meeting of the Task Force.

#### Jasmine

The DUS guidelines for jasmine are under developing stage as assigned by Authority to the Division of Floriculture, IIHR. During the Reporting year, 35 reference varieties of jasmine belonging to ICAR and SAUs were under maintenance breeding and characterization. First Task Force meeting for drafting DUS guidelines was held at IIHR on 17 April, 2013. Forty five characters, their states, notes, stage of observations and example varieties were listed for characterization and the first draft of Guidelines for DUS testing was formulated. Thirty-five varieties were characterized based on these characters.

#### 4.1.14 Department of Pomology and Floriculture, Kerala Agricultural University, Thrissur

The Centre has been designated as Co-Nodal Centre for DUS testing in tropical orchids ie, (*Dendrobium*, *Vanda*, *Phalaenopsis*, *Cattleya*, *Paphiopedilum*, *Oncidium* etc) and to prepare DUS guidelines and develop national database for tropical orchid cultivars.

All the available variability in tropical orchid genera, viz *Phalaenopsis*, *Dendrobium*, and *Vanda* has been prepared. This centre acted as the Nodal centre for DUS testing of *Phalaenopsis* new varieties that have been added to these genera. This centre is now maintaining *Phalaenopsis* (102 varieties), *Vanda* (50 varieties) and *Cattleya* (38 varieties) and observations on vegetative and floral characters as prescribed by PPV & FRA were recorded and varieties were classified accordingly. During the year 2013-14, studies on two genera viz, *Oncidium* and *Paphiopedilum* were completed. This centre acted as a sub centre for *Paphiopedilum*.

For *Oncidium* genus, this Centre is the Nodal centre. During the period, 45 *Oncidium* varieties/ hybrids as well as inter generic crosses were collected. A total of 34 *Oncidium* hybrids were evaluated and classified based on plant size, pseudo bulb size, flower size, colour and fragrance, sepal size and shape, petal size and shape, lip size and shape, column size and orientation, longevity of flowers on the plant etc. Among the 60 morphological characters, plant type, leaf shape and orientation, inflorescence type, flower fragrance, sepal and petal shape, lip shape of apical lobe,

colour and ornamentation and column orientation showed uniqueness to formulate DUS guidelines in *Oncidium*. The DUS test guidelines were finalized in the last meeting of Task force on Orchids held on 29-30 January 2014 and were submitted to DAC for notification.

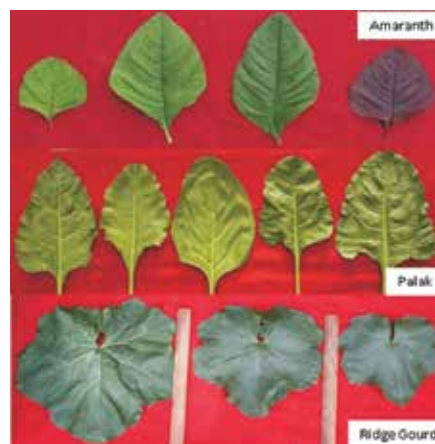
#### 4.1.15 Dr. Y.S. Parmar University of Horticulture & Forestry, Solan (Orchids)

##### Phalaenopsis

Dr. Y.S. Parmar University of Horticulture & Forestry was designated as DUS centre for *Phalaenopsis* during the year 2013-14. The facilities to grow *Phalaenopsis* at this centre are being created and germplasm will be introduced subsequently. The centre is procuring different species of *Phalaenopsis* from ICAR sources for maintenance and characterization. The project was launched by the University on 25 February, 2014.

##### Vegetables

#### 4.1.16 Indian Institute of Horticulture Research (IIHR), Bengaluru (Amaranth, Palak and Ridge Gourd)



**Division of Vegetables Science, IIHR:** This is a new project proposal assigned to IIHR as Nodal centre for development of DUS guidelines for Amaranth, Palak and Ridge Gourd and Vegetable Division, IARI, New Delhi to serve as Co-Nodal centre. The progress of maintenance breeding and characterization during the reporting year is as under:

**Table-58 : Progress of reference varieties for characterisation**

Name of the species	No. of reference varieties	Source(own released/ICAR/SAU)	
Vegetable Amaranth ( <i>Amaranthus tricolor</i> L.)	19	Own (IIHR)	Arka Arunima, Arka Samraksha, Arka Suguna, Arka Varna

		ICAR	Pusa Kiran, Pusa Kirti, Pusa Lal Chauhi
		SAU	Renusree, Arun, Co-1, Co-2, Co-3, Co-5, RNA1,
		Local varieties	Canara Local, Chilka Arve, Dontina Soppu, Koyyaarve and White stem Amaranth
Palak ( <i>Beta vulgaris</i> var. <i>bengalensis</i> L.)	5	Own (IIHR)	Arka Anupama
		ICAR	Pusa Bharati and All Green
		SAU	HS-23, Co-1
Ridge gourd ( <i>Luffa acutangula</i> L.)	9	Own (IIHR)	Arka Sujat, Arka Sumeet,
		ICAR	Pusa Nasdar, Pusa Nutan,
		SAU	Deepti, Jaipur Long, Phule Sucheta, GARG-1 and Co-1

One meeting of the Task Force was held at IIHR wherein the progress of characterization of morphological characters and recording of data was reviewed with PI and concerned scientists. Draft DUS descriptors for above vegetables will be reviewed in the next meeting of the Task Force. Dr. R.C. Agarwal, Registrar General, PPV&FRA visited and had a Review Meeting of DUS projects at IIHR on 17 June, 2013 followed by another visit by Dr. R.R. Hanchinal, Chairperson, PPV&FRA on 30 August, 2013 to review the overall progress of ongoing DUS projects.

#### 4.1.17 Bidhan Chandra Krishi Viswa Vidyalyaya (BCKVV), Kalyani (Elephant Foot Yam and Taro)

BCKV has been entrusted project on “*Development of standards of DUS testing for varietal gene bank in elephant foot yam and taro*” by the Authority. During the reporting year, the Centre has maintained nine and eleven varieties of taro and elephant foot yam respectively and did characterization work for developing DUS guidelines. While recording observations for different characters, it was noted that in taro most of the characters are highly heritable and genetic purity of cultivars is very high, duplicates are not found and yield is most stable character and controlled by their genetic background. Almost similar observations were also noted for elephant foot yam. The University has prepared seven research articles. The Centre was awarded Best Oral Presentation in Agriculture on 21<sup>st</sup> West Bengal State Science and Technology Congress held on 20-21 February, 2014 organized by Burdwan University.

#### 4.1.18 Indian Institute of Vegetable Research (IIVR), Varanasi (Cucumber, Bottle Gourd, Bitter Gourd, Pumpkin)

The DUS guidelines for cucumber, bottle gourd, bitter gourd, pumpkin have been finalized and approved by the Task Force on in its meeting at New Delhi. Subsequently, these guidelines were submitted to the DAC, Ministry of Agriculture for Gazette Notification. IIVR, Varanasi has been designated as a Nodal centre and IIHR, Bengaluru as the Co-Nodal centre for these crops. The progress of maintenance breeding / characterization in respect of above mentioned vegetables is as under:

**Table-59 : Progress of maintenance breeding / characterisation**

Name of the species	No. of varieties	Source (own released/ICAR/SAU)	
Bottle Gourd ( <i>Lagenaria sinceraria</i> )	18	Own (IIHR)	Arka Bahar, IIHR-19-1,
		ICAR	Pusa Samrudhi, Pusa Santusti, Pusa Naveen, Pusa Sandesh, Kashi Ganga, KBGR-12, ABG-1
		SAU	Narendra Rashmi, Narendra Jyoti, Narendra Dharindar, NDBG-619, NDBG-132, Kalyanpur Long, Pant Lauki-3, Punjab Komal and Punjab Long
Bitter Gourd ( <i>Momordica charantia</i> )	17	Own (IIHR)	Arka Harit
		ICAR	Pusa Vishesh, Pusa Do-Mausami, Sel.5, Sel.1,
		SAU	MC-84, Hirkani, Phule Green Gold, Phule Ujwala, Meghana-2, Kohinoor(F1), Preethi, NDBT-9, Kalyanpur Baramashi, NDBT-7, HABG-1, Co-1
Cucumber ( <i>Cucumis sativus</i> )	11	ICAR	Swarna Agethi, Swarna Poorna
		SAU	Punjab Naveen, Phule Subhangi, JLG, Himangi, Peb Kamal, CH-20, V3, Belgaum local, Dharwad Local,
Pumpkin ( <i>Cucurbita moschata</i> )	11	Own (IIHR)	Arka Chandan
		ICAR	Pusa Vishwas, Kashi Harit, Pusa Vikas
		SAU	Narendra Amrit, Narendra Agrim, CM-350, Ambili, Suvarna, KPS-1 and Saras

#### 4.1.19 National Bureau of Plant Genetic Resources (NBPGR), New Delhi (Amaranth, Buckwheat and Faba bean)

A project on “*Development of guidelines for the conduct of test for distinctiveness, uniformity and stability on grain amaranth, buckwheat and fababean*” has been entrusted to the NBPGR. The status of maintenance breeding / characterization is as under:

**Table 60: Progress of maintenance breeding / characterization**

Crops	No.	Reference varieties
Amaranth	22	IC 038129, IC 038256, IC 047439, IC 038373, IC 038192, IC 042371, IC 095564, IC 038378, ICAMHP, GA-2, GA-3, PRA-1, PRA-2, PRA-3, Annapurna, Durga, VL-101, VL-102, GA-1, BGA-2, Suvarna, GA-2
Buck wheat	16	IC 202226, IC 204085, Sangla B-1, IC 014889, IC 108514, IC 412722, IC 026594, EC 323730, EC 288737, Himpriya, Shimla B-3, Shimla B-1, Sangla B-214, Sangla B-301, PRB-1, VL-7,
Faba bean	24	Vikrant, PRT -12, RFB -3, Patna – 1, Patna – 2, Patna – 3, Patna – 4, Patna – 5, Patna – 6, Patna – 7, IC-593728, IC-593720, IC-593717, IC-593716, IC-593715, IC-593708, IC-593709, IC-593700, IC-593689, IC-593682, IC-593677, IC-593670, IC-593666, IC-593667

These reference varieties have been procured from various ICAR institutes and SAUs. Observation were recorded on morphological features for the purpose of developing DUS guidelines. Grouping of varieties for uniformity and stability of characteristics and reference varieties for DUS testing will be finalized next year.

#### 4.1.20 Regional Centre of Central Tuber Crops Research Institute (CTCRI), Bhubaneswar

##### Sweet Potato & Cassava

The Regional Centre, CTCRI, Bhubaneswar has maintained and characterized 37 released varieties of sweet potato and 14 varieties of cassava which have been sourced from ICAR or SAUs. A total of 205 cultures of sweet potato and 35 cultures of cassava were maintained *in-vitro*. Development of DUS testing criteria and establishment of varietal gene bank for the tropical tuber crops; cassava and sweet potato, are the other mandates of the project. During the reporting period, 33 characters of 37 released sweet potato varieties and 26 characters for 14 released cassava varieties have been recorded. Similarly, the centre has identified 17 pre-harvest characters for sweet potato and 11 characters of cassava have been validated for uniformity and stability.



The high starch white flesh variety (ST-10), orange flesh high beta carotene rich variety (ST-14) and purple flesh high anthocyanin rich variety ST-13 were registered. The centre has also taken initiative for establishment and maintenance of varietal gene bank of sweet potato and cassava.

##### Taro

##### (*Colocasia esculenta*) and elephant foot yam (*Amorphophallus paeoniifolius*)

Regional centre, Bhubaneswar along with BCKV, Kalyani as Co-Nodal centre are working on the development of DUS test guidelines for taro and elephant foot yam. During the reporting period, 21 released varieties of taro were planted and observations were recorded. The observations of morphological characters of taro and elephant foot yam revealed individual and group distinctness. Such characters are uniform in all replications and crop wise brief observations was as follows:



Taro

In taro, plant height and plant span showed uniqueness among 21 varieties established in gene bank. While most of the varieties/breeding lines found to be of dwarf types, five varieties viz., Telia, Panisaru-1, Sonajuli, BCC-1 and KSS-2 were in the medium range with respect to plant height. Most of the varieties showed narrow range of plant span, but seven varieties were in the medium range. The number of suckers found to be more than five in BCC-22, Muktakeshi, Telia, Panisaru-1 and Sonajuli. The varieties like BCC-22 & IGCOL-8 showed group distinctness of having numbers of suckers in the range of 6-10. The

varieties like Jhankri, BCC-35 showed group distinctness of have cup-shaped predominant position of leaves while Panisaru-1, Muktakeshi, Sonajuli having erect apex down position of leaves with green stem in contrast to purple stem with erect apex down position of leaves in BCC-39. Jhankri was observed with unique distinctness of having sinuate leaf blade margin pattern. Muktakeshi and Sonajuli were observed with group distinctness of having yellow-green leaf blade colour. BCC-38 and BCC-22 were observed with group distinctness of having dark green leaf blade colour, while remaining varieties were having light green colour. While observing leaf blade margin color, group distinctness with purple colour was observed in Telia, BCC-38, Sree Rashmi, KSS-2 and Sree Pallavi. In varieties like IGCOL-8, Sree Kiran and BCC-22, group distinctness was observed in petiole junction pattern of purple ring with light green colour. Telia, BCC-35 and BCC-38 observed with group distinctness of purple petiole junction. Leaf blight intensity was more in Telia. and flowering was frequent in variety Muktakeshi. Post harvest observations revealed most of the varieties of eastern region are of eddoe types in contrast to dasheen types of eastern, northern, northeastern regions and exotic taro.



In Elephant Foot Yam gene bank was established with 18 varieties. Among the different varieties, IGAM-2 showed dark green colour of the stem with white patches. Varieties like IGAM-1 and Sree Padma showed group distinctness of having stem of green colour with white patches and brown spots. Seven out of 18 varieties showed collar diameter of less than 10 cm and similarly five out of 18 varieties showed internodes length more than 10 cm. All the varieties observed with plant height of greater than 50 cm. Sree Athira and Bidhan Kusum showed group distinctness in having smooth pseudostem texture. NDA-5 and Gajendra also observed with group distinctness of yellow / yellow green leaflet colour. Gajendra showed

individual / unique distinctness of green vein colour, while remaining all were having white vein colour. In NDA-5, the rachis were having purple spots with white patches on green colour stem as unique / individual character. Rachis pattern found to be V and Y types. The colour of the rachis junction also offered uniqueness of having green colour with purple spots in NDA-5. The varieties like Kovur and NDA-4 were found to have group distinctness in having variegation in rachis colour. All varieties were having low waxiness except five varieties. Post-harvest tuber morphology showed smooth skin without cormels in contrast to rough skin with varying number of cormels in Sree Padma, Sree Athira and breeding line OL-5/80.

## Seed Spices

### 4.1.21 NRC on Seed Species, Tabiji, Ajmer

Fennel and Cumin are the two additional seed spices which are the mandate of the NRC for the purpose of developing DUS guidelines and registration under PPV&FR Act, 2001. The centre has maintained and characterized 24 reference varieties of coriander and 21 reference varieties of fennel which were mainly procured from SAUs and ICAR institutes. The DUS guidelines for coriander and fenugreek were approved in the meeting and submitted to DAC for the notification in the Gazette of India for making eligible for the purpose of registration after their approval by the Task Force Chaired by Dr. G. Kalloo, Former DDG (Hort.), ICAR.



## Aromatic Plants

### 4.1.22 Directorate of Medicinal and Aromatic Plants Research (DMAPR), Boriavi, Anand

Under the project entitled “*Development of DUS Guidelines and Strengthening of DUS Test Centres for Laboratory and Field Facilities, Digitalization and Training in Medicinal, Aromatic and Seed Spices*”, DMAPR has already provided DUS guidelines for

Isabgol. However, the preparation of DUS guidelines for Kalmegh [*Andrographis paniculata* (Burm.f.) Wall. ex. Nees] was also taken up during the current year. DUS descriptors were identified in 10 morphological characters and accordingly distinct lines were developed. The major characteristics considered were plant habit (erect or trailing); leaf type:narrow (long narrow or short narrow); broad (short broad or long broad); leaf colour (light green or dark green); leaf lamina (inwardly closed or outwardly curved); branching pattern (open or close); plant canopy shape (conical, round); flowering pattern (early, medium and late); inflorescence type (flower buds closely arranged or distantly arranged); plant height (tall, normal, dwarf), stem internode length (normal or compact), plant canopy shape (conical, round); flowering pattern (medium and late); inflorescence type (flower buds closely arranged or distantly arranged); plant height (tall, normal, dwarf) and stem internode length (normal or compact). Accordingly, 45 distinct reference varieties were identified.

During 2013-14, nursery of the identified distinct lines were developed and transplanted in the field on 12 July, 2013 for the confirmation of the identified characters. One set of the identified lines were planted at BCKV, Kalyani, for stability testing across locations. Among the characters, plant habit (erect or trailing); leaf type narrow (long narrow or short narrow); broad (short broad or long broad); leaf colour (light green or dark green); branching pattern (open or close) and flowering pattern (early), plant canopy shape (conical, round); flowering pattern (medium and late); inflorescence type (flower buds closely arranged or distantly arranged) and plant height (tall, normal, dwarf) were confirmed. One character i.e., stem internode length (normal or compact) was found not stable in plants transplanted in the middle of July. The character was shown in late transplanted line and hence was kept under observation.

One new character was identified for DUS descriptor during the year i.e., broad leaf at the primary nodes. DMAPR AP 1, 2, 19 were long broad leafed type and DMAPR AP 24 was short broad leaf type (Fig 1). DMAPR AP3 had long narrow leaves and DMAPR AP 6 had short narrow leaves (Fig 1). DMAPR AP 6 and 19 had light green colour and DMAPR AP 3 and 42 had dark green leaves (Fig 2). DMAPR AP 46 had broad leaf at the primary nodes (Fig 3). Branching pattern of open type was found in DMAPR AP 13, 22 and close type were found in DMAPR AP 19, 35 (Fig 4). DMAPR AP 37 was early flowering type and DMAPR AP 1 and 2 were late flowering types.



Figure 1: Leaf type, a) DMAPR AP 19 (long broad); b) DMAPR AP 24 (Short broad); c) DMAPR AP3 (long narrow); d) DMAPR AP 6 (Short narrow).



Figure 2: Leaf lamina color, a) DMAPR AP 19 (light green); b) DMAPR AP 3 (dark green).



Figure 3: DMAPR AP 46 (broad leaf at the primary nodes).



Figure 4: Branching pattern, a) DMAPR AP 22 (open); b) DMAPR AP 19 (close)

#### 4.1.23 Task Force Meeting on Tea at Tocklai Experimental Station, Jorhat

A project entitled "*Morphological characterisation of released tea varieties and registration with the Protection of Plant Varieties & Farmers' Rights Authority*" was assigned to Tocklai Experimental Station, Jorhat. Task Force meeting for validation of DUS descriptors for tea at Tocklai Experimental Station, Jorhat was held on 23 August, 2013. Dr. R.R. Hanchinal, Chairperson, PPV&FRA participated in the meeting along with Dr. Ravi

Prakash, Registrar and Deputy Registrar, Guwahati. The tea descriptors were discussed and suggestions were given by members for further amendments in the guidelines being developed for tea. After suitable amendment, finalised guidelines was forwarded to PPV&FRA.



## Plantation Crops

### 4.1.24 Indian Institute of Horticultural Research, Bengaluru (Arecanut)

IIHR is the nodal centre for developing DUS testing guidelines for arecanut (*Piper betel*) and Bidhan Chandra Krishi Viswavidyalaya (BCKV), Kalyani as Co-Nodal centre. During the reporting period, 14 new landraces and one released variety were added to the existing collection having 110 varieties. Ten new landraces from Karnataka (Malnad region), four collections from Tamil Nadu and one released variety Sirugamani 2 from SRS, Sirugamani were collected. A total of 110 germplasm of areca nut collected from different AICRP centres and through secondary sources and explorations are maintained under Areca nut support at CHES, Hirehalli. Characterization of 45 germplasm lines was carried out for all the traits at IIHR. These include four released varieties and 30 FV/VCK and 11 germplasm lines. Data on 47 putative DUS traits was recorded in 45 germplasm lines. They comprised 25 quantitative traits and 22 qualitative traits. Out of which, seven traits are deleted as there is no significant variation among the lines. Characterization for 25 quantitative traits and 15 qualitative traits has been carried out. The expression of the traits is found to be stable for two years under open conditions. Example varieties were identified for all the traits. Digitization of the all putative qualitative DUS traits has been carried out.

### 4.1.25 Bidhan Chandra Krishi Viswavidyalaya (BCKV), Kalyani (Betel vine)

The project entitled “*Formulation and validation of*

*DUS testing guidelines for betelvine (Piper betle L.)*” was entrusted to IIHR, Bengaluru as Nodal centre and BCKV as Co-Nodal centre by the Authority during the reporting year. The objectives are: Augmentation of existing collection of germplasm (unique land races, cultivars of common knowledge, released varieties and hybrids). Characterization of different betel vine genotypes; and to formulate draft guidelines for DUS testing.

A total of 54 reference varieties procured from various centres and SAUs were under maintenance breeding and characterization for identification of DUS descriptors for developing guidelines at two places at BCKV. Twelve new germplasms collected from Nodal Centre have been added to the existing collection during this year. Some common germplasms have been selected for characterization under the project at both the centers. The selected germplasm contains 12 accessions in Bangla, four accessions in Sanchi, three accessions in Meetha group and nine accessions in Kapoori group.

During previous year, a consultation with Nodal center, 46 quantitative traits and 17 qualitative traits have been identified for characterization of available germplasm. In all the traits, 25 quantitative and 14 qualitative traits have been identified for possible DUS traits under open conditions at IIHR. These characters are associated with orthotropic and plagiotropic shoot as well as with reproductive characters. In West Bengal, betel vine is cultivated under artificially erected structure, known as *Boroja* which is a kind of hut with its sides and roof made of jute stick or straw on a light frame work of bamboos. It provides shade and high humid environment to the crop needed for its growth. In *Boroja* condition, lowering of the vine is practiced when length of the vine going to exceed the height of the *Boroja* and only orthotropic shoots are encouraged, and there is no flowering in West Bengal condition. So here, only characters associated with orthotropic shoots were studied and all the characters on orthotropic shoot have been recorded to use future possible DUS traits.

During current year, total 17 characters were studied, viz. Adventitious root production (no/node), first root initiation at node, vine diameter (cm), orthotropic shoot internodal length (cm), orthotropic leaf petiole length (cm), orthotropic leaf length (cm), depth of lobe (cm), leaf lobe width (cm), lobe depth/width of lobe, orthotropic leaf width (cm), orthotropic leaf L/B ratio, orthotropic leaf specific weight (mg/mm<sup>2</sup>), orthotropic leaf thickness [ $\mu$ m], orthotropic leaf apex angle (Degree), shoot base colour (between 3-4 node), stripe colour and orthotropic leaf lamina colour. To categorize the betel vine landraces, the magnitude ranges for different characters as fixed by

the nodal centre have been followed. Characterization of existing germplasm is done. The morphological characters of different land races present at BCKV centre were studied during the month of August-November, 2013. The qualitative and quantitative characters of leaf, stem and adventitious root have also been recorded.

### Forestry

#### 4.1.26 Dr. YS Parmar University of Horticulture and Forestry, Nauni, Solan

##### Poplar



**Deptt. of Tree Improvement and Genetic Resources:** The Authority has assigned a project entitled “*Establishment of Clonal Bank (Nursery) and DUS specific characterization of Poplar germplasm*” to the Centre. During the reporting year, the centre has identified 15 species of the for characterization and maintenance breeding are given as under:

**Table-61 : Progress of maintenance breeding / chracterization**

Name of the species	No. of varieties	Source (own released/ICAR/SAU)
<i>Populus deltoides</i>	15 L6105, L30/06, L621/84, G-48 (Uttarakhand Forest Department) S7 C15, S7 C8, WSL 22, WSL 39(Wimco Seedlings Rudrapur, UK) 6503, 5503, 1007, L200/86 (Department of TIGR, UHF, Nauni) PL-3, PL-6, PL-7 (Department of Forestry, PAU, Ludhiana)	SAU, Forest Deptt., WIMCO

#### 4.1.27 Himalayan Forest Research Institute (HFRI), Shimla (Pinus and Deodar)

The Institute has been assigned a project entitled “*Validation of DUS descriptors for developing DUS guidelines for Pinus roxburghii and Cedrus deodara, two temperate timber forest species*”. During the reporting period, a meeting of the Task Force was held on 11 December, 2013 at New Delhi and as per the



recommendations, surveys of the populations of South Indian and North Indian states were carried out. The species found in south India are *Pinus patula*, *P. karibeeae*, *P. kesiya*, *P. kinaster* and *P. kesiya*. Population of *P. roxburghii* and *C. deodara* were not found. In the north-east Indian States, *P. roxburghii* was found mixed with Sal in Sikkim and as pure crop in Dirang (Munna camp) in West Kameng district of Arunachal Pradesh. The growth of the trees was moderate with smooth to fissured bark, light green needles and round crown. The yield assessment of the selected populations and wood quality was assessed. DUS guidelines available in UPOV will also be referred to while formulating the guidelines for the above mentioned trees.





#### 4.1.28 Rain Forest Research Institute (RFRI), Jorhat (Bamboo)

During the reporting year, the institute identified and finalized the DUS descriptors for the bamboo species, *Bambusa balcooa* and *Dendrocalamus hamiltonii* under the project entitled “*Development of DUS descriptors and variability studies on Bambusa balcooa and Dendrocalamus hamiltonii*”. The project was assigned with following objectives:

- Documentation of morphologically distinct characters of *Bambusa balcooa* and *Dendrocalamus hamiltonii* for development of DUS descriptors,
- Establishment of germplasm bank of *Bambusa* and *Dendrocalamus* species, and
- Development of database of documented characters of the selected accessions.

A Task Force for finalizing of DUS guidelines for both the species was also constituted under the Chairmanship of Dr. N. B. Singh, Director (Ext.), Dr. Y.S. Parmar University of Horticultural and Forestry, Solan. Germplasms / Accessions were collected from different locations of Arunachal Pradesh, Assam, Manipur, Nagaland, Meghalaya during the previous years. Survey and collection of the germplasm of *B. balcooa* and *D. hamiltonii* was carried out from bamboo growing areas of North-East India as per guidelines described by Hawkes (1980). In May-June, 2013, Germplasm Bank was established at RFRI Campus for both the species. Thirteen numbers of *B. balcooa* and eight numbers of *D. hamiltonii* were planted. The samples have been collected from farmers field, homestead gardens/ back yard or wild habitats of various localities of North-East region Geographical data e.g. latitude, longitude, altitude etc. have also been recorded.

**Table-62 : Progress of Germplasm / Accessions surveyed**

Particulars	Total no. of accessions	Assam	Meghalaya	Arunachal Pradesh	Nagaland	Manipur
<i>D. hamiltonii</i>	27	10	5	5	5	2
<i>B. balcooa</i>	26	23	–	2	1	–

The Technical Advisory Group was constituted to evaluate and finalize DUS test guidelines by scanning global information, the basis on which varieties of these plants can be registered in India will be finalized.

#### 4.1.29 Forest College and Research Institute (FCRI), Tamil Nadu Agricultural University, Metupalayam

Under the project “*Developing DUS descriptors and test guidelines for tree species of Neem, Karanj and Jatropha*” the institute identified and validated the DUS descriptors in all the three species and also formulated draft DUS guidelines. The objectives of the project are as under:

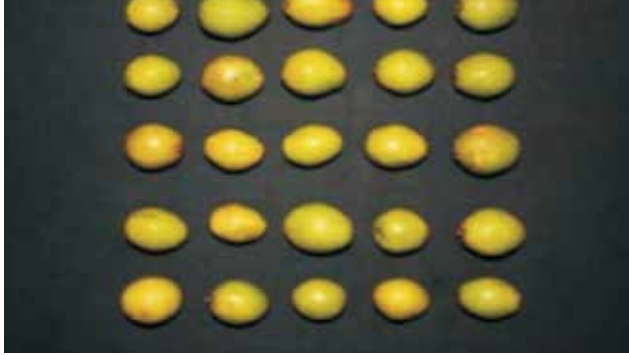
- Developing DUS descriptors for Jatropha,
- Characterization of developed descriptors for neem, karanj, jatropha and development of additional descriptors,
- Development of reference collection for the targeted tree species, and
- Developing draft guidelines for DUS testing.

A Technical Advisory Group comprising of five members including Chairman of the Task Force Dr. B. Gurudev Singh, Head, Genetics Tree Breeding, IFGTB, Coimbatore was constituted for finalizing the draft DUS guidelines and registration of Neem, Karanj and Jatropha varieties by scanning global information and find out the basis on which varieties of these plants will be registered in India. In Neem, six descriptors have been identified for grouping of varieties, whereas in Jatropha, 31 descriptors and in Karanj, 20 descriptors have been identified for grouping of varieties. Draft guidelines on the basis of identified traits for all the three forest species have been formulated and shall be discussed and finalized in the meeting of the Task Force.

#### 4.1.30 Institute of Forest Genetics & Tree Breeding (IFGTB), Coimbatore (Tectona & Melia)

Under the project “*Development of descriptors and DUS testing guidelines for indigenous forest tree species (Tectona grandis and Melia dubia) and establishment of Field Gene Bank*” the institute was given the mandate to develop DUS guidelines for the forest tree species and also to establish the Field Gene Bank for the above mentioned tree species with following objectives:

- To study the tree morphological characters of different populations/ clones for identification of distinct and unique characters in Teak and Melia,
- To identify the stable characters across different locations/years in Teak and Melia, and
- To establish germplasm bank for Teak and Melia with different population/clones as reference collection.



Variations in fruit characters

For developing DUS test guidelines for teak, visits were made to Seed Production Area (SPA) and Permanent Preservation Plot (PPP) in Kerala. The SPA at Sankarankode and PPP at Conolly, Nilambur are few of the oldest planted teak plots. Observations on various tree characters were recorded. In Tamil Nadu, teak plantations in Chengampally



Clonal trials of Melia

and Peramanallur were visited. Along with natural and planted teak plantations in Cherupuzha, Nellikutha, and Parambikulam. During the visit to the Clonal Seed Orchard of teak at Top Slip, Tamil Nadu and Walayar, Kerala, studies on the natural and plantations of teak showed that the variability within a plantation was found to be low with respect to all the leaf, bark flower and fruit characters. Some amount of variability was observed in the natural populations. The tree stem form, leaf, branching habits and reproductive characters were found to be discriminating characters. In case of *Melia dubia*, preliminary studies were conducted for developing DUS descriptors and DUS test guidelines. Variation in morphological characters in leaf, stem, bark and reproductive structures were studied.

Studies were also conducted in clonal trials for quantifying the uniformity and stability of the selected morphological traits.

### Teak



Study on the natural and plantations of teak showed that the variability within a plantation was found to be low with respect to all the leaf, bark flower and fruit characters. Some amount of variability was observed in the natural populations. Further, the area under natural teak population was also low and in patches. However, studies were carried out for identification of DUS characters in natural forests and clonal trials present in Tamil Nadu and Kerala. The tree stem form, leaf, branching habits and reproductive characters were found to be discriminating characters.

#### 4.1.31 Dr. Y.S. Parmar University of Horticulture & Forestry, Solan (Willow)

The Authority entrusted project entitled “*Establishment of clonal bank (Nursery) and DUS specific characterization of Willow germplasm*” to the

Department of Tree Improvement and Genetic Resources of the University with the following objectives:

- Establishment of clonal bank of willow clones in experimental area of the University,
- Identification of suitable DUS specific descriptors in willow for developing DUS guidelines, and
- Molecular profiling in selected germplasm.

During the reporting period, the nodal centre procured genotypes / clones from different countries and developed new hybrid through control breeding and selection.

## Forage Crops

### 4.1.32 Punjab Agricultural University (PAU), Ludhiana (Oat, Cowpea and Guinea Grass)

PAU is one of the Co-Nodal centre for guinea grass under the project *“Developing guidelines for conduct of DUS test for oat, cowpea and guinea grass”* jointly given to IGFRI, Jhansi, and GBPUA&T, Pantnagar. The main objectives of the project are identification of agromorphological characters for DUS testing on guinea grass, reference/example varieties/lines and validation of DUS descriptors and procedures and identification of grouping characteristics. With regard to the progress made by PAU in guinea grass during the reporting year, more than 25 DUS traits have been identified for characterization of guinea grass genotypes. These putative traits have been employed for DUS testing on 22 available germplasm lines. Eight guinea grass genotypes viz; BG-1, BG-2, BG-4, Hamil, Haritha Shree, Co 1, Co 2, Co3 representing the national genetic diversity have been selected to be the candidate genotypes for DUS characterization. The planting material (rooted slips) of reference genotypes was obtained from IGFRI and are being multiplied for further evaluation in replicated trial.

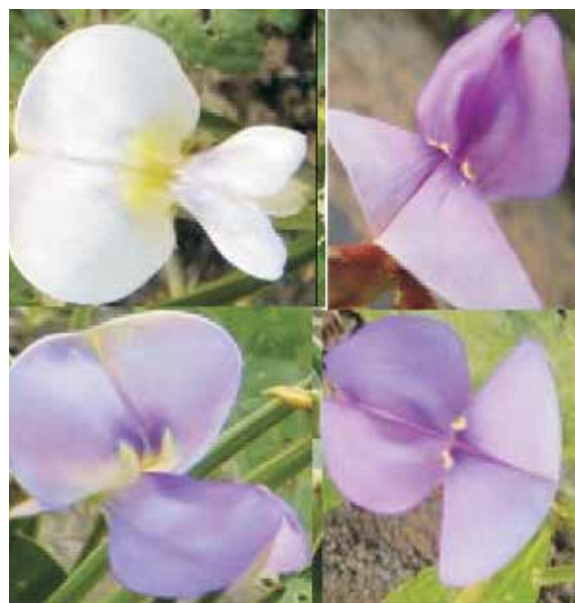
**Table-63 : Progress of Genotypes of Guinea Grass under maintenance breeding in 2013-14**

Crop	No	Name of varieties
Guinea grass	22	PGG518, PGG616, PGG669, PGG641, PGG14, PGG702, PGG101, PGG9, PGG19, PGG635, PGG617, PGG638, PGG618, PGG620, PGG664, PGG655, PGG692, PGG549, PGG722, PGG654, PGG729, PGG710

### 4.1.33 Govind Ballabh Pant University of Agriculture & Technology (GBPUA&T), Pantnagar

Under the project entitled *“Developing guidelines for the conduct of DUS test for oat and cowpea”* GBPUA&T, Pantnagar has been designated as Co-Nodal

centre and IGFRI, Jhansi as Nodal centre. During Kharif 2013, 28 released varieties of cowpea were evaluated and characterised with respect to different characteristics as per the cowpea descriptors finalized in consultation with the Nodal Centre of this Project at IGFRI based on cowpea descriptor published by IBPGR, Rome, Italy. These varieties were classified based on leaflet shape, into four groups viz., globose (9), Sub-globose (14), Sub-hastate (1) and Hastate (4); time of first flowering viz., early (6), medium (19) and late (3); flower colour viz., white (5), light reddish purple (9), medium reddish purple (6) and purple (4); anthocyanin colouration on pod viz., present (2) and absent (26).



Similarly, 23 oat varieties were evaluated during Rabi 2013-14 and classified based on early plant growth habit, into three groups viz., erect (3), semi-prostrate (18), prostrate (2); days to 50 % panicle emergence viz., very early (2), early (6), medium (14), late (1), very late (nil); orientation of panicle branches viz., unilateral (7), semi-unilateral (4) and equilateral (12); plant height viz., short (2), medium (3), tall (12) and very tall (6) groups.

### 4.1.34 Indian Grassland and Fodder Research Institute (IGFRI), Jhansi

A project entitled *“Developing guidelines for the conduct of DUS test in oat, cowpea and guinea grass”* has been entrusted to IGFRI as the Nodal centre and GBPUA&T, Pant Nagar and PAU, Ludhiana as the Co-Nodal centres. During the reporting year, 27 oats varieties released/identified for different agro-climatic zones of the country were characterized by using proposed descriptor

for 40 qualitative / quantitative traits. The observations recorded include six at pre-flowering, 16 at flowering, 10 at maturity and seven at post-harvest stage. Among observed traits, five were qualitative and remaining were either quantitative or pseudo-quantitative in nature. Wide alternative expressions of all traits were recorded except for stem solidness, stem colour, attitude of spikelet and awn shape where all varieties showed similar expression.



Reference varieties for the expressions of different traits were identified and for grouping of varieties number of nodes on main culm, panicle orientation and attitude of panicle branches along with plant height and hairiness on primary grain base were found to be most useful. The guidelines will be finalized based on data made available in the subsequent another two years.



**Table-64 : Reference varieties of Oat**

JHO -822	JHO 99-2	HFO -114
KENT	RO -19	JHO 2001-3
OS-7	PLP -1	HJ -8
UPO -94	JO -1	OS -346
JHO -851	NDO -1	SKO -20
OS -6	JHO -2004	JHO 99-1
UPO -212	JO -03-93	JO-03-91
OL -125	SKO -96	SKO -90
SABAZAR	NDO -2	OL-9

In cowpea, 28 varieties including six vegetable type, 20 fodder type and two grain type were characterized by using a provisional descriptor for the development of guidelines for conducting DUS in cowpea. Descriptors included 24 quantitative and qualitative traits. Most of the



varieties could be distinguished by using descriptor and reference varieties for each alternate expression of the identified traits. Grouping of varieties under flower colour, pod length, pod twisting, pod anthocyanin colouration, seed shape and seed colour appear to be most suitable. However, the final grouping traits and guidelines will be developed after another two years of validation at Pantnagar and Jhansi locations.

**Table-65 : Reference varieties of Cowpea**

1	UPO – 607	15	CL – 367
2	Kashi Nidhi	16	Pant Lobia -1
3	Kashi Sudha	17	UPC – 287
4	Kashi Gauri	18	C – 74
5	Kashi Shyamal	19	UPC – 5286
6	C – 88	20	UPC – 4200
7	Kashi Unnati	21	UPC – 625
8	UPC – 9202	22	UPC – 622
9	UPC – 628	23	UPC – 618
10	Kashi Kanchan	24	BL – 1
11	UPC – 621	25	IL – 1177
12	Pant Lobia – 2	26	BL – 2
13	UPC – 5287	27	Kohinoor
14	UPC – 8705	28	EC – 4216

#### 4.2 Project Appraisal Committee (PAC) at PPV&FR Authority

The first meeting of the newly constituted PAC was

held on 19 February, 2014 at New Delhi. The committee consisted of Dr. M. B. Chetti, Director of Extension, UAS, Dharwad, Dr. S. J. Patil, Head, Agro Forestry, UAS, Dharwad, Dr. J. S. Chouhan, ADG (Seeds), ICAR; and all the three Registrars and both Joint Registrars of PPV&FRA. The Chairperson and Registrar General also participated in the meeting. Out of nine project proposals, the PAC approved six projects in principle and recommended five projects for funding and deferred one project proposal for the revision and reconsideration. Remaining three project proposals were not approved.





## 5. Plant Variety Journal of India, National Register of Plant Varieties and Publications of the Authority

In accordance with Rule 2(g) of PPV&FR Rules, 2003 the Authority publishes its official journal **“Plant Variety Journal of India”** (PVJ) as a monthly bilingual (Hindi & English) publication. It is made available to public on the first working day of each month on its official website. This Journal has the equivalent status of a gazette under the Regulations, 2006. The contents of journal includes official and public notices, passport data of plant varieties, DUS test guidelines of crop species, details of certificate of registration and other related matters.



### 5.1 National Register of Plant Varieties

The PPV&FR Authority, in compliance with section 13 of the PPV&FR Act, 2001, has opened the National Register of Plant Varieties at the Headquarters of the Plant Varieties Registry. It contains complete details of the names of all the registered plant varieties along with the names and addresses of the respective breeders, denomination, specifications, salient features etc. During the period of reporting, 330 varieties including 60 new varieties, 148 extant notified varieties, 46 Extant VCK and 76 belonging to Farmers' Varieties which have been registered under the Act, entered and documented. A copy of the National Register of Plant Varieties maintained at Headquarters has also been provided to branch offices at Guwahati and Ranchi.

### 5.2 Publications of the Authority

In addition to *Plant Variety Journal of India*, some

brochures on “PP&FR Act, 2001”, “Frequently Asked Questions” and “Farmers' Rights” were published and distributed in several meetings, training-cum-awareness programmes, workshops etc. The other brochures and posters, annual report and ad-hoc publications were prepared and published by the Authority in Hindi also. The Authority maintains its website in bilingual mode. The DUS test guidelines were published regularly by the Authority in both the languages. During the current year, 12 crop specific guidelines have been published and notified by DAC. These crop species represent cereals, spices, fruits and beverages. The letters and official communications received in Hindi were responded in Hindi. The officers of the Authority also delivered lectures in Hindi and English as per the requirement of the audience / occasion.

The Authority revised its earlier publications i.e. Agro Biodiversity Hotspots in India (Conservation and Benefit Sharing in 2 volumes by Dr. M.P. Nayar, A.K. Singh and K. Narayanan Nair) as **“Cultivated Plants and their Wild Relatives in India – An Inventory”** compiled by Dr. A K Singh, R S Rana, Bhag Mal, Brahma Singh and R C Agrawal. Another publication brought out by Authority is entitled “Compendium of Varieties Registered under PPV&FR Act, 2001 (Volume: I, 2009-2012)”. Both the publications were released on the occasion of 5<sup>th</sup> Plant Genome Savior Community Awards held on 22 May, 2013.

### 5.3 Library

The Authority has been maintaining a library for the reference of the staff/employees. It has 652 books (bilingual in Hindi and English) as on 31 March, 2014 on various subjects including general agriculture, horticulture, intellectual property rights, plant breeding, bio-diversity conservation, genetics, seed science and technology, literature, Rules and Regulations for Central Govt. employees, legal matters etc. The library also subscribes to a number of journals on agriculture, legal and administration. The Library also hosts 69 publications of the Authority on general and crop specific DUS test guidelines, Plant Genome Saviour Community Awards DUS guidelines and application forms, agro-biodiversity hotspots and several awareness generation materials on farmers' rights. Several of the Authority's publications are bilingual in Hindi and English.





## 6. Development of Databases, IINDUS, NORV and Website

### 6.1 Databases

The Authority maintained and updated the two databases namely Indian Information System as per DUS Guidelines (IINDUS) and Notified and Released Varieties of India (NORV) for the selection of most similar reference varieties for DUS/GoT trials and also used for verifying the denomination and notification status. NORV database contains the details of the released plant varieties by the Central Variety Release Committee (CVRC), Agricultural Research Institutes and State Agriculture / Horticulture Department etc. and is mainly used for the verification of the release details of the varieties claimed under the extant-notified category.

### 6.2 Website



The website of the Authority ([www.plantauthority.gov.in](http://www.plantauthority.gov.in)) is maintained in Hindi and English. The website contains information regarding Plant Variety Registry

related information in which registration process, list of crop species eligible for registration, crop DUS guidelines, draft DUS guidelines, list of DUS-Centre, fees, forms, seeds / planting material requirement, status of applications, Gazette Notifications, Plant Variety Journal information are available. Apart from this the homepage of the website also contains information regarding members of the Authority; overview of the PPV&FR Act, 2001; recent publications; important judgments, news items of the Authority, video films, photopedia, vacancies, announcements, tenders and other relevant information. It is regularly updated with the latest information.

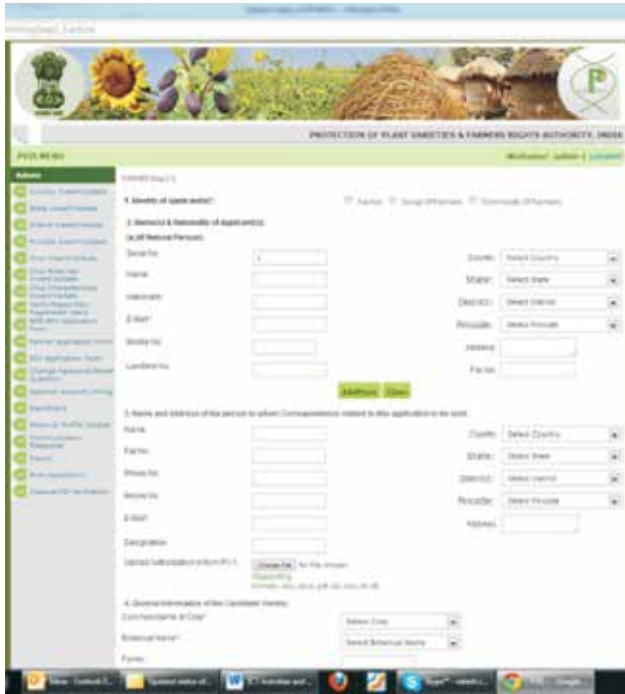
### 6.3 Development of Portal of the Authority



Many features which are necessary to make the website user friendly and interactive are not available in the existing static website, so that effective and dynamic display of data cannot be featured. To incorporate all above features, M/s Sahara Next, a NICSI empanelled firm is developing the Web Portal of the Authority. The web portal of the Authority shall contain content management features having design features such as XHTML and CSS compliant, auto-generated menu, theme based user login, design protected from content editors and multiple content

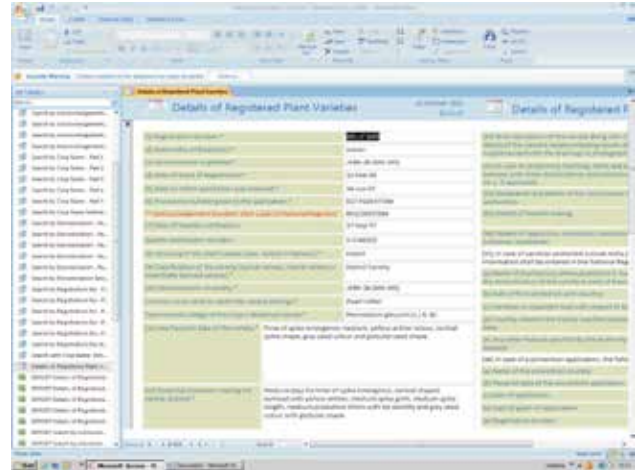
areas on one page, facilities of dynamic content search, polls, picture album, thumb nail, news and other features of use. It will also have the Search Engine Optimization (SEO) of friendly URLs which will enable us to generate more awareness about the Authority. Portal sheet also have multiple features/display such as crop guidelines, image maintenance, provision of user login, e-journal, downloads, etc. The RSS feed will enable real time synchronization with other websites. It will also have bilingual data segregation and integration with PVIS. The development environment of the application will be PHP, Drupal, MySQL, Apache, HTML and Linux. The prototype of portal has been loaded on a test server and the proposal for its implementation on NIC server has been submitted.

#### 6.4 Online filing of applications for registration

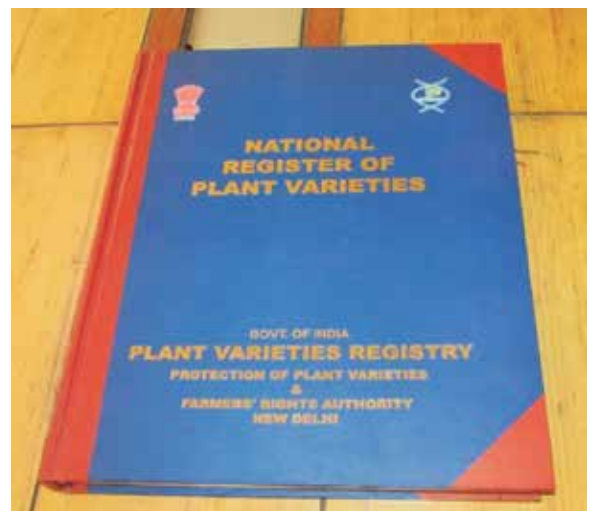


The Authority initiated registration of plant varieties in 2007 with 12 crop species which has been extended to 79 crop species at present. The Authority is accepting the applications filed by the applicants along with prescribed fee (fee deposited in the form of demand drafts) either by hand or by postal services. Development of online application submission and payment processing for registration process of plant varieties will facilitate/permit the applicants to file their applications online in the Authority and also to pay the prescribed fee through 'Payment Gateway' which may be either through Debit card / Credit card / Net Banking. The bugs are being fixed by the company in online system.

#### 6.5 National Register of Plant Varieties in digital format



The database of all the registered varieties in the PPV&FR Authority is maintained in a Register known as National Register of Plant Varieties as mentioned in Para 5.1 of Chapter-5 of PPV&FR Act, 2001. The same database is also maintained in digital form in e-National register. Through this software one can search data by registration number/crop name/ denomination and can generate report. There are many important entries like registration number, nationality of breeder, date of grant of registration certificate, denomination as granted, date of gazette notification, essential characters making the variety distinct etc in this software. The data back-up of this software can be taken in any external storage devices.



#### 6.6 Information and Communication Technology (ICT)

Document Management System for retrieval of

information of scanned files has been implemented. This system helps to store, manage, secure and distribute content in a consistent manner, regardless of content type, format. Authority has classified different files and has given access to various users based on their roles.

In the Authority Website, a separate section has been created related to Registry which consists of:

- Registration Process
- List of Registration open for 79 crops/species
- Crop DUS Guidelines
- DUS Guidelines
- List of DUS-Centers
- Fees Details
- Forms
- Seed / Planting material requirement

- Status of Applications
- Important Gazette Notifications
- Plant Variety Journal of India

The various forms required by the users have also been made available in the website and can be downloaded, the details are given in **Annexure-IX**.

On a regular basis, the Authority also put a copy of its tenders on India Government Tender Information System (<http://tenders.gov.in>), update General Pool Residential Accommodation (<http://gprra.nic.in>), quarterly reports of RTIs (<http://cic.gov.in>), New Pension System Contributions Accounting System (<https://npscan-cra.com/CRA/>) , Representation of Reserved Categories in Posts and Services in Govt. of India Monitoring System (<http://www.rrcps.nic.in/>). Authority also maintains a e-National Register of the Registered Varieties.



## 7. Legal Cell and RTI Matters

### 7.1 Legal Cell

The Legal Cell of the Authority has successfully defended all cases filed against the Authority. Further, in cases of quasi-judicial proceedings before the Registry and Authority, legal inputs were rendered and daily order sheets were dispatched to the parties promptly. During the reporting period, none of the orders passed by Authority or Registrar were set-aside. The Hon'ble Supreme Court by order dated 7 January, 2014 has disposed of the SLP Nos.13167/2012, 13276/2012, 13286/2012 & 13289/2012 and has transferred four cases from Hon'ble Andhra Pradesh High Court to Hon'ble Delhi High Court.

During the reporting period, 33 cases were pending against the Authority out of which four were disposed off, and 29 cases are pending against the Authority as on 1 April, 2014. The details of forum and number of cases pending for adjudication are given as under:

Central Administrative Tribunal	High Court	Supreme Court
4	23	2

The following Gazette Notifications were published:

- Gazette Notification No. S.O. 1126 dated 10 June, 2013 regarding Notification of nomination of non official Members on the PPV&FR Authority.
- Gazette Notification No. S.O. 2183 dated 7 October, 2013 regarding Notification for appointment of Dr. R. R. Hanchinal, Chairperson, PPV&FR Authority.

### 7.2 Parliamentary and other related matters

During the reporting year, the Authority received two Lok Sabha questions one Starred and the other Un-starred. Draft replies / information were submitted to Department of Agriculture & Cooperation, Ministry of Agriculture, Government of India for preparation of the replies. Comments were also provided on several Cabinet Notes received from various Departments including Ministry of Environment and Forests.

### 7.3 Rights of Information (RTI)

As per RTI Act, 2005, the PPV & FR Authority has nominated officers and first Appellate Authority for furnishing information to the concerned persons. The details of the designated officers are available on Authority's website under the menu heading RTI. Compliance of provisions contained under section 25 (2) of RTI Act, 2005 for submission of information to Chief Information Commissioner (CIC) is being done. During the period, the Authority received 28 applications either directly or through transfer from other Departments seeking information under RTI Act, 2005. The information sought was made available within the stipulated time. No application is pending before first Appellate Authority or Chief Information Commissioner (CIC). One case relating to Shri D.S. Mishra, Joint Registrar was challenged in the Hon'ble Information Commissioner Shri Sharat Sabharwal on 6 January, 2014 wherein it was directed to CPIO to provide the information to Shri Mishra as per his application under RTI within 30 days. The requisite information was provided under intimation to CIC office.



## 8. Training-cum-awareness Programmes

The training and awareness is an important core activity of the Authority. The awareness about this Act and its provisions particularly the Farmers' Rights among stakeholders is not upto the desired level. The Authority has been constantly advised at different fora to undertake massive awareness programme to educate the civil society and farmers to disseminate its provisions to the relevant stakeholders in their own interest. The Authority took a special drive of training and awareness programme in the agro-biodiversity hotspots particularly the North-Eastern Hills region, Odisha, Chhattisgarh, Jharkhand, Western Ghats, Bundelkhand etc. The network of the DUS centres have also been advised to make use of their resources in this direction for the sensitization of the farmers visiting their research stations. The highlights of the training-cum-awareness programme are as under:

### 8.1 Review meeting at GKVK, University of Agricultural Sciences (UAS), Bengaluru

Dr. R.R. Hanchinal, Chairperson had a meeting on Protection of Plant Varieties in small millets organized by All India Coordinated small millet Improvement Project (AICSMIP) at **University of Agricultural Sciences (UAS), GKVK, Bengaluru** on 19 May, 2013. Dr. M.V. Channabyre Gowda, Project Coordinator, AICSMIP, apprised Chairperson about the progress of development of DUS descriptors of small millets at their centre. Dr. Hanchinal suggested to bring out a booklet on farmers varieties in small millets along with special features and the performance with reference to climate change. Chairperson also discussed modalities of conducting a State level awareness programmes on PPV & FR Act, 2001 with the Vice-Chancellor.

### 8.2 Training-cum-Awareness Programme at Krishi Vigyan Kendra, Ujhani, Badaun



A one day awareness workshop was organized by the Humana People to People India (HPPI) on 30 May, 2013 at the Krishi Vigyan Kendra, Ujhani, Badaun, Uttar Pradesh. The Programme was coordinated by Shri DP Gurjar, Project Coordinator, HPPI. About 120 farmers of neighbouring villages participated in the workshop. Dr. A.K. Singh, STO participated in the event and delivered lectures on '**Farmers' Rights and registration of farmers' varieties**' and "**Filing of application for registration of farmers' varieties**". Application forms were distributed to the farmers on the spot who were then requested to fill the application forms and the difficulties faced by them were sorted out there itself. Brochure on Farmers' Rights and FAQs published by the Authority were also distributed. Video films on '**Nukkad Natak**' and '**Agro-biodiversity, Plant Genome Saviour Community Awards, Rewards and Recognition**' and Farmers' Rights were also screened in the workshop.

Another workshop on Farmers' Rights at Bangarpura block of Unnao district of Uttar Pradesh was organized on 27 June, 2013. About 100 farmers of adjoining 25 villages participated in the Workshop. Shri Babulal Yadav and Shri Yogesh, local representatives of the Humana, informed about various agricultural activities carried out for sustainable agriculture, livelihood and food security for small and marginal farmers. Shri D. S. Mishra, Joint Registrar, PPV&FR Authority participated in the workshop and made a presentation on farmers' Rights and about the benefits to the farmers in Hindi. A documentary on the activities of the Authority, "Nukkad Natak" and "Agro-biodiversity" were also screened before farmers.

### 8.3 Indian Institute of Spices Research (IISR), Kozhikode



**Training-cum-Awareness Programme at KVK, Wayanad:** A training-cum-awareness programme on **“Protection of Plant Varieties and Farmers’ Rights”** was organized on 9 January, 2014 on the occasion of technology week – Kars hikam, 2014 of the Kendra in collaboration with ATMA, NABARD, HADA and Department of Agriculture of the district. Shri N.K. Rasheed, District Panchayat President, Wayanad delivered the inaugural speech. The inauguration of the seminar and other programmes was done by Shri. M.V Sreyamskumar, MLA, Kalpetta. Shri N.D. Appachan, Vice Chairman, HADA, inaugurated the exhibition. Shri P.T. Gopalakurup, Chairman, MILMA released the technical bulletin of KVK, Wayanad. Dr. A. Radhamma Pillai, Programme Coordinator highlighted the importance of awareness programme on Protection of Plant Varieties and Farmers’ Rights and the objectives of PPV&FR Act, 2001.



The technical session on the theme was led by Prof. C.R Elsy, Department of Plant Breeding & Genetics (PBG) and Convener, IPR Cell, Kerala Agricultural University. She explained the activities of the KAU centre regarding registration of farmers’ varieties and facilitations for Plant Genome Saviour Community awards, rewards and recognitions of the PPV&FRA.

An exhibition was also organized wherein local varieties of fruits and vegetables which need to be conserved



were exhibited. The Vocational Higher Secondary School, Vakeri, Wayanad exhibited various agro-food products prepared from locally available plants including medicinal plants conserved by them .

#### 8.4 Training-cum-Awareness Programme at Krishi Vigyan Kendra, Gumla



A training-cum-awareness programme was organized by KVK, Gumla on 18 January, 2014. More than 300 farmers of adjoining areas participated in the programme and also brought the seeds and other fresh agro products of the farmers’ varieties, traditional varieties and landraces conserved by them. The programme was attended by Dr. R.P. Singh Ratan, Director, Extension BAU, Ranchi; Dr. Niva Bara, Shri Bhikhari Bhagat, Smt. Savitri Devi, Dr. Sanjay Kumar, Project Coordinator and Shri D.S. Mishra, Joint Registrar, PPV&FR Authority. Dr. R.P. Singh Ratan, inaugurated the event and in his keynote address spoke about the PPV&FR Act and the farmers’ rights. He informed that the Gumla district is one of the hotspots for the agro-biodiversity in the Central India and the farmers of this area have lot of plant genetic wealth which they have conserved for generations. Shri Bhikhari Bhagat, Secretary, KVK informed the gathering that KVK always focused on the agricultural problems and their solutions, and also elaborated on general activities for empowerment of women and the socio-economic upliftment of the farmers of the area.





## 8.5 Workshop at KVK, Kozhikode

Indian Institute of Spices Research-KVK, Kozhikode jointly conducted an awareness programme at KVK, Calicut on 21 January, 2014 at Peruvannamuzhi. About 125 farmers participated in the programme. Farmers and scientists participated in the agricultural technology exhibition held along with the symposium Symposium on Spices and Aromatic Crops (SYMSAC VII) organized jointly by the Indian Society for Spices (ISS) and Indian Institute of Spices Research (IISR) at Madikeri, Karnataka from 27-29 November, 2013.



## 8.6 Central Institute for Cotton Research (CICR), Nagpur



An awareness programme on DUS was organised on 23 January, 2014 at CICR, Nagpur for the benefit of 40 Extension officials from Nagpur District. At the outset, Dr. Sandhya Kranthi, Director In-charge, CICR, welcomed the guests and the participants in her inaugural address. Dr. V. Santhy, Principal Scientist (Cotton) and DUS In-charge of DUS testing made an elaborate presentation on the Farmers' Rights and PPV&FR Act, 2001 and highlighted the objectives and salient features of the Act. Dr. R. B. Singandube, Head In-charge, KVK, CICR made introductory remarks about the farmers' rights in the Act for the benefits of the participants including the farmers, faculty members of the CICR, also delivered lectures on various issues and topics.

## 8.7 Directorate of Onion and Garlic Research (DOGR), Rajgurunagar, Pune

A training-cum-awareness programme on PPV&FRA was organized by DOGR on 23 January, 2014 at the Directorate for the benefits of farmers, extension workers and researchers. KVK, Baramati rendered support in deputing farmers from the onion and garlic growing regions of Baramati for this programme, which was attended by about 116 participants. Shri Rajendra Pawar, Chairman, Agriculture Development Trust, Baramati was the Chief

Guest, and Shri Dipal Roy Choudhury, Joint Registrar, PPV&FRA, was the Guest of Honour. Dr. Jai Gopal, Director, DOGR welcomed the guests and the delegates and spoke about the role of the farmers and the researchers in increasing onion and garlic production in the country. He also explained that how their interests are being protected under the new regime of IPR. Lectures on benefit sharing, DUS testing and provisions of PPV&FRA were delivered by the experts of DOGR and PPV&FRA. Dr. A.J. Gupta, Nodal Officer (DUS) gave practical training on DUS testing and filling of application for registration of varieties. Farmers were also taken to live demonstrations of onion and garlic varieties and technologies showcased at the DOGR farm.



## 8.8 Training-cum-awareness Programme organized at Directorate of Floricultural Research (DFR), Pusa, New Delhi

A training-cum-awareness programme on "*Protection of Plant Varieties and Farmers' Rights Act, 2001*" with special reference to gladiolus and tuberose was organized on 24 January, 2014 at the Research Farm of Directorate of Floricultural Research. Nearly 100 participants including farmers and officials of KVK, Moradabad of Sardar Vallabhbhai Patel University, Meerut, Uttar Pradesh participated in the programme. Dr. Ramesh Kumar, Director, DFR was the Chief Guest and Dr. Manoj Srivastva, Registrar, PPV&FRA and Dr. J. S. Arora, former

Head, FLS, PAU, Ludhiana were the Guests of Honour. Other invited resource persons included Dr S P S Raghawa, Dr. A P Singh and Dr. R.L. Mishra. Dr. Ramesh Kumar, Director, DFR welcomed the Chief guest and participants and outlined the significance of the programme. He also apprised farmers of their rights as enshrined in the Act and about the importance of conservation of plant genetic resources.



Dr. Manoj Srivastva, Registrar, PPV&FRA made a presentation highlighting information on the registration of farmers' varieties and action plan for submission of applications for extant varieties for registration to get benefits and also get recognition under the Act. Dr. S. P. S. Raghawa, former Project Coordinator and Head, FLS, IARI; Dr. A. P. Singh, former Head, FLS, IARI and Dr. R.L. Mishra, former Project Coordinator, AICRP Floriculture and other experts of Directorate of Floricultural Research shared their views on several important issues such as essence of PPV&FR Act, 2001 and various other aspects of commercial floriculture.

### 8.9 National Research Centre for Orchids (NRCO), Pakyong, Sikkim

One training-cum-awareness programme on Protection of Plant Varieties and Farmers Rights was organized on 31 January, 2014 at NRC for Orchids, Pakyong, Sikkim. Nearly 65 participants attended the programme. Lectures and presentations on various topics relating to PPV&FR Act and Farmers' Rights were delivered by various resource persons. Chairman and Members of Task Force including Dr. Manoj Srivastava, Registrar and Member Secretary of the Task Force; Director and scientists; Research Associate and Senior Research Fellows of NRC for Orchids; Joint Director and Scientists; KVK Staff of ICAR Sikkim Centre; Scientists of GBPIHE&D, Almora; Joint Director and Additional Director, Horticulture Department, Government of Sikkim; ICAR Nominated Farmer Member of NEH Region and Farmers of the Region were also present.

### 8.10 Training-cum-Awareness programme at KVK, Gonikoppal, Karnataka

One day awareness-cum-training programme on "**Protection of Plant Varieties and Farmers' Rights Act, 2001**" was organized at KVK, Gonikoppal on 5 February, 2014. More than 100 participants including farmers of Kodagu; scientists from IIHR; Bengaluru, IISR, Appangla; KVK Gonikoppal and State Government officials participated in the training programme. Mr. Veerendra Kumar, SMS, KVK, Gonikoppal welcomed the guests and participants. Dr. P. C. Tripathi, Principal Scientist and Head, CHES, Chettalli and Head (Agro) KVK explained about purpose of the programme. Dr. C.K Narayana, Director, IIHR in his presidential address explained the importance of Intellectual Properties Rights and the benefits of registration of varieties under PPV&FR Act.

Dr. A.T. Sadashiva, Principal Scientist, Division of Vegetable crops, IIHR, explained about Protection of Plant Varieties and Farmers' Rights Act and stressed on the farmers' rights and provisions for registering farmers' varieties. He also presented the highlights of DUS guidelines in various vegetables such as tomato, brinjal and okra. Dr. M. R. Dinesh, Principal Scientist, Division of Fruit crops, IIHR, made presentation on variability in mango, guava and other fruits and also presented the DUS guidelines of mango and guava. Dr. Senthil Kumar, IISR Regional Station, Appangla spoke on DUS testing in cardamom, black pepper, turmeric and ginger. Several queries were raised by the growers during the discussion which were clarified by the speakers. Three farmers namely S/Shri Poonacha, Ramesh and Nanaih explained about the conservation of traditional farmers' varieties. One compendium of the lectures presented in the programme was released on this occasion. An exhibition was also organized at this occasion to exhibit black pepper and rice varieties identified by the farmers. A visit to demonstration blocks and plant propagation units of the KVK was also organized.

### 8.11 Directorate of Soybean Research (DSR), Indore

A training-cum-awareness programme on "**Protection of Plant Varieties and Farmers' Rights Act and Plant Genome Saviour Community Awards**" was organized at Directorate of Soybean on 7 February, 2014. More than 110 farmers, officials from Madhya Pradesh State Seed Certification Agency (MPSSCA) and State Agriculture Department participated in the programme. Lectures were presented on various topics to and enlighten above PPV&FR Act, 2001 the participants.



### 8.12 Directorate of Sorghum Research (DSR), Hyderabad

A training-cum-awareness programme on **“Plant Variety Protection and Farmers’ Rights”** was organized at Centre on Rabi sorghum, Solapur on 14 February, 2014. About 80 participants from Agricultural Research Institutes located in and around Solapur like Zonal Agricultural Research Station, MPKV, Rahuri; National Research Centre on Pomegranate; Krishi School; Krishi Vigyan Kendra; and PG students and Teachers of Departments of Botany and Zoology from Dayanand College attended the programme. The composition of the participants is given as under:

Participants	Number
M Sc Students	32
Senior Research Fellows	6
PhD Scholars	2
Scientists	10
Technical Assistants	15
Research Associates	2
Highly Skilled Assistants	5
Project Assistants	8
<b>TOTAL</b>	<b>80</b>

Dr. V.A. Tonapi, PS, DSR, Hyderabad delivered lectures on Protection of Plant Varieties & Farmers’ Rights Act, 2001, Geographical Indications Protection in Agriculture, New Seed Legislation and its implications and documentation of IP assets in National Agricultural Research System in India. Dr. Prabhakar, PS & OIC, Centre on Rabi Sorghum (DSR), Solapur delivered lecture on Breeding for DUS traits in sorghum.

The second awareness-cum-training programme on **“Protection of Plant Variety and Farmers Rights”** was organized exclusively for farmers of Solapur at Centre on Rabi Sorghum, Solapur on 5 March, 2014. About 50

farmers and farm women from Ule, Ekruk and Kasegaon villages of North Solapur Taluk of Solapur attended the programme. Dr. Shashidhar Reddy and Shri PV Rajappa of CRS, Solapur facilitated the visit of farmers for the training programme from the above villages.

Dr. Avinash Karjule, Associate Professor, Department of Seed Technology, MPKV, Rahuri presented a detailed account on PPV&FR Act, 2001, New Seed Legislation and its implications in Marathi. Dr. Balwanth Mundhe of MPKV, Rahuri gave a brief account on documentation of IP assets in National Agricultural Research System in India and filing of applications for protection of farmers’ varieties in Marathi.

### 8.13 Central Institute for Arid Horticulture (CIAH), Bikaner

A training-cum-awareness programme on **“Protection of Plant Varieties & Farmers’ Rights Act, 2001”** was organized at the campus of the Institute on 17 February, 2014. It was attended by more than 100 participants from district of Bikaner and Nagaur. Besides, it was also attended by Post graduate and Ph. D. scholars of SK Rajasthan Agricultural University, Bikaner and other colleges/ institutes of the city including staff members of State Government, KVK, SKRAU and CIAH, Bikaner.

Dr. B.D. Sharma, Principal Scientist welcomed the Chief Guest and the participants. At the outset, Dr. R.S. Singh, Principal Scientist-cum-Organizer of the training programme apprised the gathering about importance of creating awareness among the farmers about PPV&FR Act, 2001 and highlighted the major activities of programme for the day. The training programme was inaugurated by Dr. A.K. Dahama, Vice Chancellor, S.K. Rajasthan Agriculture University, Bikaner as Chief Guest and Dr. S.K. Sharma, Director, CIAH, Bikaner presided over the function as Guest of Honour.

Dr. Dahama addressed the gathering of inaugural function and highlighted relevance of protection of farmers’ rights. He emphasized that role of farm women is very important in Indian agriculture but now-a-days mechanization for different farm operations is also due to scarcity of labour. There is a ample scope of agri-business employment in agriculture sector. A bulletin on PPV&FRA compiled in Hindi was released by Chief Guest on this occasion. At the inaugural function, Dr. S.K. Sharma, Director, CIAH, Bikaner emphasized the importance of plant varieties and rights of breeders and also spoke on importance of germplasm and old farmers’ varieties and their role in agriculture development.

Different lectures covering the main themes of

farmers' rights, plant variety protection, breeder's right, PPV&FR Act 2001, overview of arid horticulture and DUS testing were delivered by resource persons. The deliberations began with a lecture on role of farmers in conservation of biodiversity and importance of fruit cultivation in arid region delivered by Dr. R.S. Singh, Principal Scientist (Horticulture), DUS centre date palm, CIAH, Biakner. He gave examples of conservation efforts being carried out by farmers in various parts of country, particularly in arid and semi arid regions which had helped in preserving precious germplasm which are vital sources of genes for stress tolerance. Dr. Singh also narrated about importance of horticultural development in arid region for nutrition and livelihood security. This was followed by a lecture on Intellectual Property Rights (IPRs) issues by Dr. R. Bhargava, Principal Scientist and Institute Technology Management Unit (ITMU), CIAH, Bikaner. He also emphasized on different types of intellectual properties viz GI, copyrights, patents and plant varieties etc. on which, the individual can claim their rights. Dr. Hare Krishna, Senior Scientist (Horticulture) delivered a talk on DUS testing guidelines and farmers' rights and highlighted the relevance of DUS testing for protecting the varieties developed by breeders and farmers.

During the training programme, the participants were also apprised about research and development activities on arid horticulture of the Institute. A film on Protection of farmers' right provided by PPV&FRA was screened to the participants for creation of awareness of IPR. In the discussion with farmers and students, Dr. R. S. Singh clarified the most frequently asked questions (FAQ) by the participants for implementation of this Act and PPV&FRA activities. Dr. B.D. Sharma, Principal Scientist presented on overview of arid horticulture and protection of plant varieties and importance of seed materials. Dr. Balu Ram Choudhary, Scientist delivered a lecture on PPV&FR Act, 2001 and activities of the authority and its importance for farmers. Visit to the Institute's Museum and Experimental Blocks/ Nursery was also arranged for the participants/ trainees/ farmers by Dr. S. K. Maheshwari, Senior Scientist. Posters on PPV&FRA activities were also exhibited near venue of the programme. He also addressed the participants about the dimensions of Intellectual Property in Indian Agriculture. A bulletin in Hindi prepared on the lectures provided by resource persons and PPV&FRA brochures were distributed to the trainees/participants.

#### 8.14 Training-cum-Awareness Programme at KVK, Balrampur

On the occasion of Farmers' Awareness day, one-day programme on "*Farmers' Variety Protection and its*



**Registration**” was organized on 18 February, 2014. The Chief Guest Dr. C.R. Prasanna, IAS, District. Collector, inaugurated the event and addressed the farmers. He advised them to protect & conserve the local varieties and landraces of various crops. Due to the support rendered by Dr. Prasanna and Project Coordinator, KVK, Balrampur (CG) and efforts made by Dr. Arun Tripathi, Scientist from KVK, a farmers group, farmers income group was formed who preserved and revived "Jeera Phool", a very famous scented rice local landrace of high quality. All the farmers of this group of Changro village Balrampur cultivated this rice variety and marketed it at a high premium price. On this occasion, Dr. Prasanna assured to provide a mini rice hauler machine to this group and also provided them a weight balance machine. He told that a bank account will be opened for this group and all the subsidy and money from other activities will be deposited to this account for popularisation and expansion of this land race. The group leader Shri Manik Chank (Surya group) filled the registration form for Changro Jeera Phool (grain looked like cumin and it's a highly aromatic rice). Dr. Prasanna emphasized that the farmers income group should first try to revive this variety and, thereafter, another famous variety 'Sonachoor' will be revived by cultivation on commercial scale. He also informed that in Dhan Mandi the seed of this variety is available in higher quantity as compared to hybrid. He informed that white pooni and other IR varieties of rice, i.e., about 300 local and rare rice varieties were lost by the farmers in Tamil Nadu near the Kaveri river belt due to introduction of modern rice varieties. Dr. Deepak Sharma, Principal Scientist demonstrated farmers'

varieties of Chhattisgarh and delivered a presentation on PPV & FRA activities to the farmers and demonstrated filling of the application form of Changaro Jeera phool and Changaro Laxmi bhog. Dr Prasana appreciated the activities undertaken by Dr. Sharma particularly for registration and benefit sharing of farmers' varieties. Dr. A. P. Dwivedi, Zonal Project Director; Shri A.B. Asana, Joint Director of Agriculture; and Shri M. R. Tigga, Deputy Director of Agriculture were also present and addressed the farmers.

### 8.15 Training-cum-Awareness Programme, TNAU, Papparapatty, Dharmapuri

In order to create awareness and facilitate the registration of the farmers owned varieties, the training-cum-awareness programme on Protection of Plant Varieties and Farmer's Rights Act was conducted at Krishi Vigyan Kendra, Papparapatty, Dharmapuri on 17-18 February, 2014.

In this programme, the importance of protection of plant varieties, farmers' rights, breeders rights and researchers rights, procedure to be followed in registering a plant variety and number of crops which could be registered under the Act were explained. About 32 traditional crop varieties were registered by the farmers including thuyyamalli, naeikichadi, seeraga samba, mappillai samba, traditional basumathi, manasanaiyurponni, white ponni and kattuyanam in paddy; karusuruttai, vazhaipookidathalai, thembusariin ragi; white cholam, red cholamin cholam, traditional thenai, samai, panivaragu, varagu, redgram, naipayaru, mochai, avarai, rose bhendhi, local brinjal, ridge gourd and pulichakeerai.

The applications of plant varieties received for registration were sent to the PPV&FRA for DUS test. DUS centres for different crops which are operating in various places e.g. paddy and sunflower the centre is in TNAU, Coimbatore itself.

Dr. Tamilselvan, Programme Coordinator, KVK, Papparapatty explained the importance of traditional varieties, activities of PPV&FRA and role of KVK in the promotion of traditional varieties in detail. Thiru K. Mohan, Joint Director of Agriculture, Dharmapuri elucidated the developmental schemes of the Agriculture Department for the benefit of farmers. Thiru P. Venkatesan, Deputy Director Agriculture highlighted the nutritional significance, status of traditional varieties in Dharmapuri district, traditional varieties cultivated by the farmers and their significance. Smt. R.R. Susheela, Deputy Director and PA (Agri) to District Collector reiterated strategies to be followed for improving the traditional varieties

available with the farmers and their protection.

Dr. M.A. Vennila, Assistant Professor (Extension) explained about the Protection of Plant Varieties and Farmers' Rights Act, 2001; rights of farmers, researchers and plant breeders, attributes of the varieties to be registered, national gene fund and role of gene fund, gene bank, how to register a variety, fee details and period of protection. Dr. Anderson Amalankumar, Assistant Professor (Crop Physiology) discussed about the DUS specifications and procedures involved in DUS test and DUS centres for different crops. During the events about 1 kg seeds of Kattuyanam, a traditional paddy variety was given to farmers at free of cost. Arrangements for the training were done by Dr. M. A. Vennila and Dr. Anderson Amalan Kumar who have handled the project funded by the PPV&FRA. An exhibition was arranged to showcase the traditional varieties brought by the farmers and about 100 farmers participated and benefited.

### 8.16 Central Rice Research Institute (CRRI), Cuttack

The Krishi Vigyan Kendra, Cuttack organized a training-cum-awareness workshop on "**Protection of Plant varieties and Farmers' Rights Act, 2001**" at CRRI, Cuttack with active participation of 87 farmers and 13 subject matter experts on 22 February, 2014. It aimed at bringing greater awareness among farming communities on the benefits of the Act and facilitating registration of their varieties.



Dr. R.C. Choudhary, an internationally reputed rice scientist, inaugurated the programme as Chief Guest and explained how the interest of the farmers as well as the country has been safeguarded by the Act. Dr. Ravi Prakash highlighted the various achievements and threw light on the registration process. He assured the farmers to provide all possible help in registration through which they can own

a variety. Dr. T. Mohapatra, Director, CRRI, and Chairman of the programme called upon the scientists and farmers to realize the vast potential of landraces and advised them to maintain those along with their popular varieties which would provide valuable traits to meet the future challenges due to climate change. Emphasis was given on various issues relating to registration of varieties. DUS testing, special tests and special traits etc. in an interactive mode with valuable inputs from Drs O.N. Singh, S.R. Dhua, B.C. Patra, U. Dhua, M. Jena, P. Swain and M. Chourasia. An exhibition displaying about 900 indigenous varieties of rice, pulses, oilseeds, vegetables and fruits brought by the participating farmers inspired the visitors and strengthened the objectives of the Act.

### 8.17 Chaudhary Charan Singh Haryana Agricultural University (CCSHAU), Hisar



Department of Genetics and Plant Breeding, CCS Haryana Agricultural University, Hisar organized one-day training-cum-awareness programme on **“Protection of Plant Varieties & Farmers’ Rights Act (PPV&FRA), 2001”** on 22 February, 2014 for farmers, students, general public and private sector seed companies and faculty of the University. More than, 100 participants took part in this event. The Chief Guest, Dr. R.P. Saharan, Project Director (Research), addressed the participants. Dr. Tejbir Singh, Registrar (Horticulture), PPV&FRA presented



the brief overview of the PPV&FR Act, 2001 with its objectives and salient features. He also delivered lecture on the importance of registration of plant varieties under PPV&FR Act, 2001. Dr. R.S. Sangwan, Head Cotton Section briefed about procedure for registration of new plant varieties, essentially derived varieties (EDV) and extant varieties and their importance. Faculty member of the department also delivered lectures on various aspects including conduct of DUS Test, recording of DUS characters and maintenance of reference varieties in cotton, importance of DUS test and morphological characters for DUS parameters in chickpea and sorghum, varietal identification through molecular & biochemical techniques etc.

### 8.18 Training-cum-Awareness Programme at Krishi Vigyan Kendra, Budbud



A one-day awareness camp on **“Protection of Plant Varieties and Farmers’ Rights”** was organized by Krishi Vigyan Kendra, Bud Bud, Burdwan on 24 February, 2014 at its campus. With an eye for holistic awareness throughout the district, farmers engaged in conserving and improving age old varieties of crops; and progressive farmers, capable of motivating other farmers on such issues, were invited in the programme through Assistant Director of Agriculture, Government of West Bengal of different blocks of Burdwan. Out of a total of 33 blocks in the district, farmers from as many as 24 blocks participated in the programme. Besides, selected progressive farmers from the adopted villages of KVK also took part in the awareness camp. Overall, a total of 175 farmers participated in the programme.

The participating farmers were given one brochure in Bengali entitled **“Udvhid Baichitra Sanrakshan O Tatsambandhiya Krishaker Adhikar”** by Soumya Sarathi Kundu, Sandipan Garai, Subrata Sarkar and Dipankar Ghorai which is basically Bengali version of the **“Protection of Plant Varieties and Farmers’ Rights”**. Prof. Dilip Kr. Dey of PPV&FRA cell of Bidhan Chandra Krishi Viswavidalaya, Mohanpur, West Bengal was

present as key resource person to make participants aware of their rights regarding protection of plant varieties. Other distinguished persons present were, Dr. Subrata Biswas, Scientist-in-Charge, Central Seed Research Station for Jute and Allied Fibres (CSRSJAF), Bud Bud; Dr. Amit Bera, Scientist, CSRSJAF; Dr. Debtanu Maiti, Assistant Director of Agriculture (ADA), Ausgram-I, Burdwan; Dr. Rajesh Saha, Assistant Director of Agriculture, Galsi-I, Burdwan.

Dr. Monica Singh, SMS (Ag. Extn.), KVK welcomed the participants to the awareness programme and briefed about the objectives of organizing the programme. Dr. Dipankar Ghorai, Prog. Coordinator (I/C), welcomed the resource persons and other dignitaries present on the dais. He briefed the participants about the PPV&FR Authority, its role and functions in protecting farmers and breeders rights regarding plant varieties. Referring to the case of Basmati rice, he urged upon the farmers to make themselves as well as other farmers in the locality aware of such rights in respect of their contributions made at any time in conserving, improving and making available plant genetic resources for the development of new plant varieties which could accelerate agricultural development in the country and facilitate the growth of seed industry by ensuring the availability of high quality seeds and planting material.

Prof. Dilip Dey discussed at length about various farmers' rights under the PPV&FR Act, 2001. Since the district of Burdwan is rice bowl, he made reference to various rice cultivars which have been registered by the Authority at different times. Apart from rice, other crops in the region like potato, vegetables etc. whose varieties can also be protected under this Act, were mentioned.

Dr. Amit Bera elaborately discussed the Distinctiveness, Uniformity and Stability parameters of crops with reference to PPV&FR Act. He reiterated the necessity of such kind of awareness programme for mass dissemination of such information to relevant stakeholders. Dr. S. Biswas advocated about the need for documentation of traditional knowledge associated with the plant varieties to be registered through the Act. Dr. S. Maiti, Director, DMAPR, Anand and Dr. Saha, ADA briefed the audience about the activities they have taken up in their farms regarding conservation of age old rice cultivars. In the interaction session, resource persons responded to different queries from participating farmers. Six applications on rice varieties were processed in the programme for submission to the Authority.

### 8.19 Training-cum-Awareness Programme at Udyamita Vidyapeeth, Chitrakoot

A training-cum-awareness programme on "*Protection of Plant Varieties and Farmers' Rights Act, 2001*" was organized by Udyamita Vidyapeeth, Chitrakoot on 25 February, 2014. Dr. Bharat Pathak, General Secretary, Deendayal Research Institute and Mahant Shri Ramhardaydas Ji Maharaj was the Chief guests and key note speaker. Other resources persons included Dr. Narendra Singh, Programme Coordinator, KVK, Chitrakoot; Shri Vinay Kumar, SMS (Hort.), KVK, Chitrakoot; Dr. Govind Verma, SMS (Animal Science), KVK, Chitrakoot, U.P.



### 8.20 Training-cum-awareness Programme at NRC for Grapes, Pune



A one-day training-cum-awareness programme on "*Protection of Plant Varieties and Farmers' Rights Act, 2001*" was organized at National Research Centre for Grapes, Pune on 5 March, 2014 under the Chairmanship of Dr. R.R. Hanchinal, Chairperson, PPV&FR Authority. Dr. S.D. Shikhamany, Former Vice-Chancellor, Dr. YSR Horticultural University, West Godavari, Andhra Pradesh; Dr. R.C. Agarwal, Registrar General, PPV&FR Authority. Dr. S.D. Sawant, Director, NRC for Grapes and

Shri Subhash Arve, Vice President, Maharashtra Rajya Draksha Bagayatdar Sangh (MRDBS), Pune were the other dignitaries present during the programme. About 75 participants comprising of grape growers, scientists, research fellows and technical persons participated in the programme.

On this occasion, the technical bulletin entitled **“Characterization of Grape varieties for DUS (Distinctiveness, Uniformity and Stability)”** was released by Dr. R.R. Hanchinal. In his welcome address, Dr. S.D. Sawant, briefly explained about the objectives of the programme and requested all the grape growers to make serious efforts to protect the new clones / mutants developed by farmers to claim their rights and register their varieties / clones in their names to get the benefits associated with the registered variety.

Mr. Subhash Arve, Vice-president, MRDBS, emphasized on documentation of new clonal selections made by grape growers in their field to get proper protection of them in farmers name. Dr. S.D. Shikhamany stressed the importance of registering the varieties to protect the farmer’s rights. He expressed his deep concern about a lot of new clonal selections being made by grape growers in the country and not being protected by actual growers who selected and popularized those selections. Dr. R.C. Agrawal, mentioned about importance of the Act and about DUS testing for registration of the variety. He briefly explained the history of creating PPV&FR Authority, its functions and objectives, its role being played in obtaining registration of new varieties / hybrids, varieties of common knowledge, extant varieties etc.



Dr. R.R. Hanchinal, in his address, appreciated the role played by grape growers in identifying new clones / mutants which are playing major role in grape production in the country. Being a geneticist and plant breeder, he explained the importance of gene and environment interaction in determining phenotypic character of the variety which is useful for characterization of varieties.

A short video-film prepared by PPV&FR Authority was screened to the participants for better understanding of the functions of PPV&FR Authority, also for benefits of registering the varieties, copyrights etc. Four technical presentations were made on different aspects of PPV&FR Act, 2001, highlighting the importance of DUS testing, DUS descriptors of Vitis spp. and procedures of registering varieties etc. by Dr. G.S. Karibasappa, Dr. J. Satisha and Dr. Roshni R. Samarth.

### 8.21 Awareness campaign on Farmers’ Variety Registration at Tribal villages of Ambikapur, Chhattisgarh



Awareness campaign on Farmers’ Varieties registration was organized at Bansajal and Nakana villages of Ambikapur District of Chhattisgarh on 8 March, 2014. Bansajal and Nakana are tribal farmers’ dominated areas. Bansajal is known for ‘Jeeraphool’, a very predominate scented rice local variety growing partially in hilly and naturally local area of Ambikapur district. At the time of Jeeraphool rice crop at flowering stage, scent of this variety flow with air and the entire environment becomes fragrant. Out of 177 farmers’ families about 117 farmers’ are growing this particular traditional variety. A group of Jeeraphool farmers’ were also included for further activities. Other scented rice varieties viz. Kosamdool (cluster panicle), Hathua (highly scented), Ramadi and Ras Kadam were also processed for registration from this village.

Smt. Augasti Toppo and Smt. Rambai, two local



women farmers, applied for registration of their varieties viz. Kataki of rice and Bansa Makhi of Arahara was one of the major activities of this awareness campaign particularly on International Women's Day. The programme was coordinated by Smt. Asha Tirki, Janpad Member of this village. Many farmers also applied for registration of local varieties/landraces of pulses and oilseeds. Total 55 applications were received for registration from different farmers of these two villages.



Shri Mangal Khalka, a tribal young farmer was recognized for collection and cultivation of many vegetables, pulses and oilseeds of Nakana village. Dr. Ravindra Tigga, Programme Co-ordinator, KVK Ambikapur and Shri Chowksay provided assistance for successful organization of this programme. Shri Philmoan Tirki from Agriculture Deptt. also coordinated the event.

### 8.22 Training-cum-Awareness Programme at Krishi Vigyan Kendra, Ganiwan, Chitrakoot

A training-cum-awareness programme on "**Protection of Plant Varieties and Farmers' Rights Act, 2001**" was organized Krishi Vigyan Kendra, Ganiwan, Chitrakoot on 8 March, 2014.



Dr. Nandita Pathak, Director, Jayprabha Takniki Anusandhan Pratishthan Udyamita Vidyapeeth, Chitrakoot made a welcome address on this occasion. Dr. R.L.S. Sikarwar, Director, Jan Shikshan Sansthan Chitrakoot and Mahant Shri Ramhardaydas Ji Maharaj were present. About 110 participants including farmers participated in the events. Dr. Narendra Singh, Programme Coordinator, KVK, Chitrakoot; Shri V.K. Gautam, SMS (Agronomy) and Shri K.S. Shukla, SMS, KVK, Chitrakoot acted as resource persons. About 100 traditional varieties of rice, three varieties each of sorghum and small millets and two varieties of brinjal were identified in the district and are in the process of registration. Application will be submitted shortly to PPV&FRA, as a result of four awareness programmes conducted in Chitrakoot and Satna.

### 8.23 Awareness campaign of PPV & FRA at Balrampur-Ramanujganj



One-day awareness campaign on registration of farmers' varieties under PPV&FR Act was organized at **Jaber** village of the district-Ramanujganj, Chhattisgarh on 9 March, 2014. About 80 farmers of different villages of Balrampur participated in the programme. Dr. Arun Tripathi, Programme Coordinator, KVK, Balrampur delivered preliminary dialogue and informed about the rich biodiversity and local varieties of the region. Dr. Deepak Sharma, Principal Scientist, IGKV, Raipur delivered a lecture on Farmers' Varieties registration under PPV & FR Act. He also discussed the filling of the application for the registration of farmers' varieties. A total of 61 applications of the farmers' varieties of different crops available with the local farmers like cereals, pulses, oilseeds, small millets, spices, cotton, guava, papaya and anola were submitted to the KVK for onward submission to the Authority.

Rich agro-biodiversity is present at Kotsar, Magarhara and Sagarapur villages of Balrampur District. Two farmers,

Shri Anadi Kumar Mandal and Shri Niranjana Das were awarded for good collection of local varieties of different crops. According to the farmers feedback, the programme was educative and encouraged them to protect and conserve the local and unique varieties grown by them.



One of the attraction of the event was a farmer, Shri Shivaram, Kotsari village who has many herbal and aromatic plant collections viz. some trees fruits leaves and stems, satavar (asparagus) varieties and many more other forest herbal and medicinal plants. He also presented the details of medicinal values of these plants. With the discussion of Dr. Tripathi, another progressive farmer, Shri Rameshwar Tiwari, established a community seed bank at Chingsaura village. Shri Rameshwar Tiwari is actively involved in seed sharing of improved as well as local varieties to the entire village. The overall programme was very successful due to sincere efforts of Dr. Arun Tripathi, Programme Coordinator of Krishi Vigyan Kendra, IGKV, Balrampur.

#### 8.24 Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP), Lucknow

Training-cum-awareness programme was held on 13 March, 2014 at Dudhwa Tiger Reserve, Palia Block, Lakhimpur District in Uttar Pradesh which was attended by 110 farmers belonging to scheduled caste and schedule tribe community of the area. Lectures were delivered by Dr. O.P. Dhawan, Dr. A.K. Gupta, Dr. V.K.S. Tomar and Dr. Sanjay Kumar on the provisions of PPV&FR Act, 2001, detailing farmers and breeders rights and how farmers can register varieties developed by them. Farmers were also made aware about their rights in the PPV&FR Act and the Plant Genome Saviour Community Awards, Rewards & Recognitions constituted by the Authority.

#### 8.25 Farmers Training-cum-Awareness Programme on PPV&FR issues in Barley

One-day farmer's awareness programme on "*Protection of Plant Varieties and Farmers' Rights (PPV&FR) and related issues*" was organized by Directorate of Wheat Research (DWR), Karnal at Krishi Vigyan Kendra, Jhajjar, Haryana under the aegis of Protection of Plant Varieties and Farmers' Rights Authority on 14 March, 2014. Dr. Vishnu Kumar (PI, DUS barley) from DWR, Karnal welcomed all the participants and the dignitaries. He also briefed about the agenda and preliminary introduction of PPV&FR Act. Dr. Arun Gupta, P.S. (Crop Improvement) gave introduction to the PPV & FR issues in general and highlighted the support and systems existing in India. Dr. A.S. Kharub, P.I. (Barley) Network and Dr. Vishnu Kumar, PI, DUS (Barley) gave details of status of PPV&FR in barley and modern technologies of barley cultivation. Dr. Kharub also mentioned the scope of malt type barley cultivation in "Contract Farming System" with private industry as being followed in Punjab and Haryana. Dr. RK Sharma, P. I. (Resource Management) addressed the farmers for resource management issues for wheat and barley and also emphasized on conservation agriculture.



In addition scientists / officers from KVK, Jhajjar and Rohtak participated in the awareness programme. Dr. Surendra Dahiya, Coordinator, KVK, Jhajjar highlighted the role of KVK in technology dissemination in wheat and barley for the region. Dr. Rajesh Kumar, from KVK, Jhajjar interacted with the farmers on plant protection measures. Two progressive farmers, Mr. Ajit Singh and Mr. Arun Kadyan also shared their success stories with other participants. Mr. Arun Kadyan also showed the farmer's wheat variety HJP 181 to the participants.

Chief Guest Dr. (Mrs.) Sushila Kundu, Principal Scientist, DWR Karnal addressed the gathering of farmers and wished that farmers will take up the issues seriously to register their varieties of barley, wheat and other crops

evolved with their traditional wisdom and experience and preserved the crop diversity over a longer period of time in the region. Barley being the traditional crop of the region has more chances of having farmer's local varieties for registration. The participation of farm women was in large number and was appreciated by the Chief Guest. The programme was supported by KVK, Jhajjar for gathering of farmers and local help.

Nearly 140 farmers including a large number of farm women and supporting staff from the DWR participated in the awareness programme indicating their keen interest in such issues. During the "Goshthi" scientists from different disciplines interacted with the farmers and disseminated innovative scientific crop production and protection technologies for barley and wheat crops as per the agro-ecological conditions of district Jhajjar. Besides, awareness programme, the crop related queries of the farmers were responded and Farmer's Rights, Breeder's Rights, National Gene Fund, Variety Registration Process, Grow Out Test, Plant Genome Saviour Community Award etc. were discussed in depth with the participants.

### 8.26 Directorate of Rapeseed-Mustard Research (DRMR), Bharatpur

One-day training-cum-awareness programme on "**Protection of Plant Varieties and Farmers Rights Act 2001**" was organised at Directorate of Rapeseed-Mustard Research, Bharatpur on 23 March 2014. Approximately 1000 farmers participated in this programme from nearby regions of Bharatpur. Dr. Dhiraj Singh, Director, DRMR, Bharatpur; Dr. K.H. Singh, Principal Scientist and Nodal Officer, DUS Testing at DRMR; Dr Ashok Sharma, Senior Scientist, Agril. Extension and Dr. Pankaj Sharma, Senior Scientist, Plant Pathology delivered lectures on different topics related to Protection of Plant Varieties and Farmers' Rights Act, 2001. The programme was given wide publicity in print media.

### 8.27 University of Agricultural Sciences (UAS), Dharwad

University of Agricultural Sciences, Dharwad in collaboration with Protection of Plant Varieties and Farmers' Rights Authority, organised a one-day awareness-cum-training programme on "**Protection of Plant Varieties and Farmers' Rights Act**" at Krishi Vigyan Kendra, Bagalkot on 15 March, 2014. Dr. N.K. Biradarpatil, Special Officer (Seeds), extended warm welcome to the delegates. The programme was inaugurated by Dr. R. C. Agarwal, Registrar General, PPV&FRA. He sensitised the farmers about the rights of the farmer and the Authority's

commitment to protect the interests of the farmers and encourage them to conserve the plant genetic resources and also contribute to varietal development. Special Officer (Seeds), Seed Unit, UAS, Dharwad delivered a lecture on the provisions of farmers' rights under Protection of Plant Varieties and Farmers' Rights Act, 2001 and focused that farmers must take advantage of these provisions to protect their rights. More than 200 farmers from different districts of North Karnataka attended the awareness training programme and gained knowledge about important issues related to agriculture in the present context.

Another such programme was organised at UAS Dharwad on 25 March, 2013 to create awareness among the farmers about PPV&FR Act, 2001. Dr. N.K. Biradarpatil, Special Officer (Seeds), extended warm welcome to the delegates and explained the importance of this awareness training programme. The programme was inaugurated by Dr. R.R. Hanchinal, Vice-Chancellor of the University. In



his inaugural address, he lauded the contribution of farmers, specially the farm women in conservation of landraces. He advised that the farmers need to get protection for the varieties and landraces conserved by them by registering their varieties with Protection of Plant Varieties and Farmers' Rights Authority. Dr. S. Prabhu kumar, Project Director, South Zone, ICAR, Bangaluru, while addressing the gathering, expressed that he was overwhelmed to see the large member of farmers and advised them to make use of the training programme to protect landraces. Dr. A.C. Ghosh, Director of Agriculture (Extension and General Administration), ICAR; Dr. L. Krishna Nayak, Director of Extension and Dr. G.S. Dasog, Dean (Agri.) from UAS, Dharwad were the Chief guests and Dr. M.B. Chetti, Director of Education, UAS, Dharwad, presided over the function. In his presidential remarks he advised the farmers to document the special features of the genotypes/landraces conserved and register them to confer protection

on their names without allowing to be infringed. Around 180 farmers from different districts of North Karnataka attended the training and awareness programme and gained knowledge about important issues related to agriculture in the present context. .

### 8.28 Vivekanand Parvatiya Krishi Anusandhan Sansthan (VPKAS), Almora

A sensitization workshop on **“Protection of Plant Varieties and Farmers’ Rights Act (PPV&FRA), 2001”** was organized by VPKAS, Almora for the hill farmers at regional centre of IVRI, Mukteshwar on 23 March, 2014. The main purpose of organizing this workshop was to create awareness among farmers of the hill on various issues related to PPV&FR Act, 2001. Dr. P. K. Agrawal, Head, Crop Improvement Division, welcomed all the participants and introduced farmers with the objective of the workshop. He encouraged farmers to get their traditional varieties protected and assured them of all kinds of help they require.



The details of the lectures delivered during the workshop are as under:

1	Protection of Plant Varieties and Farmers’ Rights Act, 2001	Dr. H.S. Chawala
2	Biodiversity conservation, utilisation and IPR issues	Dr. A. K. Trivedi
3	Commercialization of Plant Varieties	Dr. P.K. Agrawal
4	Geographical Indications (GI) in Agriculture and importance of ITK	Dr. Rajesh Khulbe
5	Registration of Plant Varieties on the basis of DUS testing	Dr. Shephalika Amrapali
6	Cultivation of horticultural crops in Uttarakhand.	Dr. B. L. Atri

A total of 72 participants including farmers and scientists attended the sensitization programme. Mr. Atheequallah G. A. Extension scientist, VPKAS, Almora

conducted a survey regarding prior information about the Act and different provisions of the Act for the benefit of farmers. Most of the farmers were unaware of the rights under the Act. A publication a pamphlet on **“Paudha kism ki suraksha evum krishak adhikar”** was also released on this occasion.

### 8.29 Central Plantation Crops Research Institute (CPCRI), Kasaragod

CPCRI organized two training-cum-awareness programmes during the reporting year. The first training was conducted at CPRI, Research Centre Kidu on 25 March, 2014 to sensitize the stakeholders including the farmers about the rights of the farmers as enshrined in the PPV&FR Act, 2001. The Chief Guest / and other invitees included Shri Krishnaprasad Madhila, President, Kukke Shri Subramanya Temple; Smt Sharada, President, Grama Panchayath, Bilinele; Smt Kumari Vasudevan, Member, Jilla Panchayat, Smt Sarojini Jayaprakash, Member, Taluk Panchayat, Dr. Anitha Karun, Head, Division of Crop Improvement, CPCRI, and Dr. K.S. Ananda, Head, CPCRI RS, Vittal. The topics of the lectures delivered are as under:

- PPV&FR Act, 2001 & Farmers’ Rights
- Protection of Plant Varieties and DUS testing in rice
- Protection of Plant Varieties and DUS guidelines for spices
- DUS guidelines for tree fruit crops
- Medicinal plants and endangered species of western ghats
- DUS guidelines for Cashew-descriptors
- DUS guidelines for Coconut, Arecanut and Cocoa

Seven resource persons delivered lectures. In all, 140 participants attended the workshop.



The second training-cum-awareness programme was conducted at Regional Station Kayangulam by KVK Aleppey, CPCRI at their station on 21 November,

2013. Dr. V.K. Raju, Associate Director of Research, KAU, Vellanikkara was the Chief Guest. More than 125 participants including farmers of the adjoining area were present.

Three lectures were delivered viz. PPV&FR Act, 2001 & Farmers' Rights, Registration of farmers' varieties & DUS guidelines for tuber crops; and Plant Genome Saviour Community Awards & DUS guidelines in coconut. Three resource persons namely Dr. S. Regeena, Head, Farming systems Research Station, Sadanandapuram, Dr. M.N. Sheela, Head Crop Improvement Division, CTCRI, Sreekaryam; and Dr. Regi J. Thomas, Senior Scientist, CPCRI, Regional Station, Kayamkulam participated in the event.

### 8.30 Central Research Institute for Jute and Allied Fibre (CRIJAF), Barrackpore

Central Research Institute for Jute and Allied Fibres (CRIJAF), Barrackpore is the Nodal Centre for DUS Testing of jute varieties. DUS trials were conducted at CRIJAF, Barrackpore farm and also at Central Seed Research Station for Jute & Allied Fibres, Budbud, Burdwan. A one-day **"Training-cum-Awareness Programme"** was organized on 20 June, 2013 at CRIJAF, Barrackpore. The objective of the programme was to generate awareness among participants about Intellectual Property Rights, protection of jute varieties and Farmers' Rights. Dr. D.K. De, Former Professor, Deptt. of Plant Breeding, B.C.K.V. & Member, DUS Trial Monitoring team; Dr. A.K. Basu, Head, Deptt. of Seed Science & Tech., B.C.K.V. and other dignitaries were present as Guests of Honor to grace the occasion. Around 80 farmers from Baduria, 24 Parganas (N), Balagarh, Nadia, Hooghly, Purulia, Tarakeshwar, Kairapara, Barrackpore, 24 PGS (N) participated in the programme. Dr. S. Satpathy, Director, In his welcome address, CRIJAF briefly narrated the importance of the training programme, importance and necessity of the plant variety protection. Dr. J. Mitra (Nodal Officer, DUS) delivered his speech regarding importance of Protection of Plant varieties and Farmers' Rights Act, Breeders' Rights, Researchers' Rights, mandate of National Gene Fund and other important aspects of this Act. In Technical session I and II, six lectures were delivered by five resource persons under the Chairmanship of Dr. D.K. De and Dr. A.K. Basu regarding Protection of Plant varieties and Farmers' Rights Act, DUS test guidelines for jute, reference collection of jute and its maintenance, filling up of application forms for protection of new varieties, development of molecular tag for identification of commercial varieties of Jute and present status of jute DUS testing. At the end of the

programme, certificates were distributed to the participants by the Dr. S. Satpathy, Director, CRIJAF.

### 8.31 AICRP on Pearl Millet, Jodhpur

One-day training programme for awareness on **"Protection of Plant Varieties and Farmers' Rights & DUS testing"** was organized at AICPMIP, Mandor, Jodhpur on 20 September, 2013 in which 21 scientists/technical persons (17 public, 4 private) were trained for recording observation in pearl millet as per DUS guidelines given by PPV&FRA. Farmers from the nearby village were also present. They were sensitized about various provisions of the PPV&FR Act, 2001 esp. Farmers' Rights.



### 8.32 Directorate of Maize Research (DMR), New Delhi

One day training-cum-awareness-programme entitled **"DUS testing in Maize"** was conducted on 22 September, 2013 at Pusa Campus, New Delhi. A total of 45 breeders from various ICAR, SAUs and private sector participated in the training program. Dr. J. S. Chauhan, Assistant Director General, (Seeds), ICAR and Dr. Sain Dass, Former Project Director, DMR were the Chief Guests of the program. Dr. O. P. Yadav, Project Director, DMR briefed the participants about importance of DUS-related traits in unraveling

novelty, uniformity and stability of candidate entries under DUS testing. Keeping that in mind Dr. Jyoti Kaul, Nodal Officer made a presentation on ‘How to record 31 traits of Maize’. This was followed by field visit where the breeders learnt about recording of right expression of the 31 DUS traits in maize as per prescribed guidelines.

### 8.33 Training-cum-Awareness Programme at KVK, Rohru



A one-day awareness-cum-training programme was organized by the CSHPKV, Palampur at Krishi Vigyan Kendra, Rohru (Shimla) on 23 September, 2013. MLA, Shri Mohan Lal Brakta MLA and Shri ID Chuharu, President, Congress, Rohru were the Chief Guests. The programme was started with a formal welcome by the PC, KVK Rohru and Mandi and Dr. K.K. Katoch, Vice Chancellor, CSHPKV, delivered presidential address. An apple show was also organized by the KVK and prizes were also distributed among the farmers. About 150 farmers including women participated in the programme. Dr. D.S. Pania, Technical Officer, represented the Authority and delivered a lecture on “*Protection of Plant Varieties and Farmers’ Rights Act. 2001*” and highlighted the activities of Authority.

### 8.34 Training-cum-Awareness Programme at KVK, Dhaula Kuan



Another, one-day training-cum-awareness programme was organized by the CSHPKV at Krishi Vigyan Kendra, Dhaula Kuan (Sirmaur) on **25 September, 2013**. The Chief Guest of the programme was the Chief Parliament Secretary, Government of Himachal Pradesh followed by welcome address by the PC, KVK Dhaula Kuan. Dr. K.K. Katoch, Vice Chancellor, CSHPKV, delivered presidential address. About 170 farmers including women participated in the programme. Dr. D.S. Pania, Technical Officer, PPV&FRA delivered a lecture on “*Protection of Plant Varieties and Farmers’ Rights Act. 2001*” and exhibition was also organized.

### 8.35 Training-cum-Awareness Programme at Udaipur

The training-cum-awareness programme at Maharana Pratap University of Agriculture & Technology, Udaipur was held on 26 September, 2013. About 150 participants from the University including students, faculties and women



farmers from the nearby neighboring area were present in the event. Dr. Manoj Srivastava, Registrar, PPV&FRA delivered a lecture on “*Farmers’ Rights on PPV&FR Act*”. A lady Sarpanch also attended the programme voluntarily. There was an encouraging response from the farmers and students and they participated in the programme very seriously and benefited with the information about the PPV&FR Act, 2001.

### 8.36 NRC on Seed Species (NRCSS), Tabiji, Ajmer

A training-cum-awareness programme on “*Protection*



*of Plant Varieties and Farmers' Rights*” was organized on 30 September, 2013 at NRCSS, Tabiji, Ajmer. Dr. Balraj Singh, Director, NRCSS was the Chief Guest and Dr. R.K. Kakani, Principal Scientist (Plant Breeding), NRCSS, was the Guest of Honor. The convener of this function was Dr. R.S. Meena, PI of DUS project. All scientists, administration staff and other contractual Staff was also present in this training. A video on Krishak Adhikar Krishi Ka Vikas (Hindi), developed by PPV&FRA was screened. Dr. Balraj Singh, Director delivered a lecture on “किसानों के लिए लाभदायक पौधा किस्म और कृषक अधिकार संरक्षण अधिनियम” followed by Dr. R.S. Meena who delivered lecture on “पौधा किस्म और कृषक अधिकार संरक्षण कानून का क्रियान्वयन” Dr. R.K. Kakani, Principal Scientist (Plant Breeding), delivered lecture on “कृषि जैव विविधता का संरक्षण”, Dr. Sharda Choudhary, Scientist (biotechnology), NRCSS delivered lecture on “पौधा किस्म और कृषक अधिकार संरक्षण से अपेक्षाएँ” and Dr. R.K. Solanki, Scientist (Plant Breeding) delivered lecture on “पौधा किस्म और कृषक अधिकार संरक्षण अधिनियम के अंतर्गत संरक्षित फसलें”. About 101 participants including 39 ladies farmers attended the training programme. Farmers were made aware of variety registration and farmers rights.



**8.37 Seed Technology Research Unit, MPKV, Rahuri**



A training-cum-awareness programme, Exhibition on

Farmers' Varieties and on the spot Registration of Farmers' Varieties was arranged on 19 October, 2013 by MPKV, Rahuri. Dr. R.R. Hanchinal, Chairperson, PPV&FRA was the Chief Guest and Dr. T.A. More, Vice Chancellor, MPKV, Rahuri presided over the function. Dr. Ravi Prakash, Registrar, PPV&FRA was also present. On spot filling of 100 applications of farmers varieties of 16 different crops was done and submitted to the PPV&FRA, from MPKV, Rahuri. Besides, seven awareness programmes were conducted by SAUs and KVKs, given as under:

S. No.	Name of Institute	Date	Place
1	KVK, Baramati	4 December, 2013	Bhor, Dist. Pune
2	KVK, Jalna	28 January, 2014	Jalna
3	KVK, Babhleshwar	31 January, 2014	Babhleshwar
4	STRU, Dr.PDKV, Akola	18 February, 2014	Yavatmal
5	DSR, Hyderabad	4 March, 2014	Solapur
6	NRC, Grapes, Pune	4 March, 2014	Pune
7	STRU, Dr.PDKV, Akola	9 March, 2014	Buldhana

### **8.38 Dr. Y.S. Parmar University of Horticulture and Forestry (UHF), Regional Horticultural Research and Training Station, Mashobra, Shimla**

A training-cum-awareness programme on “*Plant Variety Protection and Farmers' Rights with special reference to temperate fruits*” was held on 26 November, 2013 at Mashobra. A total 101 participants, including 73 farmers, 22 representatives of the public sector and six researchers, participated in the event. Dr. Tejbir Singh, Registrar, PPV&FRA delivered a lecture on “*Awareness about PPV&FRA Act, 2001, Variety Registration and Breeders' Rights*”, Dr. M.S. Mankotia, Professor (Fruit Science), RHR&TS, Mashobra made a presentation on issues related to DUS testing in reference to temperate fruits; and Dr B.S. Thakur, Associate Director (R&E), RHR&TS, Mashobra highlighted the biodiversity of temperate fruits and its scope in plant variety protection.

### **8.39 Kerala Agricultural University (KAU), Palakkad**

A training-cum-awareness programme was jointly conducted by the IPR Cell, KAU and Krishi Vigyan Kendra, Pattambi at Palakkad on 11 December, 2013. At the inaugural function, Shri K. Ramachandran, District



Collector, Palakkad was Chief Guest. Dr. C. R. Elsy, IPR Cell, KAU delivered a lecture for creating awareness among the farmers. She also discussed the various awards constituted by the Authority to recognize the role of farmers and their communities in the conservation of plant genetic resources and landraces. Shri P. Narayanan Unni, a Former Member of the Authority and also a Plant Genome Saviour Awardee and Shri B. Pradeesh shared their experiences. Dr. C. R. Elsy, Dr. M. Israel Thomas, Associate Professor



(Agriculture Extension), KVK, Palakkad and Dr. C. K. Yamini Varma, Assistant Professor (Plant Protection), KVK, Palakkad were the resource persons. The farmers were made aware about the PPV&FRA programmes and they were motivated to register their innovative practices and varieties as farmers' innovations. Some of the farmers filled up the registration forms in the prescribed format of PPV&FRA with the assistance of KVK scientists. The awareness programme could imbibe a clear understanding of farmers' rights and they were inspired to register their innovations and varieties. A total of 134 farmers from various places of Palakkad District attended the awareness programme.

#### 8.40 Central Arid Zone Research Institute (CAZRI), Jodhpur



A training-cum-awareness programme among the farmers and other stakeholders about the provisions of the **“Protection of Plant Varieties & Farmers’ Rights Act, 2001”** was organized at Regional Research Station of Central Arid Zone Research Institute (CAZRI), Jodhpur at Bhuj (Kutch) on 13 December, 2013. Bhuj in Kutch is one of the Agro-biodiversity hotspots. Dr. R.R. Hanchinal, Chairman, PPV&FRA as the Chief Guest, appreciated multiple roles of farmers in cultivating, conserving and selecting the landraces and focused on the registration of these landraces. Mr. T.K. Chhanga, Chief, Zila Panchyat, Bhuj Chaired the programme. He urged farmers to learn about the benefits of this Act and utilize it for individual and community benefits. Dr. M.M. Roy, Director, CAZRI explained the role of CAZRI in agricultural development in Kutch region. Nine resource persons from CAZRI and state departments at Bhuj appraised farmers about various aspects of biodiversity and its conservation, about and farmers’ Rights. Dr. R.K. Bhatt, Principal Investigator of project gave the overview of Protection of Plant Varieties & Farmers’ Rights Act 2001, PPV&FR Authority and its role, registration of farmers’ varieties and community awards. In total 105 farmers, 30 women farmers, 15 local line departmental officers and KVK personnel participated in the programme.

#### 8.41 Directorate of Oilseeds Research (DOR), Rajendranagar, Hyderabad

A training-cum-awareness programme on **“Protection of Plant Varieties and Farmers’ Rights”** was organized at Sri Aurobindo KVK, Gaddipalli village, Garedepalli mandal, Nalgonda district on 19 December, 2013. The training was attended by about 100 participants including



KVK officials from Zone V from both Government and NGO Sector, and innovative/progressive farmers from Nalgonda and Krishna districts of Andhra Pradesh. The awareness-cum-training programme was basically aimed at disseminating the information on provisions of Protection of Plant Varieties and Farmers' Rights Act, 2001 with emphasis on Farmers' and Community Rights. Posters on Farmers Rights, National Gene Fund including details of Plant Genome Saviour Community Awards, filling of application for registration of farmers varieties in Telugu were displayed at the training venue.

Shri G. Gopal Reddy, Secretary, Sri Aurobindo KVK was the Guest of Honour for the inaugural session. Dr. Dattatri, PS, ZPD-V was the Chief Guest. The awareness programme included interactive lectures by Dr. C. Lavanya, Principal Scientist, DOR on Farmers' Rights and Dr. G.D. Satish, Senior Scientist, DOR on National Gene Fund and Community awards. Dr. Sarath Babu, Principal Scientist, NBPGR Regional Station, Hyderabad delivered a lecture on procedures for application for Community Rights with a case study on award to Sanjeevani Rural Development Society, Vishakapatnam. Procedures for registration of farmers' varieties were described by Dr. N. Mukta, Principal Scientist, DOR and A. Praveen Reddy, SRF, DUS Project, DOR.



The farmers were keen to learn about provisions for protection of farmers' varieties and other rights for farmers and communities under the PPV&FR Act, 2001. During the interactive session, the farmers were asked to enumerate the cases which would be eligible for awards and contact the resource persons for further assistance in filling up of application forms.

#### **8.42 Directorate of Rice Research (DRR), Hyderabad**

DRR organized two *“Awareness Programmes on Protection of Plant Varieties and Farmers' Rights Act, 2001 and its provisions”* at DRR, Rajendranagar,

Hyderabad on 21 December, 2013 and 5 March, 2014. These programmes were sponsored by PPV&FR Authority, New Delhi to create awareness among the Agricultural Officers of Department of Agriculture, Assistant Professors / Scientists from SAUs, NGOs and progressive farmers. These programmes were intended to provide awareness about the functions of PPV&FRA, Farmers' Rights, community recognition awards, registration of farmers' varieties etc.

#### **8.43 University of Agricultural Sciences (UAS), GKVK, Bengaluru**

A one day training-cum-awareness programme on PPV&FR Act, 2001 was organised at GKVK, Bengaluru on 21 December, 2013. More than 200 participants including scientists of Plant Genetic Resources Department, Biotechnology Department, students, researchers and progressive farmers participated in the programme. Dr. R. R. Hanchinal, Chairperson, PPV&FR Authority was the Chief Guest and Hon'ble Vice-Chancellor, Director of Extension and Director of Research of GKVK, Bengaluru also graced the occasion. Dr. Ravi Prakash, Registrar and Shri D. S. Rajganesh, Legal Advisor, PPV&FR Authority were also present in the event and highlighted the importance of the registration of farmers' varieties and legal provision under PPV&FR Act, 2001. An exhibition was also organized by the Authority where seeds of farmers' varieties were displayed along with posters and charts and other literature. The Nukkad Natak and documentary on agro-diversity were also screened for benefits of the participants.

#### **8.44 Awareness program at KVK, Hulkoti**

K.H. Patil Krishi Vigyan Kendra, Hulkoti in Gadag district of Karnataka organized an awareness-cum-Training-programme on the provisions of Protection of Plant Varieties & Farmers' Rights Act, 2001 for stakeholders including farmers on 28 December, 2013. The event was inaugurated by Dr. R.R. Hanchinal, Chairperson, PPV&FRA. He called upon the farmers to register the traditional seed varieties and avail the benefits of PPV & FR Act, 2001. He informed that the traditional seeds are the wealth of India and could be used to develop new varieties which can bring food and nutritional security to the people.

Shri C.B. Balaraddi, Joint Director of Agriculture was also present along with the farming community. Shri C.R. Budihal, President of Chenna Veereshwar, Seed Bank participated as the Guest and urged the State Government to initiate the measures to take up seed production programme

of traditional seed varieties.

The programme was presided by Shri Raju C. Koravanavar, Director of Dharitri, an organization involved in promotion of traditional seed varieties. Dr. L.G. Hiregoudar, Programme Coordinator spoke on objectives of organizing the programme. An orientation programme for the farmers on provisions of Protection of Plant Varieties and Farmers' Rights Act, 2001 was also organized. Resource material in Kannada language on the activities of PPV&FR Authority was supplied to farmers. On this occasion an exhibition of traditional seed varieties conserved by the farmers was also arranged and it was inaugurated by Dr. R.R. Hanchinal, Chairperson, PPV&FR Authority. KVK felicitated 13 farmers of Gadag district who were involved in production and conservation of traditional seed varieties. The applications of these farmers for registration of their varieties have been already submitted to PPV & FR Authority. The traditional seed varieties of jowar, wheat, maize, green gram, Bengal gram, cowpea, pea, black gram, groundnut, brinjal etc. were exhibited

#### 8.45 Regional Centre of Central Tuber Crops Research Institute (CTCRI), Bhubaneswar

CTCRI organized three trainings on *“Awareness of protection of tuber crops varieties and livelihood improvement through tuber crops”* for farmers, Self Help Group (SHGs) and NGOs, given as under:

- Two trainings to a total of 180 tribal farmers from Ranchi, Jharkhand and Narayanpur, Chattishgarh were imparted during 7-9 October, 2013 and 28-30 December, 2013 in RC-CTCRI, Odisha
- Training to women farmers, SHGs and tribal farmers during 24-27 June, 2013 at Koraput, Odisha.



- Trainings were arranged periodically during August,

2013 to March, 2014 at different stages of taro cultivation to farmers, farm women and SHGs of Brahmagiri, Puri & Bayalis mouja, Odisha.

#### 8.46 Indian Institute of Horticultural Research, Hessarghatta Lake Post, Bengaluru

An awareness programme on *“Protection of Plant Varieties and Farmers' Rights”* was organized by the Seed Science & Technology Centre & HC & RI, TNAU, Coimbatore which is Co-Nodal centre for development of DUS guidelines for Papaya. On this occasion a class on *“IPR issues in Fruit Crops”* was handled by Dr. J. Auxilia, Co-PI of this Project. Apart from this, fruit varieties which were conserved by the farmers also exhibited in the above programme. More than 100 farmers participated in the training programme.

#### 8.47 Indian Institute of Sugarcane Research (IISR), Lucknow

The institute conducted two training-cum-awareness programmes during the reporting year. First awareness programme was conducted at Krishi Vigyan Kendra, IISR, Lucknow on 28 March, 2014. Prof. Munna Singh, Vice-chancellor, CSAUA&T, Kanpur was Chief Guest of the function Dr. R.C. Agrawal, Registrar General, PPV&FR Authority participated as Guest of Honor. The resource persons of the workshop included Dr. O.K. Sinha, Dr. P.K. Singh, Dr. J. Singh, Dr. R.K. Singh and Ms. Archana Bisht. Inaugural address was made by the Vice-chancellor and Dr. R.C. Agrawal in his address welcomed the participants and updated about the activities of the Authority. Dr. P.K. Singh, Principal Scientist, IISR explained about the provisions of the PPV&FR Act and farmers' rights. The other resource persons in the second session highlighted the basic concept in DUS testing system in sugarcane, fruit trees especially in mango and also effect of PPV&FR Act on potato seed production. At the end of the workshop, a field visit was also undertaken at the IISR Campus, Lucknow. The immediate impact assessed by the workshop was that the trainees farmers who were ignorant about the topic were motivated to act on various provisions of the Act. Many of them enquired about the registration of farmers' varieties, for which 'Registration Application Form' was distributed to them during the training. More than 300 participants attended the meeting including farmers.

#### 8.48 C.S. Azad University of Agriculture & Technology (CSAUA&T), Kanpur

The University conducted a one-day training-cum-awareness programme at Patarsa village, 50 km away from



University in Kanpur district of Uttar Pradesh on 30 March, 2014. About 100 farmers including 20 women participated in the above event. Dr. C.P. Sachan, Nodal officer DUS, made ***“An Overview – Farmers’ Rights under PPV&FR Act, 2001”*** followed by another presentation by Dr. Mahek Singh, Principal Scientist, Rapeseed and Mustard on ***“Procedure of registration of farmer variety of mustard crops”***. Dr. Sanjeev Kumar Singh, Scientist, Department of Vegetable science made a useful and informative presentation on ***“Biodiversity in vegetables and their conservation”***. Dr. P.N. Katiyar, Professor Department of Horticulture, Dr. S.P. Tyagi delivered a lecture on ***“Techniques of maintenance of old orchard”*** and Shri Indrajeet Singh, Deputy Director U.P.

Seed Certification highlighted a lecture on ***“Protection of Plant varieties in India: An overview”***. At the end of the function a documentary film was shown to farmers which left a positive impact on farmers and motivated them to conserve their age old species for registration with Authority. Dr. Sachan also encouraged and facilitated the farmers to have an interactive session with the resource persons to satisfy their queries and their problems relating to farmers’ rights and other sphere of agriculture. The farmers of the area were satisfied with this event and appreciated the efforts for conducting the event in support with PPV&FR Authority.





## 9. General Activities of the Authority

During the reporting period, the Authority organized several events and meetings on important issues relating to its affairs and official business. The Authority has opened two branch offices at Guwahati and Ranchi to facilitate farmers and other stakeholders for registration of their varieties for protection. The Chairperson, Registrar General and Registrars visited several states to attend meetings on the invitations of different organizations / agencies. The Authority also convened several meetings at Headquarters and at other places. Highlights of some of the above activities are as under:

### 9.1 Foundation Day of the Authority

Ninth Foundation Day of the Authority was celebrated on 11 November, 2013 at NASC Complex, New Delhi. At the outset, Dr. R.R. Hanchinal, Chairperson welcomed all the officers and staff on the foundation day and briefed about the progress of the Authority especially during the last one year. Dr. R.R. Hanchinal congratulated and appreciated the staff of the Authority for their excellent services extended in the progress of the Authority. He urged all the officers and the staff to work together as a team for the future progress of the Authority and to take it to new heights. Dr. R.C. Agrawal, Registrar General also addressed the gathering and requested that all officers and staff together should work as one family and also in team spirit to to achieve new goals.

### 9.2 Vigilance Awareness Week of the Authority



Vigilance Awareness Week was celebrated in the PPV&FRA during 28 October to 3 November, 2013. Dr. R.R. Hanchinal, Chairperson delivered a keynote address advising to all the officers / staff of the Authority to work with sincerity and honesty. He requested timely disposal

of work within the time frame as per Govt. Rules and Regulations. Dr. R.C. Agrawal, Registrar General also addressed the house and requested all the officials to work together as a team to achieve the targets set for the Authority. Dr. Manoj Srivastava, Dr. Tejbir Singh and Dr. Ravi Prakash, Registrars and other officers and staff were present on the occasion and Chairperson administered the oath for honestly to all the officers in a simple ceremony on 28 October, 2013.

### 9.3 Promotion of Hindi in official work



The PPV&FR Authority celebrated one month Hindi Chetna Maas from 1 – 30 September, 2013. To promote the use of Hindi in the office among officials, a competition on Hindi essay writing on “पौधा संरक्षण में किसानों के अधिकार से देश के विकास में सहयोग” was organized on 13 September, 2013. During one month drive, efforts were made to

popularise the use of Hindi in day to day work. Officers and staff were advised to use Hindi in their daily work including notings and drafting. Official correspondence relating to North Indian states and letters in Hindi were replied in Hindi itself. A competition on essay writing on “Biodiversity”, Kavita Lekhan and “Noting & Drafting” in Hindi was organized where employees of the Authority participated and winners were awarded the prizes and appreciation certificates as under:

S. No.	Name	Designation	Prize	Amount (₹)
1	Shri Shyam Narayan Prasad	Computer Assistant	First	500/-
2	Smt. Vijaya Choudhary	Sr. Technical Assistant	Second	300/-
3	Shri Nitesh Kumar Verma	Computer Assistant	Third	200/-
4	Dr. Dharmendra Singh Pilonia	Technical Assistant	Consolation	100/-
5	Dr. Minakshi Bhardwaj	Plant Variety Examiner	Consolation	100/-
6	Dr. Amit Dixit	Technical Examiner	Consolation	100/-
7	Shri T. Stephen	Technical Examiner	Consolation	100/-
8	Shri Jatin Kumar	Office Assistant	Consolation	100/-
9	Shri Pramod Kumar Chabra	Guard	Consolation	100/-
10	Shri Bhagwati Prasad	Multi-Tasking Staff	Consolation	100/-

Dr. R.R. Hanchinal, Chairperson, PPV&FR Authority gave away the awards and appreciation certificates to the winners in the presence of officers of the Authority.

#### 9.4 Sadbhawna Diwas

The Sadbhavana Diwas or Harmony Day was celebrated to commemorate the birth anniversary of the Former Prime Minister of India Rajiv Gandhi. Having good feelings for others was the only the mission of the government of Rajiv Gandhi. PPV&FR Authority also observed Sadbhawna Diwas on 20 August, 2013 and a solemn pledge was also administered to the all the officers and staff by the Chairperson of the Authority.

#### 9.5 Branch office, Guwahati

The Branch Office, Guwahati of PPV&FRA started functioning from the campus of Assam Agricultural University (AAU), Khanapara, Guwahati since 20 May, 2011. The Branch office is headed by Dr. A.C. Sarma, Deputy Registrar and supported by Dr. A.K. Singh, Senior Technical Officer. During the reporting year, the branch office received 308 applications for registration.

After preliminary examination, these were submitted to Headquarters for further necessary action. The establishment of branch office Guwahati of PPV&FR Authority is as per the expectation of the people of the North-Eastern region, which is one of agro-biodiversity hotspot area of the country, and is rich in agro-biodiversity. Extensive drive for awareness and education of the provisions of the PPV&FR Act was undertaken in support with the State Agricultural Universities, ICAR Institutes, NE Hills University, Central University & KVKs. Deputy Registrar along with officers of the Headquarters attended workshops, seminars, meetings of the Task Force held in the North-Eastern area. He was also deputed in the monitoring of DUS trials held in NE region Some of the highlights of the programmes attended by Deputy Registrar, Guwahati are as under:

- ‘A Refresher Course on Update on IPR’ was organized by the Patent Information Centre, Assam Science, Technology and Environment Council, (ASTEC), Guwahati, supported and catalysed by the Department of Science and Technology, Govt. of India, New Delhi at Khanapara, Guwahati on 15-17



May, 2013. Deputy Registrar delivered a presentation on the Protection of Plant Varieties and Farmers’ Rights Act and conducted an interactive session.

- Dr. A.C. Sarma, Deputy Registrar delivered a lecture on “PPV&FR Act and PGSC Awards” for the scientists of KVKs and RARS of Assam Agricultural University, Jorhat on 29 May, 2013 at Assam Agricultural University, Khanapara. It was organized by the Director of Extension Education, Assam Agricultural University and attended by more than 50 scientists.
- National Seminar on “Wetland Ecosystem: Conservation and Management with special reference to North-East in India” was organized by the Botanical Society of Assam at Arya Vidyapeeth

College, Guwahati on 21-22 June, 2013. It was attended by the scientists, researchers, botanists, professors and students. Deputy Registrar participated and delivered a plenary lecture on **“PPV&FR Act, 2001 and Farmers’ Rights”** to sensitize the civil societies about the provisions of the Act.

❖ **Awareness Programmes/ lectures**

- Deputy Registrar with Dr. A.K. Singh, STO attended a meeting on 16 July, 2013 with Director of Research, AAU, Jorhat along with the Head, Plant Breeding and Genetics (PBG), scientists of RARS Titabar and IPR Cell of Assam Agricultural University, Jorhat for expediting submission of applications for registration particularly farmers’ varieties.



- Deputy Registrar interacted with ATMA officials of Jorhat on 16 July, 2013 at the office of the Extension Co-ordinator, ATMA, Jorhat. Details regarding filling of applications and nomination of farmers for PGSC Awards, PGSF Rewards and Recognitions was discussed and application forms were distributed.



- An interaction meeting on PPV&FR Act 2001, was conducted on 17 July, 2013 with the Scientists and Officers of TRA in presence of Dr . N. Muruleedharan, Director, TRA. A talk was delivered on PPV&FR Act, 2001 and PGSC Awards, PGSF Rewards and Recognitions.



- An interaction meeting with the scientists of RFRI, Jorhat was conducted on 18 July, 2013 highlighting the provisions of farmers’ rights under PPV&FR Act, 2001 and the activities of the Authority, its achievements including PGSC awards, rewards and recognitions.
- Deputy Registrar addressed Mr. Kalpa Ranjan Gogoi Distt. Agri. Officer (DAO), SDAOs, Sr. ADOs and ADOs of Jorhat district at the chamber of DAO, Jorhat on 19 July, 2013 requesting to file applications for registration.



- Deputy Registrar also visited the following places to discuss with the scientists and officers RARS, Karimganj and KVK, Karimganj and District Agricultural Office, Silchar on 5 August, 2013; visited farmers fields at Salganga, Adoibasti, Koiribasti and Desualibasti villages and also interacted with the Agriculture officials of Kachar district on 6 August, 2013.
- **Brainstorming Session** on registration of Farmers’ and extant varieties was organized by ICAR, Manipur on 13 November, 2013. Dr. N. Prakash, Joint Director, ICAR Manipur welcomed the dignitaries. Chairperson, Registrar General and Registrar made presentations on different areas with regards to farmers’ rights,



benefit sharing and registration respectively. Dr. S.V. Ngachan, Director, ICAR (NEH), Umiam and Dr S. Rajendra Prasad, Directorate of Seeds Research (DSR), Mau encouraged the farmers for registration



of farmers' varieties for conservation as plant wealth of India. The awareness program witnessed participation of more than 200 persons including farmers and scientists from the region. All Manipur Trained Medicinal and Aromatic Plants Promoters Consortium (AMAPCON) handed over 157 rice farmers' varieties for registration to Dr. RR Hanchinal, Chairperson in the meeting. A farmers' fair was also organized where the farmers of Manipur displayed their valuable crop species and the indigenous agro-products.

- Training-cum-awareness programme at Mizoram:**  
 To create awareness on various provisions of the PPV&FR Act, 2001 amongst the farmers, farming communities, scientists and government officials, two awareness programmes were conducted at Mizoram on 5-6 December, 2013. Mr. C. Lalniliana, Director of Agriculture (Research and Education), Government of Mizoram was also present. Awareness Programme was attended by more than 50 participants including Programme Coordinators, Subject Matter Specialists, Farm Managers of all *Krishi Vigyan Kendras* of

Mizoram. An interactive session was also conducted wherein the Director of Agriculture (Research and Education), Govt. of Mizoram also participated in discussion. On second day the training-cum-awareness programme was organized by KVK, Serchhip and attended by 121 participants including farmers, leaders of farming communities, office bearers of all Mizoram Farmers' Union, scientists of KVKs and officers of the Agriculture and Horticulture Department of Mizoram.



The event was inaugurated by Shri Pu Lalram Thanga, Principal Secretary (Agriculture), Govt. of Mizoram, Dr. C. Lalarliana, Director of Agriculture, (Crop Husbandry), Mizoram was the Guest of Honour. Shri Pu C. Lalniliana, Director of Agriculture (R&E), Mizoram delivered his welcome speech as Chairman during the Technical Session.



The Principal Secretary, Government of Mizoram highlighted the importance of protection of plant varieties and their conservation. He also requested the officers and the scientists for assisting the farmers and farming communities to file the applications for the crops/species for registration, which have been notified by the Authority. The President and General Secretary of All Mizoram Farmers Union (AMFU) Mr. Joseph H. Thanzuala and Mr. Zion Lalremruata also participated in the training programme and handed over a set of 47 applications for registration of rice farmers' varieties.

In a special drive in the North-Eastern Region, the PPV&FR Authority made concerted efforts for registration of the farmers' varieties for a week (12–16 November, 2013). Deputy Registrar were also present and several in



Manipur, Nagaland and Assam.



- **Meeting at Bioversity International, New Delhi:** Dr. A.C. Sarma, Deputy Registrar attended a meeting at Biodiversity International (BI), NASC Complex, New Delhi on 14 January, 2014 to discuss and finalise the baseline survey form and the logistic for undertaking the baseline information in North Eastern India for the project entitled *“Main streaming agro biodiversity conservation and utilization in agricultural sector to ensure ecosystem services and reduce vulnerability”* under the GEF funded project. Dr. P. N. Mathur, Regional Director, Asia, Pacific and Oceania & South Asia Co-ordinator Bioversity International; Dr. V. Ramanatha Rao and Dr. M. Dadlani, Consultant, BI, Dr. D.K. Hore, Consultant, Institute of Bioresources & Sustainable Development, Imphal and other scientists were present. The meeting decided to take three sites in the North Eastern states.



- Deputy Registrar along with the team consisting of Dr. V. Ramanatha Rao and Dr. Malavika Dadhani, Consultant, Biodiversity International, New Delhi, Dr. D.K. Hore, Consultant, Institute of Bioresources and Sustainable Development (DBT), Takyelpat, Imphal visited Pirakota village of Jorhat District on 29 January, 2014. The same team visited Chowkham area of Arunachal Pradesh for site selection for GEF Funded project of Bioversity International on 30

January, 2014.



### **Special Drive for registration of farmers' varieties in North-Eastern Hills**

- **KVK, Jorhat:** Deputy Registrar attended a training cum-awareness programme at KVK, Jorhat as resource person on 30 January, 2014. Dr. R. Borgohain, Programme Co-ordinator, KVK, Jorhat and Dr. P. Talukdar, Dr. R.N. Sarma, Dr. N.S. Barua, Professors of Plant Breeding and Genetics, Assam Agricultural University, Jorhat, delivered lectures on different aspects of PPV&FR Act. Dr. V. Ramanatha Rao, Dr. M. Dadlani, both Consultants, Bioversity International, New Delhi; and Dr. D.K. Hore, Consultant Institute of Bioresources and Sustainable Development, Takyelpat, Imphal, Manipur also attended the programme. The programme was also attended by Dr. M. Neog and Dr. (Mrs) Utpala Goswami, Associate. Director of Extension, Assam Agricultural University. Around 80 farmers from different parts of Jorhat district participated in the event.



- **KVK, Karbi Anglong, Diphu:** Deputy Registrar attended a training-cum-awareness programme at

KVK Karbi Anglong, Diphu on 17 February, 2014. The awareness programme was attended by more than 80 participants. Dr. R. Sarma, Dr. U. Borthakur, scientists, RARS Diphu; Programme Coordinator, Subject Matter Specialists, Agriculture Officers of Karbi Anglong and District Agricultural Officer, Karbi Anglong were also present. Dr. R.N. Sarma, Professor, Department of Plant Breeding and Genetics, Assam Agricultural University, Jorhat and Dr. A.K. Deka, Programme Co-ordinator of the KVK also acted as resource persons. During the interactive session, the farmers also provided information on traditional varieties. They took keen interest and assured of filing applications for registration of their traditional varieties.



- **KVK Arunachal, Cachar:** The awareness programme was conducted at KVK Arunachal, Cachar on 20 February, 2014 and attended by more than 100 participants comprising of farmers, scientists and Village Level Extension Workers (VLEWs) of Cachar district. Dr. B.P Barua, Chief Scientist, RARS Karimganj, Mr. N. Bhuyan, Scientist, (PBG), RARS, Karimganj; Dr. S. Sannigrahi, Advisory Officer & In-Charge, Cachar Advisory Centre of Tea Research Association also delivered lectures and encouraged the farmers of the area to come forward for registration of their conserved varieties wealth in their own interest.



- **KVK, Jayantia Hills:** A training cum-awareness programme at KVK Jayantia Hills, Meghalaya was held on 11 March, 2014 to sensitize the farmers and the civil society of the area about the PPV&FR Act, 2001. The programme was inaugurated by Dr. A.K. Gogoi, Zonal Project Director, Zone III, ICAR, Umiam. Shri D. Lyngdoh, Joint Director of Horticulture, Government of Meghalaya, Shri M. Tariang, District Agricultural Officer, Jayantia Hills, Shri Y. Shilla, District Agricultural Officer, West Jayantia Hills, Mrs. I. Paswet, District Agricultural Officer, East Jayantia Hills; and Dr. M.J Syngkom, Programme Co-ordinator KVK Jaintia Hills also attended the programme and interacted with the farmers.



- **Directorate of Horticulture and Food Processing, Government of Assam:** A training-cum-awareness programme at Directorate of Horticulture and Food Processing was held on 12 March, 2014. The programme was attended by around 50 farmers. Shri T.D. Hanse, Director of Horticulture and Food Processing, Govt. of Assam, Dr. B. Pathak and Shri G.K. Hazarika Asstt. Directors and six Agricultural Officers also attended programme and interacted with the farmers. Dr. A.K. Singh, STO also interacted with the farmers and apprised them about the provisions of farmers' rights under the Act.



- **Tocklai Experimental Station, Tea Research Association (TRA), Jorhat :** A training cum-



awareness programme was organized on 13 March, 2014 and it was attended by the tea planters, scientists and advisory officers of Tea Research Association. Dr. N. Murulidharan, Director, TRA; and Dr. S. Pathak, Deputy Director, TRA and also attended the programme. Dr. P.K. Barua, Head, Deptt. of Plant Breeding and Genetics and Dr. P.K. Borah, Nodal Officer DUS Test Centre for rice, AAU Jorhat also acted as resource person.

- **KVK Mokokchung, Nagaland:** A training-cum-awareness programme at KVK Mokokchung, Nagaland on 14 March, 2014. Around 60 farmers of Mokokchung district of Nagaland attended the Programme. Dr. P.K. Biswash, Programme Co-ordinator and Subject Matter Specialists also attended the programme. The farmers displayed seeds/planting material of traditional varieties. Few applications for registration were also filled up by the farmers for the purpose of registration by the PPV&FR Authority.



## 9.6 Branch office, Ranchi

The PPV&FRA Branch office Ranchi is situated in the premise of Computer Centre Building of the Birsa

Agriculture University, Kanke, Ranchi (Jharkhand). It has the territorial jurisdiction of Jharkhand, Chhattisgarh, Bihar, West Bengal, Odisha and Andaman & Nicobar Islands. The office is functional since May, 2011. Shri Umakant Dubey, Deputy Registrar looks after the Branch Office, Ranchi. The mandate of branch is to participate in training-cum-awareness programmes/meetings/seminars convened by various research institutions/agricultural universities/KVKs/departments/organizations/agencies in its jurisdiction for dissemination of knowledge relating to PPV&FR Act, 2001 including Farmers' Rights, Plant Genome Saviour Community Awards, Rewards & Recognitions, and popularization & motivation of registration of farmers' varieties etc.

- **Applications received for Registration**

- During the reporting period, Branch office Ranchi has received 364 applications for registration of different crops including extant, new and farmers' varieties which were sent to the Headquarters after initial examination for further processing.
- Deputy Registrar, Ranchi visited Bhubaneswar on 12-13 September, 2013 for collecting information from Director of Agriculture & Food Production, Odisha about the farmers' varieties application filed by them.
- Branch office Ranchi has received 35 seed samples for DUS and Grow out Test (GoT), which were sent to the National Gene bank for processing.

- **Training cum-awareness programme and sensitization workshop:**

- Shri Umakant Dubey, Deputy Registrar participated in 15 days training-cum-awareness & programme organised by different institutions/KVKs/agricultural Universities with the financial assistance from PPVFR Authority. The details are as follows;
- **As Krishak Pathshala** in Agricultural Technology Management Agency (ATMA), Department of Agriculture and Cane Development at village Sontai, Panchayat Bariyatu on Block Gola distt. Ramagarh, on 10 September, 2013.
- **Training-cum-awareness programme organised by ICAR, Research Complex for Eastern Region Research Centre, Plandu, Ranchi:** Shri Umakant Dubey, Deputy Registrar delivered a lecture on PPV&FR Act, 2001 in one-day training-cum-awareness programme organized by ICAR Research Complex for

Eastern Region, Research Centre, Plandu, Ranchi, on 8 October, 2013. The lecture was on PPV&FR Act, 2001 with special focus on Plant Variety registration including farmers' variety and different kinds of awards and rewards given to farmers for their contributions in the conservation and preservation of plant genetic resources. There were over 80 farmers of Jharkhand and West Bengal and scientists from the Research Centre. Similarly, "Krishak Pathshala" was organized by Agricultural Technology Management Agency (ATMA), Department of Agriculture and Cane Development at District Ramgarh (Jharkhand) on 23 October, 2013.



- **Training-cum-awareness programme** of PPV & FRA was held at KVK, Kanker under the Chairmanship of Dr. J.S. Urkurkar, Director of Extension Services, IGKV, Raipur on 1 December, 2013. Dr. R. R. Hanchinal, Chairperson, PPV&FRA was the Chief Guest and Dr. Anupum Mishra, ZPD Zone VII ICAR, Dr. Ravi Prakash Registrar, Dr. Umakant Dubey, Deputy Registrar, PPV&FR Authority, Dr. S. R. Patel, Dean, College of Agriculture, Kanker, Dr. Deepak Sharma, Pr. Scientist; and Shri Mayaram Netam, Member of PPV&FRA were also present.



Dr. J. S. Urkurkar, DES, IGKVV, Raipur briefed about the scenario of the Chhattisgarh topography and possibility of availability of plenty of local farmers' varieties especially in Kanker district. Dr. Deepak Sharma, Pr. Scientist, IGKVV, Raipur highlighted the present status of conservation of plant varieties by University and also appreciated for collection of Dawar dhan (red rice) which is found in the Kanker district. These are rich source of Iron and used for diabetes patient in traditional ways. Dr. Ravi Prakash, Registrar, PPV&FRA, explained the Rules and Regulations under PPV&FR Act, 2001 with the procedure of registration of plant varieties to farmers explaining filling the application for registration. Dr. R. R. Hanchinal, Chairperson, PPV&FRA appreciated the work carried out on conservation of red rice, dhania dhan, lamker dhan by the farmers of Kanker district during the visit of stalls arranged at KVK, Kanker. He congratulated the KVK, Kanker for receiving Zonal Award and urged that most of the farmers of the area must be registered with Authority for their local indigeneous varieties through Krishi Vigyan Kendra, Kanker to protect the prestigious plant wealth available in the form of traditional varieties of the area. About 125 farmers of the district, officers of State Department of Agriculture and scientists of KVK, Kanker were present.

- Deputy Registrar visited along with Chairperson and Registrar (Farmers' Rights) at Indira Gandhi Krishi Vishwa Vidyalaya, Raipur and KVK Kanker, KVK Jagdalpur, Bastar on 1-3 December, 2013 to apprise the farmers, scientists, research scholars, faculties and the officers of the KVKs about the PPV&FR Act, 2001.
- A one day sensitization workshop was organised by Zonal Project Directorate Zone-II, ICAR, Kolkata on 17 December, 2013 at the Farmer Training Centre, Bidhanchandra Krishi Vishwavidyalaya, Kalyani,

Nadia on Protection of Plant Varieties and Farmers' Rights Act, 2001. Deputy Registrar participated in the workshop.

- Deputy Registrar participated in one day training-cum-awareness programme organized by Holy Cross Krishi Vigyan Kendra (KVK), Hajaribagh, on 4 & 30 January, 2014. Apart from officials and staff of Holy cross KVK, Shri Briajkishor Jayswal, Chairman, Zila Panchayat, Hajaribagh; Shri R.N. Prasad, Joint Director (Agri.), Chhotanagpur Mandal; Dr. Yogesh Kumar, Senior Scientist, Central Rainfed Upland Rice Research Station, Hajaribagh; Shri Lallan Ram, representative from IFFCO; and over 100 farmers were present in the awareness programmes. Farmers also submitted applications for registration which were onspot examined and forwarded to Headquarters for needful.
- Deputy Registrar participated in one day training cum-awareness programme organized at KVK Saran, on 1 February, 2014. Dr. A.K. Singh, Zonal Project Director, ICAR, Zone II, Kolkata; Dr. V.K. Chaudhary, Professor (Genetics), Rajendra Agriculture University, Pusa, Samastipur (Bihar); Smt. Baby Singh, Mukhia, Saran; and officials and staff of KVK Saran, along with 100 farmers were present in the awareness programme and submitted farmers' varieties applications for registration.
- Deputy Registrar participated in one day training cum-awareness programme organized at the Bihar Agricultural University (BAU), Sabour, Bhagalpur on 6 February, 2014. Dr. M. L. Choudhary, Vice Chancellor; Dr. Ravi Gopal Singh, Director of Research; Dr. Darbeshwar Roy, Dean (Agri.); Dr. R.N. Sharma, Chairman (PBG); Dr. J.B. Tomar, Associate Director (Research); and Dr. Chandan Roy, Asstt. Prof. also graced the occasion. Apart from officials and staff of Bihar Agricultural University, there were over 225 farmers of Bhagalpur, Munger, Jamuai, Shekhpapra and neighbouring districts who submitted farmers' varieties applications for registration.
- One-day training cum-awareness programme was organized by KVK, Katihar of Bihar Agricultural University, Sabour Bhagalpur on 7 February, 2014. Shri B.N. Pandey, District & Session Judge, Katihar; Dr. R.N. Sharma, Chairman (PBG), BAU; and Dr. J.B. Tomar, Associate Director (Research); Dr. Rajesh Kumar, Principal, Bhola Paswan Shastri Agricultural College, Purnia; Dr. S.B. Singh, Project Co-ordinator, KVK, Kishanganj (Bihar); Dr. J. Rahaman, Principal Scientist, Jute Research Centre, Katihar (Bihar); Project Co-ordinator, KVK, Arararia; Project Co-ordinator, KVK, Purnia; and Dr. Chandan Roy, Asstt. Prof. cum Nodal officer also graced the occasion. Apart from officials and staff of KVK, Katihar there were over 125 farmers of Katihar and neighbouring districts also joined the programme. Another one-day training cum-awareness programme organized by KVK Banka of Bihar Agricultural University, Sabour, Bhagalpur on 8 February, 2014. Where over 100 farmers of neighbouring districts were present.
- Deputy Registrar attended one-day training-cum-awareness programme organized by KVK, Rohtash (Vikramganj) of Bihar Agricultural University, Sabour, Bhagalpur on 11 February, 2014. Dr. DPS Diwakar, Principal, Veer Kunwar Krishi Mahavidyalaya Dumarao, Buxar; Dr. P.K. Singh Senior Scientist, Veer Kunwar Krishi Mahavidyalaya Dumarao, Dr. Chandan Roy, Asstt. Proff., BAU; Shri Ajit Kumar DGM, NABARD; Shri P.K. Dwivedi, Project Co-ordinator, KVK, Bhojpur Ara; Dr. Nityanand, Project coordinator (PC), KVK, Aurangabad; and Dr. Shaiwal De, KVK, Rohtash also graced the occasion. Apart from officials and staff of KVK, Rohtash (Vikramganj), there were over 100 farmers of Rohtash and neighbouring districts.
- Deputy Registrar participated in one-day training cum-awareness programme organized by Divyayan Krishi Vigyan Kendra Ramakrishna Mission, Ranchi on 18 February, 2014. Swami Shashankananda, Secretary, R.K. Mission, DKVK; Swami Tatsevananda, In-charge, Extension Division; Shri Vikash Kumar, District Agriculture Officer, Ranchi; Dr. A.K. Singh, Project Coordinator, Divyayan Krishi Vigyan Kendra, Ramakrishna Mission, Ranchi were present on the occasion. Apart from official and staff of Divyayan Krishi Vigyan Kendra Ramaakrishna Mission, Ranchi, there were over 100 farmers of Ranchi and neighbouring districts along with students and trainees. Farmers submitted farmers' varieties applications for registration.
- Deputy Registrar participated in one-day training cum-awareness programme organized by KVK, West Medinipur (West Bengal) on 5 March, 2014. Shri Tapas Kumar Maiti, Secretary & CEO Seva Bharti KVK, West Medinipur; Dr. A.K. Maiti, Project Coordinator, Seva Bharti KVK, West Medinipur; and Dr. S. Pramanik, Subject Matter Specialist Plant Science, KVK, Nadia were present on the occasion. Apart from officials and staff of KVK, West Medinipur, over 100 farmers of Medinipur and

neighboring districts were also present.

- Deputy Registrar participated in one-day training cum-awareness programme organized by Indian Institute of Agricultural Biotechnology (IIAB), Garhkhatang at Indian Institute of Natural Resin and Gum (IINRG), Namkum Ranchi on 7 March, 2014. Dr. R. Ramani, Director, IINRG; Dr. Jata Shankar Chaudhary, Director, State Agricultural Management and Extension training Institute(SAMETI), Ranchi; Dr. Nirmal Kumar, Principal Scientist, IIAB; Dr.N.K. Sinha, Senior Scientist, IIAB were present on the occasion. Apart from officials and staff of ICAR Institute, about 100 farmers of Namkum and neighboring districts were also present.
- Deputy Registrar participated in one-day training cum awareness programme organized by KVK, Lalganj, Buxar on 13 March, 2014. Dr. K.M. Singh, Social Scientist, Economic Extension Division, ICAR-RCER, Patna; Dr. Vishwendu Duvedi, Project Coordinator, KVK Lalganj, Buxar; and Shri Rameshwar Prasad Verma, Senior Advocate, Buxar were present. Apart from officials and staff of KVK, there were over 100 farmers of Buxar and neighbouring districts were present. The farmers were advised to file applications of their farmers' varieties to safeguard their interest for future.
- Deputy Registrar participated in one-day training-cum-awareness programme organized at auditorium of Birsa Agricultural University (BAU), Ranchi on 26 March, 2014. Dr. M.P. Pandey, Vice-Chancellor, BAU, Ranchi; Dr. R. Thakur, Dean (Agri.), Dr. Z.A. Haider, Chairman Genetics & Plant breeding; Dr. R.P. Singh, Director (Seeds & Farms), BAU, Ranchi; and Dr. D.N. Singh, Chief Scientist (Plant Breeding), also graced the occasion. Apart from officials, staff and students BAU, over 80 farmers from Ranchi and neighbouring districts were present.

### 9.7 Visit to Chaudhary Sarwan Kumar Himachal Pradesh Krishi Vishvavidyalaya, Palampur

Dr. R. R. Hanchinal, Chairperson, and Dr. R.C. Agrawal, Registrar General, visited Chaudhary Sarwan Kumar Himachal Pradesh Krishi Vishvavidyalaya, Palampur on 11 May, 2013 for discussion about opening a Branch Office at Palampur and for exploring possibilities for further collaborations with the University to take up the documentation of farmers' varieties and awareness programs about the PPV&FR Act at State level.

## 9.8 Meeting of PPV&FR Authority

Meetings	Date	Venue
18th Meeting of the Authority	22 May, 2013	NASC Complex, New Delhi
19th Meeting of the Authority	18 October, 2013	NASC Complex, New Delhi

### 9.8.1 Major decisions of the Authority taken during meetings

- The Authority approved the Annual Accounts and authorized the Chairperson of the Authority to approve the annual Accounts on behalf of the Authority before sending it to CAG.
- Members appreciated the efforts of PPV&FRA for conducting the Award ceremony function in a well-organized manner wherein Plant Genome Saviour Community Awards 2011-12 were conferred to four farming communities.
- Reward money for the Plant Genome Saviour Farmer Reward should be increased from ₹ 1.0 lakh to ₹ 1.5 lakh. It was also suggested that monetary consideration of ₹ 1.0 lakh should be given for Plant Genome Saviour Farmer Recognitions. Also it was suggested to send a proposal for one time grants from the Central Government for the gene fund for the purpose of such awards.
- Authority should expand its area by opening more Branch Offices.
- To decide and dispose of revocation proceedings in accordance with law, the Authority delegated its judicial powers to Chairperson or any officer/officers nominated by him with technical or legal background.
- Authority recommended constitution of third Extant Variety Recommendation Committee (EVRC) under the Chairmanship of Dr. A.R. Pathak, Vice-Chancellor, Navsari Agricultural University. Expeditious action may be taken for registration of the applications approved by the EVRC.
- The DUS test Guidelines for 20 crop species namely cattleya, phalaenopsis, pomegranate, casuarina, eucalypts, bitter gourd, bottle gourd, cucumber, pumpkin, barley, coriander, fenugreek, almond, apple, pear, apricot, cherry, walnut, grapes and ber were approved.
- A Committee may be constituted under the Chairmanship of Dr. B. S. Dhillon, VC, PAU, Ludhiana for examining the funding of KVKs through Gene Fund for Conservation activities. Dr.

K.C. Bansal, Director, NBPGR may be also included as member of this committee and may opt additional members, if required and submit recommendations.

- Approved for delegating its power under section 10 of PPV&FR Act, 2001 to Chairperson to decide the jurisdiction of Registrars on crop basis in accordance with Regulation 4 of PPV&FR Regulations, 2006.
- Budget estimates and revised estimates of PPV&FRA for the year 2013-14 were discussed and approved.

## 9.9 Construction of Authority Bhawan

Construction of PPV&FRA Complex to house the Headquarters of the Authority, Appellate Tribunal, National Gene Bank and Plant Variety Registry at a total cost of ₹20 crores was approved during the XI<sup>th</sup> Five Year Plan near Harbhajan Enclave, a residential colony of NBPGR, Pusa, New Delhi. Construction has been entrusted to a Uttar Pradesh Rajkiya Nirman Nigam Ltd. (UPRNN), Lucknow, public sector agency and required regulatory clearances were in the process of being obtained. In the meantime, the Planning Commission took up the matter with the DAC to explore the possibility of accommodating National Rainfed Area Authority (NRAA) and Department of Agriculture & Co-operation in the proposed Plant Variety Complex. The Secretary (A&C) has vide letter No. 1-4/2007-SD.V dated 22 August, 2012 desired that maximum Floor Area Ratio of the plot area should be utilized in order to accommodate the National Rainfed Area Authority and Department of Agriculture & Co-operation.

The details of the area to be shared by various Agencies namely PPV&FRA, DAC and NRAA is as follows:

Description of Sub-Head	Total Area	Share of		
		PPV & FRA	DAC	NRAA
Proportion of Built-up Area	19,166.0 Sqm.	12,586.0 Sqm (Ground + 5 Floors + 1 Basement + Part of 2 <sup>nd</sup> Basement)	2,100.0 Sqm. (6 <sup>th</sup> Floor + Part of 2 <sup>nd</sup> Basement)	4,480.0 Sqm. (7 <sup>th</sup> & 8 <sup>th</sup> Floors + Part of 2 <sup>nd</sup> Basement)

A total provision of ₹ 62.67crores has been made for construction of Plant Variety Bhawan as a share of PPV&FRA in a phased manner in the 12<sup>th</sup> Five Year Plan. The approvals from various civic agencies related to construction are being sought on priority.

## 9.10 Staff Welfare and News

- Shri U.K Dubey, Deputy Registrar, Hqrs. transferred as Deputy Registrar at Branch Office Ranchi and joined on 22 April, 2013.
- Dr. R.R. Hanchinal, Vice-Chancellor, University of Agricultural Sciences, Dharwad joined the Authority on 1 May, 2013 as the Chairperson.

- Dr. A.K. Singh, Senior Technical Officer was transferred on to Branch Office Guwahati & joined on 25 June, 2013.

## 9.11 Participation by Dr. R.R. Hanchinal, Chairperson, PPV&FRA

- Chairperson, PPV&FRA participated in the inaugural session of Zonal workshop-cum-training programme of KVKs of Zone I at PAU, Ludhiana and delivered a lecture on **“Provisions for Farmers’ in PPV& FR Act”** in one of the technical sessions held on 4-5 July, 2013.
- Participated in the inaugural session of Annual Zonal Review Workshop 2012-13 for KVKs of Zone VIII at Pathanmthitta, Kerala and also Chaired the Technical Session I and delivered a lecture on **“Role of KVKs on the awareness about Protection of Plant Varieties and Farmers’ Rights”** at Kerala on 8-10 July, 2013.
- Participated as Chief Guest in the Mango Diversity Conservation Awareness Programme organised by Central Institute of Sub-tropical Horticulture, Lucknow. He also reviewed the progress in the development of DUS guidelines of different crops like mango, anola, jamun, bael and also maintenance breeding of reference / example varieties during the visit on 16-17 August, 2013.
- Chairperson of the Authority was invited by the Department of Agriculture and Cooperation, Ministry of Agriculture to the 6<sup>th</sup> National Seed Congress held at Lucknow on 12-14 September, 2013. He chaired two Technical Sessions on Advancement in varietal improvement and seed quality enhancement and Intellectual Property Rights, Farmers’ Rights and Farmers’ participation in seed production and Lead Speaker on Innovation by Farmers’ and protection of their varieties.
- Chairperson was invited to Chair the Research Advisory Committee Meeting of Directorate of Seed Research, MAU, Varanasi on 17-19 September, 2013. During the visit he availed the opportunity to address the scientists and staff of the DSR and nearby KVKs to sensitize about their role in educating the farmers about farmers' rights as enshrined in the PPV&FR Act, 2001.
- Chairperson visited Directorate of Medicinal and Aromatic Plants Research (DMAPR), Anand on 22 October, 2013 along with Dr. R.C. Agrawal, Registrar General. Visits were undertaken to DUS experimental field, Medicinal Plants Botanical Garden at Lambhvel

farm and Laboratories of DMAPR at Boriavi. He keenly observed the various distinct characters and lines identified in *Kalmegh (Andrographis paniculata Nees.)* and expressed his satisfaction with pace of progress at the Centre and advised to develop the descriptors. He also visited the Botanical garden and field gene bank maintained at Directorate and showed keen interest in the medicinal plant collections and appreciated the efforts in conserving the important wealth of the country. A sapling of Karambola (*Averrhoa carambola L.*) was planted in the Botanical garden to commemorate his visit at DMAPR. Later, the Chairperson addressed the scientists and reminded them about the great role of Indian medicinal plants and traditional systems of Medicines in the health of millions of rural people. He opined that it is very important to find out the scientific base of therapeutic action of our major medicinal plants for getting the international attention.

- **Training-cum-awareness-programme at Udyamita Vidyapeeth, Chitrakoot:** A training-cum-awareness programme on ***“Protection of Plant Varieties and Farmers’ Rights Act, 2001”*** was organized Udyamita Vidyapeeth, Chitrakoot on 26 February, 2014. Dr. R.R. Hanchinal, Chairperson, PPV&FRA, New Delhi; Dr. Anupam Mishra, Zonal Project Director, Zone – VII, Jabalpur; Prof. V.S. Tomar, Vice-Chancellor, JNKVV, Jabalpur; Shri A.R. Tripathi, Project Director (ATMA) and Prof. P.K. Mishra, JNKVV, Jabalpur were Chief Guest and Guests of honours respectively. About 101 participants attended the programme. Dr. P.S. Shukla, Associate Professor, Plant Breeding, GBPUA&T, Pantnagar and Dr. R.C. Agrawal, Registrar General, PPV&FRA, New Delhi were present.
- **Training-cum-awareness programme:** Deendayal Research Institute, Chitrakoot organized four training-cum-awareness workshops in February and March, 2014. Out of four workshops, one of the training-cum-awareness programmes, which was held on 26 February, 2014 at Chitrakoot on the provisions of the Protection of Plant Varieties and Farmers’ Rights Act, 2001, Chairperson and Registrar General, PPV&FRA were invited for the inauguration as Chief guest and Guest of honour respectively.
- One-day training-cum-awareness programme on ***“Protection of Plant Varieties and Farmers’ Rights Act, 2001”*** was organized by Krishi Vigyan Kendra, Palamu in collaboration with PPV&FRA, on 25 March, 2014. The participants who were mainly farmers and other stakeholders were given exposure

about the provisions of the Protection of Plant Varieties and Farmers’ Rights Act, 2001 as well as other related important provisions concerning to farmers. Dr. L. K. Das, Programme Coordinator, KVK delivered welcome address and informed about the objectives of the training programme. Dr. A Pal and Dr. Mazid Ansari, Jr. Scientists, ZRS; Dr. Akhlesh Sah; Sanjay Kumar, KVK, Chianki and Manish Kumar served as resource persons. Shri Naresh Choudhary, DAO; Shri Umesh Prasad, DHO; Shri Probodh Kujur, Project manager, CHDP, Palamu; Sachin Akhtar, JJKVS and Shri Arundaya Vikash Sankal, Palamu were distinguished guests who were present on this occasion. During the event applications of farmers’ varieties of maize (9), paddy (4), marwa-(3), arhar-(4), sawan(3), kulthi4, semi(4) and oat (1) were received. One publication on ***“poudh kisham evam kirshak adhikar sharanchhan adhiniyam, 2001”*** was also distributed amongst farmers and participants.

## 9.12 Participation by Registrar General

- Visited Deendayal Research Institute, Chitrakoot on 11-13 July, 2013 to discuss and develop a programme for organising the state level awareness programmes on PPV&FRA in collaboration with the State Govt. of Madhya Pradesh and the Uttar Pradesh. The programme intends to cover farming communities of Bundelkhand and Malwa hotspot region situated in the state of Madhya Pradesh where the Authority could not organise training-cum-awareness programme to spread the message of farmers’ rights.
- Attended brainstorming session on ***“The issues relating to protection of traditional knowledge and also intellectual property in genetic resources”*** organized by Research and Information System for Developing Countries (RIS) on 18 July, 2013 at New Delhi.
- Participated on 19 July, 2013 in Agro-tech Investors Meet organized by Indian Council of Agriculture Research (ICAR) at New Delhi.
- Attended the meeting of experts for discussion on ***“draft National IPR Strategy”*** as prepared by the Sectorial Innovation Council on IPR under the Department of Industrial policy and Promotion, Ministry of Commerce, Govt. of India on 29 July, 2013.
- Delivered a lecture on ***“IPR Issues and Agri-innovations in India”*** during the 6<sup>th</sup> National Seed Congress organized by the Department of Agriculture



& Co-operation, Ministry of Agriculture from 12-14 September, 2013 at Lucknow.

- Participated in the sensitization workshop for farmers and other stakeholders about PPV & FR Act, 2001 at Zonal Project Directorate – Zone-VIII, Bengaluru on 30 September, 2013.
- On the invitation of BMS Institute of Technology, Affiliated Visveswaraya Technological University, Bengaluru, Dr. R.C. Agrawal, Registrar General, PPV&FR Authority made a guest presentation on the “*Farmers’ Rights*” as enshrined in the PPV&FR Act, 2001 on 4 January, 2014.

#### 9.12.1 Other Meetings

- An interface meeting of the Protection of Plant Varieties and Farmers’ Rights Authority and Seed Industries was held on 5 April, 2013 at New Delhi. The meeting was Chaired by Dr. R. C. Agrawal, Registrar General and Co-Chaired by Dr. N. K. Dadlani, Director, National Seed Association of India, New Delhi and attended by 29 representatives of seed industry. Several techno-legal issues relating to registration, DUS testing and monitoring, transgenic crops, special tests etc. were discussed. Representatives of Seed Industry appreciated the PPV&FR Authority for convening the meeting.
- **Meeting of the committee on the proposed amendments in PPV&FR Rules & Regulations:** The Department of Agriculture & Cooperation has requested the Authority to put forward a consolidated proposal in respect of amendments of PPV&FR Rules and Regulations in harmonization with the PPV&FR Act, 2001 to effectively implement the provisions of the said Act. Accordingly, the Chairperson, PPV&FRA constituted a high powered committee under the Chairmanship of Dr. S. Nagaranjan, Former Chairperson, PPV&FRA to look into the matter and suggest the required amendments in the subordinate legislations. A meeting of the above committee was convened in NAAS on 12 July, 2013 where the final recommendations of the committee on the amendment proposed in the Rules were discussed for onward consideration by DAC. The final recommendations as arrived in the above meeting were further discussed in an in-house meeting for refinement on 23 July, 2013 to prepare the draft amendments proposed in in PPV&FR Rules & Regulations for consideration by the DAC.
- **Meeting of the EVRC:** 21<sup>st</sup> meeting of Extant Varieties Recommendation Committee (EVRC) was held on 12 July, 2013 at NAAS, New Delhi under

the Chairmanship of Dr. D.P. Ray, Former Vice-Chancellor, OUA&T, Bhubaneswar. Sixty Seven extant varieties which have been notified under section 5 of the Seeds Act, 1966 were considered and recommended for registration.

- **Synergy / Interface Meeting between PPV&FR Authority and National Biodiversity Authority:** Realizing the fact that there is a need for close co-operation between the two Authorities, i.e. NBA and PPV&FR Authority, as both have the commonalities in their activities and programme, Dr. Balakrishna Pisupati, Chairman, NBA along with his officers consented to a request of Dr. R.R. Hanchinal, Chairperson, PPV&FRA to have a joint meeting on 17 July, 2013 at New Delhi. The meeting came out with very good suggestions to have synergy and dovetailing of some of the programme and activities together in the interest of the farming communities.
- **PPV&FRA- National Seed Association of India (NSAI) Interface meeting:** PPV&FRA-NSAI interface meeting was conducted on 20 July, 2013 at Directorate of Oilseeds Research, Hyderabad. Dr. N. K. Dadlani, Director, NSAI, congratulated Dr. R. R. Hanchinal on assuming the Chairperson of the PPV&FRA and urged that under his leadership the Authority will scale new heights. Dr. R. R. Hanchinal, Chairperson, PPV&FRA stressed the importance of private seed industry as an important stakeholder in the implementation of the PPV&FR Act, 2001, and called for coordination of public-private partnership in seed production technologies, proposed fee structure and requested the seed industry to contribute generously to the National Gene Fund. Representatives of the seed industry raised issues regarding the status of parental lines, sharing of database, conduct of DUS trial, maintenance breeding of reference breeding, EDV testing, development of guidelines for Chilli/Hot pepper and online filing of applications etc. All these issues were discussed and clarifications were given to the satisfaction of the participants.
- Meeting of Joint Parliamentary Committee on Subordinate Legislation, Rajya Sabha (oral evidence) on the PPV & FR Rules, 2003 in Room No. 53, 1st Floor, Rajya Sabha, Parliament House, New Delhi was attended by officials of Department of Agriculture and Co-operation and PPV&FRA on 30 July, 2013. Officers from PPV&FRA were also present including Chairperson and Registrar General, PPV&FRA.
- **Meeting regarding multilateral exchange of Plant**

**Genetic Resources under ITPGRFA:** A meeting under the Chairmanship of Secretary (A&C) was held on 1 August, 2013 at Krishi Bhawan, New Delhi with the relevant stakeholders i.e. Director, NBPGR; DDG (Crop Sciences), ICAR; National Seed Association of India; and National Biodiversity Authority, Chennai. Officers of the Seed Division including Shri A.K. Srivastava, Additional Secretary; Dr. Atanu Purkayastha, Joint Secretary (Seeds); Smt. Smriti Sharan, Director (Seeds); Shri R.K. Trivedi, DC (QC); and Shri Gorelal, Assistant Commissioner (Seeds) were present. Chairperson, PPV&FRA was also invited for the meeting. Shri Hem Pande, Additional Secretary and Dr. Sujata Arora, Director from Ministry of Environment and Forests (MoEF) were also present. It was decided in the meeting that NBPGR may develop guidelines, procedures and protocols for exchange of germplasm, particularly for export under multilateral system under the Treaty for seeking exemption under Section 40 of the Biodiversity Act, 2002 through a gazette notification to be issued by the MoEF on the recommendation of NBA.

- **Meeting to take stock of agenda of the Fifth Session of the Governing Body of the ITPGRFA at NBPGR:** Meeting was held to discuss the agenda of the Fifth Session of the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) at NBPGR on 6 August, 2013. All the relevant stakeholders were invited to represent their views on the policy matter relating to the ITPGRFA. The session was chaired by Dr. R.R. Hanchinal, PPV&FRA and co-chaired by Dr. S.K. Datta, DDG (Crop Sciences), ICAR. Ms. Shalini Bhutani, an independent lawyer and biodiversity researcher working for Campaign for Conservation and Community Control over Biodiversity was also invited. During the meeting experts discussed various agenda items and draft comments on country's position on various policy matters prepared for consideration by the DAC, Ministry of Agriculture and the visiting delegation to Oman.
- **Meeting of the Bioversity International:** The Bioversity International convened a Inception Meeting of the UNEP-GEF supported project '**Mainstreaming agro-biodiversity conservation and utilization in agricultural sector to ensure ecosystem services and reduce vulnerability**' at New Delhi from 2-4 September, 2013. The purpose of the meeting was to orient national partners on the project rationale and implementation arrangements and reporting systems

and finalize the management procedures and plan of action of the UNEP/GEF supported project. The Bioversity invited PPV&FR Authority as one of the partners and officers from the Authority attended the programme. Key officials from the ICAR, Seeds Division, DAC, IARI, NBPGR, SAUs, NGOs, MoEF participated in three-day event.

- **National Workshop on "Outscaling Farm Innovation":** Trust for Advancement of Agricultural Sciences (TAAS) in collaboration with ICAR and APAARI organised a three-day National Workshop on Outscaling Farm Innovation from the 3-5 September, 2013 at New Delhi. Protection of Plant Varieties & Farmers' Rights Authority was one of the co-sponsors of the workshop.



Session VIII of the workshop, held on the 4 September 2013, was devoted to Agro-biodiversity conservation. This session was Chaired by Dr. P. L. Gautam, Vice-Chancellor, Career Point University & Former Chairperson, PPV&FR Authority and Co-chaired by Dr. R. R. Hanchinal, Chairperson, PPV&FR Authority. The lead speaker for the session, Dr. Mahadevappa, Director, JSS Rural Development Foundation, spoke in detail about the policy interventions for promoting innovations in Agro-biodiversity conservation and sustainable use. The panelists for the session were four innovative and progressive farmers, Shri P. Narayanan Unny (Navara Rice); Shri Dattatreya Hedge (Apple & Mango variety); Shri Sundaram Verma (innovation and crop improvement) and Shri Sultan Singh (Fisheries). The session was convened by Dr. R. C. Agrawal, Registrar General, PPV&FR Authority.

- A Seminar on Farmers' Rights in India was jointly organized by Navbharat Education and Social Research Institute (NESRI), Faculty of Law, Mody Institute of Technology and Science (MITS) and Protection of Plant Varieties and Farmers' Rights Authority at Barsinghpura (Khandela), Sikar, Rajasthan on 7 September, 2013. The event was inaugurated by Hon'ble Justice Dr. B.S. Chauhan, Judge, Supreme

Court of India. Dr. Arijit Pasayat, former Chief Justice of India and Chairperson, Advance Ruling Authority and patron Farmers' Rights programme delivered the presidential address. Dr. R.R. Hanchinal, Chairperson, PPV&FR Authority also made a special address to the gathering and presented his views on the conservation and protection of Farmers' Rights under the provisions of PPV&FR Act by way of registration.



### 9.13 Participation in Krishi Vasant at CICR, Nagpur on 9-13 February, 2014

Nagpur Mela, Krishi Vasant, 2014 to celebrate farmers' great contributions to our agrarian economy was organized at CICR, Nagpur from 9-13 February, 2014 as a large congregation of farmers and stakeholders from the entire country. Millions of farmers and others visitors have visited the National level Fair cum Exhibition. This was a joint effort of Government of India and Govt. of Maharashtra. The programme was inaugurated by the Hon'ble President of India on 9 February, 2014 and Shri Prithvi Raj Chauhan, Hon'ble Chief Minister, Govt. of Maharashtra, Shri Sharad Pawar, Hon'ble Union Minister of Agriculture and Food Processing Industries & State Agri. Minister of Maharashtra were also present. During this exhibition the brochures on farmers' rights and PPV&FR Act, 2001 and other literature related to IPR was distributed among the farmers and others. Shri R.R. Pradhan and Dr. D.S. Pilonia were deputed to showcase the activities of the Authority by putting a stall. Besides, Senior Officers from Department of Agriculture and Co-operation, Ministry of Agriculture also visited the Krishi Vasant including the stall of the PPV & FR Authority. Dr. R.R. Hanchinal, Chairperson and Dr. R.C. Agrawal, Registrar General of PPV&FRA also visited Nagpur on 12 February, 2014 and had a talk with farmers.



## 10. International Co-operation

The Indian legislation has special provisions relating to applications for registration citizens of foreign countries on the basis of principle of reciprocity where any country specified by the Central Government in this behalf by notification in the Official Gazette under sub-section (1) of section 31 does not accord to citizens of India the same rights in respect of the registration and protection of a variety, as it accords to its own nationals, no national of such country shall be entitled, either solely or jointly with any other person, to apply for the registration of a variety or be entitled to get a variety registered under this Act. Since, India is not member to the UPOV, therefore, many countries are exploring bilateral co-operation with India in the field of agriculture and allied area.

During the period 2013-14, a number of foreign delegations visited India to explore possibility of bilateral co-operation in the area of Plant Variety Protection, Plant Breeder's Rights, DUS testing and Capacity Building. India is member to the many International Conventions and Treaties and founder member of the International Treaty on Plant Genetic Resources for Food & Agriculture (ITPGRFA). The biennial contribution to the ITPGRFA on behalf of the Govt. of India are paid by the Authority. The Authority also participates in the Governing Body Sessions / Meetings and technical programmes of the International Treaty and UPOV. India's membership to the UPOV is under consideration and given the status of an observer.

A joint declaration was signed at Berlin on 11 April, 2013 between the Department of Agriculture & Co-operation, Ministry of Agriculture of India and Federal Ministry of Food, Agriculture and Consumer protection of the Federal Republic of Germany on development of seeds. Both sides agreed to start this bilateral co-operation from the date of signing of the document initially for a period of two years. Both sides agreed on the possibility of continuing the co-operation in due time before the end of two years period.

This agreement will open a new era of bilateral cooperation on Plant Variety Protection, DUS testing and Plant Breeders' Rights between the German Association of Plant Breeders (BDP) & PPV&FR Authority and National Seed Association of India and will help both the countries in understanding and exchanging of experience and exchange of information relating to the Plant Variety Protection of each other. The joint declaration was signed by Mrs. Sujatha Singh, Ambassador of India to Germany

on behalf of India and Dr. Gerd Müller, Parliamentary State Secretary on behalf of the Federal Ministry of Food, Agriculture and Consumer protection of the Federal Republic of Germany.

Besides, the Department of Agriculture & Co-operation sought comments of the Authority on Bilateral Co-operation of India with number of countries like **Argentina, Azerbaijan, Bangladesh, Bolivia, Brazil, BRICS, Canada, France, Hungary, Slovakia, Iraq, Jordan, Pakistan, Philippines, Serbia, Slovakia, Suriname, USA, Ukraine and Zimbabwe.**

A meeting between the Officers from Argentine and Ministry of Agriculture was held on 14 June 2013 at DAC, Ministry of Agriculture. The Argentinian delegation comprised six members led by Dr. Gaston Funes, Agricultural Attaché to European Union, Ministry of Agriculture, Livestock and Fisheries of Argentine and from Indian side the meeting was led by Shri Utpal Kumar Singh, Joint Secretary (PP), Department of Agriculture & Co-operation, Ministry of Agriculture. Dr. R.C. Agrawal Registrar General, Authority requested inclusion of sharing of experiences related to implementation of PVP legislation as area for mutual co-operation in the Work Plan to be signed between the two countries.

Registrar General, attended Round Table Meet on India – Africa Agriculture on 24 June 2013 at India International Centre, New Delhi. Dr. William Dar, Director General, ICRISAT; Dr. S Ayyappan, Director General, ICAR; Dr. L.S. Rathore, Director General, India Metrological Department, Dr. Purvi Mehta, South Asia Director, International Livestock Research Institute (ILRI); and Diplomats of African countries were some of the important participants in the meet.

### International Visits

The details of foreign visits by the officers of the Authority and Indian delegation during the reporting year are as under:

- Dr. R.C. Agrawal, Registrar General, attended the Resumed fourth meeting of the Ad hoc Advisory Technical Committee on the Standard Material Transfer Agreement (SMTA) and Multilateral System (MLS) of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) on 12 April, 2013 at Rome, Italy.
- Shri Dipal Roy Choudhury, Joint Registrar, visited

Center for Innovation and Development, Wageningen University UR, the Netherlands on an invitation to deliver a lecture on the **“Implementation of PPV&FR Act, 2001 in India”** on 24 April, 2013 during the International Training programme on **“Contemporary Approaches in Plant Genetic Resources Conservation and Use”**. The course was aimed to enhance participant’s capabilities to better understand current plant genetic resource management strategies and policies. A total of 22 candidates of different nationalities, viz., Bangladesh, Philippines, India, Sri Lanka, Thailand, Nigeria, Ghana, Sudan, Ethiopia, Poland, Costa Rica, Brazil and other countries representing Universities / Research Institutes / Gene Banks, Government Departments / Ministries, CGIAR centers (ICRISAT), NGOs engaged in biodiversity conservation and research etc. participated in the training program.

### 10.1 International Visits

- **Participation in 5th Session of the Governing Body of ITPGRFA**

Indian delegation led by Dr. Atanu Purkayastha, Joint Secretary (Seeds), Department of Agriculture & Co-operation, Ministry of Agriculture consisting of Dr. R.R. Hanchinal, Chairperson & Dr. R.C. Agrawal, Registrar General, PPV&FR Authority participated in the Fifth Session of Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) at Muscat, Oman from 22-28 September, 2013.

- **Seminar of UPOV in Sri Lanka**

A Seminar on **“Benefits of Plant Variety Protection Systems online with the UPOV Convention”** was jointly organized by Department of Agriculture (DOA), Sri Lanka, UPOV, Geneva, USPTO, USA & Ministry of Agriculture, Forestry & Fisheries (MAFF), Japan on 25-26 November, 2013 at Plant Genetic Resources Centre (PGRC), Gannoruwa, Peradeniya, Sri Lanka. On the invitation of the UPOV, a Indian delegation consisting by Dr. R.R. Hanchinal, Chairperson, PPV&FR Authority, Shri R.K. Trivedi, Deputy Commissioner (Quality Control), DAC; Dr. S. Maurya, ADG (IPR & TM), ICAR; and Dr. Sudhir Kochhar, National Coordinator, NAIP, ICAR attended the Seminar and updated with regards to the implementation of PPV&FR Act in India.

- **Visit to CIMMYT, Mexico**

Dr. Atanu Purukayastha, Joint Secretary (Seeds), Department of Agriculture & Co-operation, Ministry

of Agriculture and Prof. R. R. Hanchinal, Chairperson, PPV&FR Authority visited CIMMYT, Mexico from 22–28 March, 2014 on the invitation by Borlaug Rust Initiative, an International consortium initiated by ICAR, ICARDA, CIMMYT, FAO and Cornell University and International Maize and Wheat Improvement Centre (CIMMYT), Mexico. More than 700 researchers, policy makers and representatives of leading Agricultural Research for Development Organizations around the world participated in both the conferences. From the Indian side, apart from Joint Secretary (Seeds) and Chairperson, PPV&FR Authority, the Ambassador of India to Mexico, Additional Secretary, DARE & Secretary ICAR; DDG (Crop Sciences), ICAR; Agricultural Commissioner, DAC; Director, Indian Agricultural Research Institute, New Delhi; and Contingent of Scientists from Wheat program participated.

The objective of the Borlaug Global Rust Initiative (BGRI) technical workshop (22-25 March, 2014) was to review the R&D work to reduce world vulnerability to stem yellow and leaf rusts of wheat and to enhance world productivity to withstand global threat to food security. It was followed by Borlaug summit on Wheat Food Security (26–28 March, 2014) which was targeted on how to feed growing population, which will exceed 9.6 billion by 2050 and demand for wheat may increase by 60 percent in context of global warming and climate change.

### 10.2 Foreign Visitors



A training programme on **“Seed Production and Quality Evaluation”** was organized from 3-16 March, 2014 for the officials from Afro-Asian Rural Development Organization (AARDO) member countries was organized in the Division of Seed Science and Technology, IARI, New Delhi. There were 10 participants from Ghana(1),

Malaysia (2), Oman (1), Sri Lanka (1), Sudan (1), Taiwan (2), Yemen (1) and Zambia (1). The information on seed production technology in selected major fields and vegetables, the procedures and principles for seed quality testing, seed storage and policy issues related to crop variety development, release and notification, the Seeds Act, 1966 & Seeds Rules, 1968 along with New Seeds Bill, 2004 and PPV&FR Act, 2001 was provided in the training through class room lectures, Hands on training, practical, demonstrations, interactive sessions. Dr. R.R. Hanchinal, Chairperson, PPV&FRA, was one of the eminent resource persons who interacted with trainees and explained the salient features of PPV&FR Act 2001 & the Farmers' Rights including status of implementation of the Act.

- The PPV&FR Authority had signed a Memorandum of Agreement (MoA) with the Netherlands for bilateral co-operation in the field of Plant Variety Protection, DUS testing, and Plant breeder's rights in December, 2011. Consequently, a six members Indian delegation visited the Netherlands to study the effect of PVP on the Development of Agriculture and Horticulture sectors and also development of Plant Breeding Industry. Similarly, a 10 members Dutch delegation also visited India to impart training to the scientific community involved in the DUS testing at Shimla / Modipuram, Varanasi, Bengaluru and Delhi. Dr. Kees van Ettehoven, Head Variety Testing, Naktuinbouw, the Netherlands visited the office of Authority on 24 June, 2013 to discuss about future co-operation in the field of PVP of the Work Plan as per MoU signed between India and the Netherlands Governments on 7 June, 2011 at New Delhi.
- Ms. M Ann Tutwiler, Director General and Dr. Stephan Weise, Deputy Director General, Bioversity International along with their South Asia Coordinator, Dr. P. N. Mathur had a courtesy call with the Dr. R. R. Hanchinal, Chairperson, PPV&FR Authority at his office on the 13 August, 2013. Various aspects relating to plant variety protection including the implementation of the provisions of the PPV&FR Act, 2001 with special reference to farmers' rights and probable areas of collaboration between Bioversity International and PPV&FR Authority formed part of

the discussions. On this occasion Registrar General, Registrars and the Joint Registrars were also present.

- **Dr. Marie Haga, Executive Director, Global Crop Diversity Trust**, Germany along with her team members Mr. Michael Fredrich Wilhelm Koch and Mr Luigi Maria Guarino met Dr. R. R. Hanchinal, Chairperson at his office on 20 November, 2013. The discussions touched upon various provisions of the PPV&FR Act, 2001, progress of the Authority in implementing the Act with special emphasis on farmers' varieties and its registration. Areas of mutual co-operation were also discussed and explored. Dr Prem Mathur, South Asia Coordinator, Bioversity International and Dr. R C Agrawal, Registrar General, PPV&FRA were also present during the discussions.
- **German Delegation visit to India.** A high level German delegation led by Mr. Udo von Kröcher, President, Federal Office of Plant Varieties (Bundessortenamt) visited PPV&FR Authority on 5 December, 2013 at NASC Complex, New Delhi. The delegation consisted of seven members including **Ms.** Birgit Risch, Head of Division South and Southeast Asia, Federal Ministry of Food, Agriculture and Consumer Protection; Mr. Dieter Rucker, Head of Division International Affairs, German Plant Breeders' Association (BDP) accompanied by Ms. Sabine Raddatz, Counsellor Food, Agriculture and Consumer Protection, Embassy of Germany, New Delhi. In the said meeting, the areas of mutual co-operation between the two countries in the field of Protection of Plant Varieties, Plant Breeders' Rights, DUS Testing and capacity building were discussed. Therefore, Dr. Atanu Purkaystha, Joint Secretary (Seeds), Department of Agriculture & Co-operation reviewed the overall progress of bilateral co-operation between the two countries with all the stakeholders including representatives of NBPGR, NSC, SFCl, NSAI and PPV&FR Authority on 6 December, 2013 in a separate meeting at Krishi Bhawan, New Delhi. The detailed work plan between the participating agencies of the two countries i.e. PPV&FRA and Federal Office of Plant Varieties (Bundessortenamt) of Germany is under progress.





## 11. Financial Statements of the Authority 2013-14

The financial statements were prepared under the historical cost convention in accordance with Generally Accepted Accounting Principles (GAAP), the applicable mandatory Accounting Standards (AS) issued by the Institute of Chartered Accountants of India (ICAI) and relevant presentational requirements for Central Autonomous Bodies as prescribed by the Controller General of Accounts (CGA). The Authority follows the accrual method of accounting in respect of all items of expenditure & income except where otherwise stated. A copy of Balance sheet as on 31 March, 2014, Income & Expenditure Account and Receipt & Payment Account for the year ended 31 March, 2014 are as under:

The Annual Accounts of the Authority were approved in the 21<sup>st</sup> PPV&FR meeting of Authority held on 31 October, 2014 at New Delhi.

In compliance with section 62(2) of PPV & FR Act, 2001, the accounts of the Authority were submitted to the Comptroller and Auditor General of India (CAG) for conducting audit. The audited accounts along with audit report and management reply were sent to the Ministry for placing before both the houses of Parliament. The Authority received ₹ 1511.96 lakh as grants-in-aid from DAC, during the year 2013-14 and utilized ₹1525.38 lakh after adjusting unspent balance of ₹13.51 lakh of previous year leaving a balance of ₹ 0.09 lakh.

### Balance Sheet as on 31<sup>st</sup> March, 2014

(Amount in ₹)

CORPUS / CAPITAL FUND AND LIABILITIES	Current Year	Previous Year
CORPUS / CAPITAL FUND	15,04,85,802	13,24,08,267
RESERVES AND SURPLUS	–	–
EARMARKED/ENDOWMENT FUNDS	–	–
SECURED LOANS AND BORROWINGS	–	–
UNSECURED LOANS AND BORROWINGS	–	–
DEFERRED CREDIT LIABILITIES	–	–
CURRENT LIABILITIES AND PROVISIONS	5,72,12,802	4,03,40,487
<b>TOTAL</b>	<b>20,76,98,604</b>	<b>17,27,48,754</b>
<b>ASSETS</b>		
FIXED ASSETS	2,88,46,845	2,76,74,241
Less: Accumulated Depreciation	2,10,04,948	1,78,53,194
NET FIXED ASSETS	78,41,897	98,21,047
CAPITAL WORK IN PROGRESS	1,78,38,219	1,78,38,219
INVESTMENTS–FROM EARMARKED/ENDOWMENT FUNDS	–	–
INVESTMENTS–OTHERS	–	–
CURRENT ASSETS, LOANS ADVANCES ETC.	18,20,18,488	14,50,89,488
MISCELLANEOUS EXPENDITURE (to the extent not written off or adjusted)	–	–
<b>TOTAL</b>	<b>20,76,98,604</b>	<b>17,27,48,754</b>

## Income and Expenditure Account for the Year Ended on 31<sup>st</sup> March, 2014

(Amount in ₹)

INCOME	Authority Fund		Gene Fund	
	Current Year	Previous Year	Current Year	Previous Year
Income from Sales/ Services	–	–	–	–
Grants/Subsidies	15,00,23,396	15,32,70,863	85,00,000	50,00,000
Fees/Subscriptions	1,86,96,550	31,72,900	19,05,498	8,49,983
Income from Investments	–	–	–	–
Income from Royalty, Publication etc.	–	–	–	–
Interest Earned	51,83,817	38,22,363	3,61,096	1,44,301
Other Income	42,417	2,36,569	–	–
Increase/(Decrease) in stock of Finished goods and works in progress	–	–	–	–
Deferred Income (Depreciation on fixed asset)	31,51,754	35,83,531	–	–
Prior period Adjustment A/c (Annexure-A)	–	–	–	–
<b>TOTAL (A)</b>	<b>17,70,97,934</b>	<b>6,40,86,226</b>	<b>1,17,66,594</b>	<b>69,94,284</b>
<b>EXPENDITURE</b>				
Establishment Expenses	4,10,80,100	3,64,99,570	–	–
Other Administrative Expenses etc.	4,20,33,831	2,84,59,357	61,10,817	46,04,021
Expenditure on Grants , Subsidies etc.	6,43,97,379	6,30,04,554	–	–
Interest	1,321	3,632	–	–
Depreciation including Impairment Loss(Net Total at the year-end-corresponding to Schedule 8)	31,51,754	35,83,531	–	–
Prior period Adjustment A/c (Annexure-A)	1,20,32,641	70,70,668	–	81,191
<b>TOTAL(B)</b>	<b>16,26,97,026</b>	<b>13,86,21,312</b>	<b>61,10,817</b>	<b>46,85,212</b>
<b>Balance being excess of Income Over Expenditure (A–B)</b>	<b>1,44,00,908</b>	<b>2,54,64,914</b>	<b>56,55,777</b>	<b>23,09,072</b>
Transfer to special Reserve (Specify each)	–	–	–	–
Transfer to /from General Reserve	–	–	–	–
<b>Balance being Surplus (Deficit) Carried to Corpus/Capital Fund</b>	<b>1,44,00,908</b>	<b>2,54,64,914</b>	<b>56,55,777</b>	<b>23,09,072</b>

## Receipts and Payments for the Year Ended on 31<sup>st</sup> March, 2014

(Amount in ₹)

RECEIPTS	Current Year	Previous Year	PAYMENTS	Current Year	Previous Year
<b>1. Opening Balance</b>			<b>1. Expenses</b>		
a) Cash in Hand	10,000	5,000	a) Establishment Expenses	2,69,69,070	2,69,32,784
b) Bank Balances			b) Administrative Expenses	2,73,93,982	2,28,34,027
State Bank of India (Including Mod)	1,61,84,501	4,63,722	<b>2. Payments made against funds</b>		
Syndicate Bank	58,28,425	2,41,96,312	a) Existing DUS Centres	3,93,85,671	3,24,08,334
Remittance in Transit	3,739	–	b) New DUS Centres	2,30,61,424	2,96,31,098
SBI (Gene Fund)	1,12,88,001	58,53,950	c) Referral Labs	11,83,254	63,70,000
Guwahati Bank	17,160	48,856	d) Field Gene Bank	46,30,000	53,42,243
Ranchi Bank	14,825	93,062	<b>3. Expenditure on fixed Assets and Capital Work in Progress</b>		
<b>2. Grants received</b>			a) Purchase of Fixed Assets (Authority)	7,04,129	68,60,060
From Government of India	15,11,96,000	16,02,33,000	b) Expenditure on Capital Work-in-Progress	–	64,93,543
<b>3. Interest Received</b>			<b>4. Advance to Training Centres</b>	1,98,81,163	81,03,165
a) On Bank deposits			<b>5. Advance to Suppliers</b>	–	7,16,653
Gene Fund	5,41,753	40,268	<b>6. Advance to outsiders</b>	6,76,050	27,53,256
Authority Fund	16,94,768	10,86,257	<b>7. Advance Against DUS Test fees</b>	–	51,79,250
<b>5. Refund of Advance from Training Centres</b>	8,27,471	4,12,626	<b>8. Refilling of Franking Machine</b>	2,50,000	1,50,000
<b>6. Fees / Subscriptions/ Other Income</b>			<b>9. Contribution to Organization / institutions</b>	–	26,24,015
Application/ Registration Fee Received	49,72,000	30,32,000	<b>10. Advance to Staff</b>	29,37,484	41,43,829
PVJ Fees	59,200	39,800	<b>11. Finance Charges</b>	1,777	7,909
Fees for Notice of Opposition	53,000	1,48,500	<b>12. Payments against advance received</b>	50,000	55,000
Annual Fees (Including Share from sale of Seeds)- Gene Fund	17,91,498	7,39,983	<b>13. Fixed Deposit</b>	7,22,00,000	13,24,00,000

RECEIPTS	Current Year	Previous Year	PAYMENTS	Current Year	Previous Year
Sale of Old Newspapers, Scrap	2,233	26,240	<b>14. Reversal of Stale Demand Draft</b>	–	32,600
DUS Test Fee Received	1,36,19,500	2,03,61,000	<b>15. Statutory Liabilities Paid</b>	43,58,258	44,09,252
Other Income	5,666	5,693	<b>16. Closing Balances</b>		
Sale of Publications	17,220	–	a) Cash in Hand	15,000	10,000
Claim Received against Vehicle Insurance	9,867	–	b) Bank Balances		
Fees for Granting Extension	4,500	–	State Bank of India (Including Mod)	3,18,54,153	1,61,84,501
<b>7. Refund of Advance from Staff</b>	4,27,222	11,99,503	Syndicate Bank	26,29,758	58,28,425
<b>8. Encashment of FD</b>	6,56,24,338	11,16,80,872	SBI (Gene Fund)	1,60,10,435	1,12,88,001
<b>9. Reversal of Stale Cheques</b>	–	38,503	Guwahati Branch	14,409	17,160
<b>10. Encashment of CPF (F.D)</b>	–	7,99,394	Ranchi Branch	2,498	14,825
<b>11. Claims of Gratuity received from LIC</b>	–	2,88,927	Remittance in Transit	34,372	3,739
<b>12. Wrongly Credited in Bank now reversed</b>	–	200			
<b>13. Security Deposit</b>	50,000	–			
<b>TOTAL</b>	<b>27,42,42,887</b>	<b>33,07,93,669</b>	<b>TOTAL</b>	<b>27,42,42,887</b>	<b>33,07,93,669</b>

## 12. Citizen's Charter

### Vision

Ensure an effective system for protection of plant varieties, the rights of the farmers, plant breeders and to encourage the development of new varieties of plants.

### Mission

Protection of intellectual property rights of plant varieties to stimulate plant variety innovations and also to recognize and reward the farmers for their contributions in preserving and conserving the plant genetic resources and traditional varietal wealth.

### Objectives

- To provide an effective system for protection of plant varieties and rights of farmers, plant breeders and researchers.
- To protect plant breeders' rights and to stimulate investment for Research & Development and evolution of new varieties.
- To recognize the farmers in respect of their contributions made for conserving, improving and making available plant genetic resources for development of new plant varieties.
- To facilitate the growth of seed industry to ensure production and availability of high quality seeds and planting material to the farmers.

### Functions

- Encourage the development of new varieties of plants and to protect the rights of the farmers and the plant breeders.
- Establishment of National Gene bank for orthodox seed and field gene bank for perennial crops
- Registration of new and extant varieties of plants.
- Developing characterization and documentation of registered plant varieties.
- Documentation, indexing and cataloguing of farmers varieties.
- Compulsory cataloguing facility for all varieties of plants.
- Ensuring seeds of varieties registered under the Act are available to farmers and providing for compulsory license, if needs arise.

- Ensuring maintenance of National Register of plant varieties.
- Utilization of Gene Fund for supporting the conservation and sustainable use of plant genetic resources and capacity building of the panchayats in carrying out such conservation and sustainable use and meeting the expenditure of the schemes relating to benefits sharing and compensations to the stakeholders

### Stakeholders

Protection of Plant Varieties and Farmers' Rights is a unique subject involving diverse activities, initiatives and stakeholders. The stakeholders of Protection of Plant Varieties and Farmers' Rights Authority are Central Government, State Governments, Union Territories, Research Organizations including State Agricultural Universities, Seed Industries, NGOs and above all the farmers including tribal farming communities.

### Services offered

- Providing IPR protection to plant varieties bred by farmers, researchers / plant breeders in the form of plant variety registration.
- Maintaining National Register of Plant varieties wherein details of plant varieties and the rights of respective breeders are available.
- To provide compensation to the farmers in case a registered variety does not perform as per the claim made by the breeders.
- Benefit sharing to the communities / farmers for the contribution / sharing of plant genetic resources.
- To create awareness and capacity building for the rights of plant breeders and farmers towards implementation of PPV & FR Act.
- Developing plant varieties database to stakeholders.
- To support and reward farmers, community of farmers, particularly the tribal and rural communities engaged in conservation, improvement and preservation of genetic resources.

### Grievances Redressal Mechanism

PPV and FR Authority has designated officer for redressal of public grievances and can be addressed to:

### **Registrar General**

Protection of Plant Varieties and Farmers' Rights Authority  
S-2, A Block, NASC Complex, Opp. Todapur Village  
New Delhi -110012.

Ph: 011-25843316. Fax: 011-25840478.

E mail: [ppvfra-agri@nic.in](mailto:ppvfra-agri@nic.in)

[www.plantauthority.gov.in](http://www.plantauthority.gov.in)

### **RTI Cell**

**Dr. Ravi Prakash**

**Chief Public Information Officer (CPIO)**

**Protection of Plant Varieties & Farmers' Rights Authority**

**Govt. of India, Ministry of Agriculture,**

**Department of Agriculture and Co-operation,**

NASC Complex, DPS Marg, Opp. Todapur Village,  
New Delhi-110 012

Tel: +91-11-25843853

Email: [prakash.ravi@nic.in](mailto:prakash.ravi@nic.in)

**Dr. R.C. Agrawal**

**Appellate Authority**

**Protection of Plant Varieties & Farmers' Rights Authority**

**Govt. of India, Ministry of Agriculture,**

**Department of Agriculture and Co-operation,**

NASC Complex, DPS Marg, Opp- Todapur Village,  
New Delhi-110 012

Tel: +91-11-25843316

Email: [rg-ppvfra@nic.in](mailto:rg-ppvfra@nic.in)

### Members of the Authority (1 April, 2013 to 31 March, 2014)

1. Chairperson of the Authority: (Dr. Swapan Kumar Datta, officiating Chairperson)w.e.f. 19 December, 2012.  
Dr. R.R. Hanchinal w.e.f. 1 May, 2013 continuing

#### Ex officio members

2. Dr. J. S. Sandhu, Agriculture Commissioner, Department of Agriculture & Co-operation, Ministry of Agriculture, Govt. of India, Krishi Bhawan, New Delhi
3. Dr. Swapan Kumar Datta, Deputy Director General (Crop Science), Indian Council of Agricultural Research, Krishi Bhawan, New Delhi
4. Dr. Atanu Purkayastha, Joint Secretary (Seeds), Department of Agriculture & Co-operation, Ministry of Agriculture, Govt. of India, Krishi Bhawan, New Delhi
5. Dr. Gorakh Singh, Horticultural Commissioner up to 9 October, 2013; (Dr. S.K. Malhotra w.e.f. 10 October, 2013), Department of Agriculture & Co-operation, Ministry of Agriculture, Govt. of India, Krishi Bhawan, New Delhi
6. Dr. K.C. Bansal, Director, National Bureau of Plant Genetic Resources,Pusa, New Delhi
7. Dr. K. S. Charak, Scientist 'G'/ Adviser, Department of Biotechnology, Ministry of Science & Technology, Govt. of India, CGO Complex, Lodhi Road, New Delhi
8. Shri Hem Pande, Additional Secretary, Ministry of Environment & Forests, Govt. of India, Paryavaran Bhawan, CGO Complex, Lodi Road, New Delhi
9. Shri Inder Kumar, Joint Secretary & Legal Advisor, Department of Legal Affairs, Ministry of Law & Justice,A wing, 4th Floor, Shastri Bhawan, New Delhi

#### Nominated Members

10. Mr. Debasish Panda, Principal Secretary (Agriculture), Government of Uttar Pradesh, Bahukhandi Bhawan, Sachivalaya,Lucknow
11. Shri P. Chengal Reddy, Secretary General, Consortium of Indian Farmers Association, Flat No.209, Vijaya Towers, Shanti Nagar, A C Guards, Hyderabad
12. Shri Mayaram Netam, Vrindavan Colony, House No. 1/21,Jagadapur, Bastar, Chattisgarh
13. Dr. Usha Barwale, Maharashtra Hybrid Seeds Company Limited, Post Box No.76, Jalna, Maharashtra
14. Dr. B. S. Dhillon, Vice Chancellor, Punjab Agriculture University,Ludhiana, Punjab
15. Mrs. Neelam Tyagi, Laxmi Jan Kalyan Sewa Sansthan, Rawli Road, Jeetpur, Gali No. 5, Muradnagar, Ghaziabad, Uttar Pradesh
16. Dr. Sudhir Kumar Goel, Principal Secretary (Agriculture), Government of Maharashtra, Agriculture Department, Mantralya, Mumbai

#### Member Secretary (ex officio)

17. Dr. R.C. Agrawal, Registrar General, PPV&FR Authority, New Delhi

## Sanctioned Posts at PPV&amp;FR Authority

(As on 31st March, 2014)

Headquarters (New Delhi)	Posts Sanctioned
Name of the Post with pay scale	
Chairperson	
₹ 80,000/- (fixed)	1
Registrar General	
₹ 67000-79000/-	1
Registrar	
₹ 37,400-67,000/- with GP ₹ 8,700/-	3
Financial Advisor	
₹ 37,400-67,000 with GP ₹ 8,700/-	1
Joint Registrar	
₹ 15,600-39,100 with GP ₹ 7,600/-	2
Deputy Registrar	
₹ 15,600-39,100 with GP ₹ 6,600/-	1
Legal Advisor	
₹ 15,600-39,100 with GP ₹ 6,600/-	2
Senior Accounts Officer	
₹ 15,600-39,100 with GP ₹ 6,600/-	1
Senior Technical Officer	
₹ 9,300-34,800 with GP ₹ 4,600/-	3
Technical Assistant	
₹ 9,300-34,800 with GP ₹ 4,200/-	1
Computer Assistant	
₹ 9,300-34,800 with GP ₹ 4,200/-	6
<b>Sub Total</b>	22
<b>Branch Offices (Guwahati &amp; Ranchi)</b>	
Deputy Registrar	
₹ 15,600-39,100 with GP ₹ 6600/-	2
Plant Variety Examiner	
₹ 15,600-39,100 with GP ₹ 5,400/-	2
Senior Technical Officer	
₹ 9,300-34,800 with GP ₹ 4,600/-	2
Executive Assistant	
₹ 9,300-34,800 with GP ₹ 4,200/-	2
<b>Sub Total</b>	8
<b>Total</b>	30



## Details of Human Resources Head Office &amp; Branch Office

Name of the post and its incumbent	Filled	Vacant
<b>Chairperson</b>		
Dr. R.R. Hanchinal w.e.f. 1 May, 2013	1	–
<b>Registrar General</b>		
Dr. R.C. Agrawal	1	–
<b>Registrars</b>	3	
1. Dr. Manoj Srivastava		–
2. Dr. Tejbir Singh		
3. Dr. Ravi Prakash		
<b>Financial Advisor</b>	1	–
Shri J. P. Singh		
<b>Joint Registrars</b>	2	–
1. Shri D.R. Choudhury		
2. Shri D.S. Mishra		
<b>Deputy Registrar</b>	–	1
<b>Legal Advisors</b>	2	–
1. Shri D.S. Raj Ganesh		
2. Shri R.R. Pradhan		
<b>Senior Accounts Officer</b>	–	1
<b>Senior Technical Officer</b>	–	3
<b>Technical Assistant</b>	1	–
Dr. D.S. Pilania		
<b>Computer Assistants</b>	5	1
1. Shri Arvind Kumar Rai		
2. Shri Sanjay Kumar Gupta		
3. Mrs Shipra Mathur		
4. Shri. Nitesh Kumar Verma		
5. Shri Shyam Narayan Prasad		
<b>Branch Office Guwahati</b>		
1. Deputy Registrar, Dr. A.C. Sarma	1	–
2. Plant Variety Examiner	–	1
3. Senior Technical Officer: Dr. A.K. Singh	1	
4. Executive Assistant	–	1
<b>Branch Office Ranchi</b>		
1. Deputy Registrar, Shri Uma Kant Dubey	1	–
2. Plant Variety Examiner	–	1
3. Senior Technical Officer	–	1
4. Executive Assistant	–	1
<b>Sub Total</b>	<b>19</b>	<b>11</b>
<b>Total</b>	<b>30</b>	

## Statement showing funds released to Existing DUS Centres during 2013-14

S.No	Name of DUS Centre	Amount (₹ in Lakh)
1	Assam Agricultural University, Jorhat <b>(Rice)</b>	4.01
2	Acharya NG Ranga Agricultural University, Hyderabad <b>(Maize &amp; Blackgram)</b>	8.11
3	Choudhary Charan Singh, Hisar Agricultural University , Hisar <b>(Cotton &amp; Chickpea)</b>	6.72
4	Central Plantation crops Research Institute, Kasaragod <b>(Coconut)</b>	4.75
5	Central Potato Research Institute, Shimla <b>(Potato)</b>	6.00
6	Central Rice Research Institute, Cuttack <b>(Rice)</b>	9.27
7	Central Institute for Cotton Research, Nagpur <b>(Cotton)</b>	9.52
8	Central Institute for Medicinal and Aromatic Plants, Lucknow <b>(Menthol, Damask Rose, Periwinkle &amp; Brahmi)</b>	7.33
9	Central Institute for Sub-tropical Horticulture, Lucknow <b>(Mango)</b>	3.00
10	Central Institute of Arid Horticulture, Bikaner <b>(Ber, Date palm, Watermelon &amp; Muskmelon)</b>	4.00
11	Central Institute for Tropical Horticulture, Srinagar <b>(Peach &amp; Plum)</b>	5.00
12	Central Research Institute for Jute and Allied Fibres Research, Barrackpore & CSRS , Budbud <b>(Jute)</b>	7.24
13	Chandra Shekhar Azad University of Agriculture and Technology, Kanpur <b>(Mustard &amp; Wheat)</b>	5.25
14	Division of Vegetable Science, Indian Institute of Agricultural Research, New Delhi <b>(Cabbage &amp; Cauliflower)</b>	5.00
15	Division of Vegetable Science, Indian Institute of Agricultural Research, New Delhi <b>(Vegetables)</b>	5.00
16	Division of Floriculture and Landscaping, Indian Institute of Agricultural Research, New Delhi <b>(Rose &amp; Chrysanthemum)</b>	2.00
17	Directorate of Maize Research, New Delhi <b>(Maize)</b>	16.40
18	Directorate of Soybean Research, Indore <b>(Soybean)</b>	3.00
19	Directorate of Oilseed Research, Hyderabad <b>(Sunflower &amp; Castor)</b>	8.27
20	Directorate of Rice Research, Hyderabad <b>(Rice)</b>	7.44
21	Directorate of Sorghum Research, Hyderabad <b>(Sorghum)</b>	10.25
22	Division of Floriculture, IARI, New Delhi <b>(Rose &amp; Chrysanthemum)</b>	4.00
23	Directorate of Wheat Research, Karnal <b>(Wheat)</b>	12.31
24	Directorate of Medicinal & Aromatic Plant Research, Anand <b>(Isabgol)</b>	6.62
25	Directorate of Groundnut Research, Junagarh <b>(Groundnut)</b>	5.40
26	Directorate of Onion and Garlic Research, Rajgurunagar <b>(Onion &amp; Garlic)</b>	4.86
27	Directorate of Rapeseed and Mustard Research, Bharatpur <b>(Rapeseed &amp; Mustard)</b>	5.86
28	Govind Ballabh Pant University of Agriculture & Technology, Pantnagar <b>(Sorghum)</b>	5.18
29	Indian Institute for Horticultural Research, Bengaluru <b>(Rose &amp; Chrysanthemum)</b>	6.10
30	Indian Institute of Horticultural Research, Bengaluru <b>(Ornamental Plants)</b>	5.48
31	Indian Institute of Horticultural Research, Bengaluru <b>(Vegetables)</b>	12.89

S.No	Name of DUS Centre	Amount (₹ in Lakh)
32	Indian Institute of Pulses Research, Kanpur ( <b>Chickpea &amp; Pigeon pea</b> )	4.73
33	Indian Institute of Pulses Research, Kanpur ( <b>Mungbean, Urdbean &amp; Lentil</b> )	1.00
34	Indian Institute of Spices Research, Calicut ( <b>Spices</b> )	11.52
35	Indian Institute of Vegetable Research, Varanasi ( <b>Okra, Brinjal, Tomato, Cabbage &amp; Cauliflower</b> )	11.50
36	Indian Institute of Vegetable Research, Varanasi ( <b>Cucurbits</b> )	10.63
37	Indian Institute of Sugarcane Research, Lucknow ( <b>Sugarcane</b> )	5.94
38	Junagadh Agriculture University, Jamnagar ( <b>Castor</b> )	3.63
39	Jawaharlal Nehru Krishi Viswavidyalaya, Jabalpur ( <b>Field pea &amp; Linseed</b> )	4.07
40	Mathma Phule Krishi Viswavidyalaya, Rahuri ( <b>Sorghum &amp; Pearl millet</b> )	9.10
41	Mathma Phule Krishi Viswavidyalaya, Rahuri ( <b>Carnation</b> )	2.00
42	Narendra Dev University of Agriculture and Technology, Faizabad ( <b>Barley</b> )	2.00
43	National Research Centre for Banana, Trichy ( <b>Banana</b> )	3.00
44	National Research Centre for Citrus, Nagpur ( <b>Citrus</b> )	7.61
45	National Research Centre for Grapes, Pune ( <b>Grapes</b> )	2.00
46	National Research Centre for Orchids, Pakyong, Sikkim ( <b>Orchids</b> )	7.31
47	National Research Centre for Seed spices, Tabiji, Ajmer ( <b>Seed Spices</b> )	7.00
48	Project Coordinator (Pearl Millet), Mandor, RAU, Bikaner ( <b>Pearl millet</b> )	7.50
49	Punjab Agriculture University, Ludhiana ( <b>Wheat &amp; Cotton</b> )	8.25
50	Project Coordinator (Cotton), CICR Regional Station, Coimbatore ( <b>Cotton</b> )	12.50
51	Project Coordinator (Linseed), CSAU&T, Kanpur (Linseed)	4.23
52	Project Coordinator, (Sesame and Niger), JNKVV, Jabalpur ( <b>Sesame &amp; Niger</b> )	6.88
53	Panjab Rao Deshmukh Krishi Viswavidyalaya, Akola ( <b>Chickpea</b> )	5.12
54	Regional Station, IARI, Indore ( <b>Wheat</b> )	5.00
55	Regional Station, IARI, Karnal ( <b>Rice</b> )	3.69
56	Regional Station, IARI, Katrain ( <b>Cabbage &amp; Cauliflower</b> )	4.33
57	Regional Center, Sugarcane Breeding Institute, Karnal ( <b>Sugarcane</b> )	3.50
58	Research Center, Sugarcane Breeding Institute, Agali ( <b>Sugarcane</b> )	3.50
59	State Forestry Research Institute, Itanagar ( <b>Orchid</b> )	1.50
60	Sugarcane Breeding Institute, Coimbatore ( <b>Sugarcane</b> )	5.50
61	Tamil Nadu Agricultural University, Coimbatore ( <b>Cotton &amp; Sunflower</b> )	2.21
62	University of Agricultural Sciences, Dharwad ( <b>Cotton &amp; Wheat</b> )	17.03
63	Vivekananda Parvatiya Krishi Anusandhanshala, Almora ( <b>Rajma, Soybean &amp; Maize</b> )	3.83
	<b>Total</b>	<b>393.86</b>

## Statement showing funds released to New DUS Centres/ Projects during 2013-14

S. No.	Name of the New DUS Centre/Project	Amount (₹ in Lakh)
1	Acharya NG Ranga Agricultural University, Hyderabad ( <b>Small millets</b> )	3.42
2	Bidhan Chandra Krishi Visavidyalaya, Kalyani ( <b>Pointed gourd</b> )	1.07
3	Bidhan Chandra Krishi Visavidyalaya, Kalyani ( <b>Betel vine</b> )	1.50
4	Bidhan Chandra Krishi Visavidyalaya, Kalyani ( <b>Yam &amp; Taro</b> )	2.83
5	Central Agriculture Research Institute, Port Blair ( <b>Noni</b> )	4.00
6	Central Arid Zone Research Institute, Jodhpur ( <b>Pomegranate</b> )	1.00
7	Central Institute for Arid Horticulture, Bikaner ( <b>Anola</b> )	3.42
8	Central Institute for Arid Horticulture, Bikaner ( <b>Bael</b> )	1.00
9	Central Institute for Arid Horticulture, Bikaner ( <b>Jamun</b> )	2.00
10	Central Institute for Arid Horticulture, Bikaner ( <b>Ber</b> )	2.00
11	Central Institute for Arid Horticulture, Bikaner ( <b>Datepalm</b> )	2.00
12	Central Institute for Sub-tropical Horticulture ( <b>Anola</b> )	2.00
13	Central Institute for Sub-tropical Horticulture ( <b>Mango</b> )	2.00
14	Central Institute for Sub-tropical Research, Lucknow ( <b>Jamun</b> )	2.00
15	Central Institute for Tropical Horticulture, Srinagar ( <b>Strawberry</b> )	4.00
16	Central Tuber Crops Research Institute, Trivandrum ( <b>Sweet potato</b> )	1.00
17	Central Tuber Crops Research Institute, Regional Station, Bhubaneshwar ( <b>Sweet potato</b> )	7.93
18	Central Tuber Crops Research Institute, Trivandrum ( <b>Yam and Taro</b> )	2.00
19	Central Sericultural Research and Training Institute, Mysore ( <b>Mulberry</b> )	2.00
20	Central Rice Research Institute, Cuttack ( <b>Genetic Diversity</b> )	6.61
21	Central Institute for Sub-tropical Horticulture, Lucknow ( <b>Bael</b> )	2.50
22	Central Institute for Arid Horticulture, Bikaner ( <b>Watermelon, Muskmelon &amp; Jamun</b> )	4.82
23	Central Institute of Temperate Horticulture, Srinagar ( <b>Apple, Pear, Walnut, Almond, Apricot &amp; Cherry</b> )	4.47
24	Director of Agriculture & Food Production, Bhubneshwar ( <b>Rice</b> )	8.48
25	Division of Floriculture & Landscaping, Indian Agricultural Research Institute, New Delhi ( <b>Tuberose</b> )	2.00
26	Directorate of Floricultural Research, IARI Campus, New Delhi ( <b>Gladiolus</b> )	1.00
27	Dr. Y.S.Parmar University of Horticulture & Forestry, Solan ( <b>Carnation</b> )	3.00
28	Dr. Y.S.Parmar University of Horticulture & Forestry, Solan ( <b>Poplar</b> )	3.00
29	Directorate of Wheat Research, Karnal ( <b>Barley</b> )	1.00
30	Division of Floriculture & Landscaping, Indian Agricultural Research Institute, New Delhi ( <b>Bougainvillea</b> )	5.91
31	Division of Vegetables Science, Indian Agricultural Research Institute, New Delhi ( <b>Bottle gourd</b> )	2.00
32	Division of Vegetable Science, Indian Agricultural Research Institute, New Delhi ( <b>Chilli</b> )	1.00

S. No.	Name of the New DUS Centre/Project	Amount (₹ in Lakh)
33	Division of Vegetables Science, Indian Agricultural Research Institute, New Delhi ( <b>Amaranth</b> )	2.04
34	Division of Floriculture & Landscaping, Indian Agricultural Research Institute, New Delhi ( <b>Marigold</b> )	4.73
35	Gene Campaign, New Delhi ( <b>Cotton</b> )	2.50
36	Govind Ballabh Pant University of Agriculture and Technology, Pantnagar ( <b>Small millets</b> )	2.00
37	Himalayan Forest Research Institute, Shimla ( <b>Conifers</b> )	2.00
38	ICAR Research Complex for NEH Region, Barapani ( <b>Colocasia</b> )	3.53
39	Institute of Forest Genetics and Tree Breeding, Coimbatore ( <b>Teak</b> )	3.00
40	Indian Institute of Horticultural Research, Bengaluru ( <b>Chilli</b> )	7.50
41	Indian Institute of Horticultural Research, Bengaluru ( <b>China aster</b> )	6.22
42	Indian Institute of Horticultural Research, Bengaluru ( <b>Jasmine</b> )	2.00
43	Indian Institute of Horticultural Research, Bengaluru ( <b>Papaya &amp; custard apple</b> )	2.00
44	Indian Institute of Horticultural Research, Bengaluru ( <b>Strawberry</b> )	1.00
45	Indian Institute of Horticultural Research, Bengaluru ( <b>Cossandra</b> )	1.00
46	Indian Institute of Horticultural Research, Bengaluru ( <b>Amaranth</b> )	5.03
47	Indian Institute of Horticultural Research, Bengaluru ( <b>Carnation</b> )	4.09
48	Indian Institute of Horticultural Research, Bengaluru ( <b>Marigold</b> )	4.24
49	Indian Institute of Horticultural Research, Bengaluru ( <b>Tuberose</b> )	2.00
50	Indian Institute of Horticultural Research, Bengaluru ( <b>Betel vine</b> )	6.00
51	Institute of Forest Genetics and Tree Breeding, Coimbatore ( <b>Casurina &amp; Eucalyptus</b> )	2.00
52	Indian Institute of Horticultural Research, Bengaluru ( <b>Bottle gourd</b> )	3.25
53	Jawaharlal Nehru Krishi Viswavidyalaya, Jabalpur ( <b>Small millet</b> )	2.42
54	Kerala Agricultural University, Thrissur ( <b>Orchid</b> )	4.00
55	National Bureau of Plant Genetic Resources, New Delhi ( <b>Grain amaranth</b> )	1.00
56	Narendra Dev University of Agriculture & Technology, Faizabad ( <b>Barely</b> )	1.00
57	National Research Centre on Pomegranate, Sholapur ( <b>Pomegranate</b> )	4.50
58	NBPGR (Regional Station, Phagli, Shimla ( <b>Grain Amaranth</b> ))	2.81
59	National Botanical Research Institute, Lucknow ( <b>Canna</b> )	5.69
60	National Botanical Research Institute, Lucknow ( <b>Bougainvillea</b> )	5.50
61	National Botanical Research Institute, Lucknow ( <b>Gladiolus</b> )	6.25
62	Punjab Agricultural University, Ludhiana ( <b>Guinea grass</b> )	2.00
63	Project Co-ordinator (Small millet), University of Agricultural Sciences, GKVK Campus, Bengaluru ( <b>Small millet</b> )	8.20
64	Rain Forest Research Institute, Jorhat ( <b>Bamboo</b> )	8.66
65	Regional Station, Akola, National Bureau of Plant Genetic Resources ( <b>Grain amaranth</b> )	2.01
66	State Forest Research Institute, Itanagar ( <b>Orchid</b> )	1.00

S. No.	Name of the New DUS Centre/Project	Amount (₹ in Lakh)
67	Tamil Nadu Agricultural University, Coimbatore ( <b>Papaya and Custard apple</b> )	1.00
68	Tamil Nadu Agricultural University, Coimbatore ( <b>Small millets</b> )	3.25
69	Tamil Nadu Agricultural University, Coimbatore ( <b>Jasmine</b> )	5.62
70	Tocklai Experimental Research Station, Jorhat ( <b>Tea</b> )	6.61
	<b>TOTAL</b>	<b>230.61</b>

### Referral Laboratory during 2013-14

S.No	Name of Centre	Amount (₹ in Lakh)
1	Central Rice Research Institute, Cuttack	11.83

## Statement Showing Funds released to Field Gene Bank(s)/ Gene Bank during 2013-14

S. No	Name of Centers	Amount (₹ in Lakh)
1	Birsa Agricultural University, Ranchi	7.00
2	Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli	16.00
3	Central Arid Zone Research Institute, Jodhpur	3.00
4	Dr.Y.S.Parmar University of Horticulture & Forestry, Regional Horticultural Research and Training Station, Mashobra	10.50
5	National Bureau of Plant Genetic Resources, New Delhi	9.80
	<b>Total</b>	<b>46.30</b>

### Financial support to different Organizations for training-cum-awareness programmes during the year 2013-14

S. No	Name of Beneficiary	Amount (₹ in Lakh)
1	Acharya N. G. Ranga Agricultural University , Rajendranagar, Hyderabad	1.59
2	Additional Director (F.C), Department of Agriculture, Sikkim	0.80
3	Anand Agricultural University, Anand, Gujarat	0.80
4	Assam Agricultural University, Jorhat	4.80
5	Banaras Hindu University, Varanasi	1.60
6	Bidhan Chandra Krishi Viswa Vidyalyaya, Kalyani	0.80
7	Birsa Agricultural University, Bhagalpur	3.20
8	Birsa Agricultural University, Ranchi	3.20
9	BMS Institute of Technology, Bengaluru	0.80
10	Central Agricultural Research Institute, Port Blair	3.02
11	Central Agricultural University, Manipur	0.80
12	Central Agricultural University, Imphal	0.80
13	Centre for Agriculture & Rural Development, New Delhi	0.80
14	Ch. SKK Vishwavidyalaya, Palampur	4.00
15	Chaudhary Charan Singh Haryana Agricultural University, Hisar	0.80
16	Chhattisgarh Kamdhenu Vishwavidyalaya, Chhattisgarh	0.80
17	Central Plantation Crops Research Institute, Kasargod	1.60
18	Central Research Institute for Jute and Allied Fibres, Barrackpore	0.80
19	Central Rice Research Institute, Cuttack	0.80
20	Chandra Shekhar Azad University of Agriculture & Technology, Kanpur	1.60
21	Central Arid Zone Research Institute, Jodhpur	1.60
22	Central Institute of Arid Horticulture, Bikaner	0.80
23	Central Institute for Sub-tropical Horticulture, Lucknow	0.80
24	Central Institute of Temperate Horticulture, Srinagar	1.95
25	Central Marine Fisheries Research Institute, Cochin,	0.80
26	Central Research Institute for Dryland Agriculture, Hyderabad	0.80
27	Central Tuber Crops Research Institute, Trivandrum	0.80
28	Comprehensive Area Development Cooperation, Kolkata	0.80
29	Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli	1.60
30	Deendayal Research Institute, Chitrakoot	3.20
31	Directorate of Agriculture, Meghalaya	2.40



S. No	Name of Beneficiary	Amount (₹ in Lakh)
32	Directorate of Research on Women in Agriculture, Bhubaneswar	0.80
33	Directorate of Soybean Research, Indore	0.80
34	Directorate for Agroforestry, Jhansi	0.80
35	Directorate for Banana, Trichy	0.80
36	Directorate for Grapes, Pune	0.80
37	Director of Horticulture & Food Processing , Assam	0.80
38	Directorate of Cashew Research, Dakshina Kannada	0.80
39	Department of Agriculture, Mizoram	1.60
40	Department of Agriculture, Nagaland	1.60
41	Directorate of Agriculture, Arunachal Pradesh, Itanagar	1.60
42	Director of Agriculture, Puducherry	0.80
43	Directorate of Agriculture, Goa	0.80
44	Directorate of RMR, Bharatpur	0.80
45	Directorate of Medicinal and Aromatic Plants Research, Anand	1.21
46	Directorate of Wheat Research, Karnal	0.80
47	Directorate of Seed Research, Mau	0.80
48	Directorate of Wheat Research, Karnal	0.80
49	Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola	0.80
50	Directorate of Floriculture Research, IARI, New Delhi	0.80
51	Directorate of Rice Research, Hyderabad	0.80
52	Dr. Y.S. Parmar University of Horticulture & Forestry, Solan	2.40
53	Dr. YSR Horticulture University, <b>Venkataramannagudem</b>	0.80
54	Former Vice Chancellors of Karnataka Forum, Bengaluru	0.80
55	Food Security & Agriculture Development Department, Tadong	0.80
56	Forest Research Institute, Dehradun	1.60
57	Gobind Ballabh Pant Uni. of Agri.& Tech., Pantnagar	2.40
58	Gramin Vikas Trust, Noida	0.80
59	Gujarat Vidyapeeth, Ahmadabad	1.60
60	Holycross Vocational Training Institute, Hazaribagh	0.80
61	Indira Gandhi Krishi Vishwavidyalaya, Raipur	8.00
62	ICAR Research Complex for Goa, Tiswadi, Old Goa	1.60
63	ICAR Research Complex, Barapani	3.20
64	ICAR Complex, Old Goa	0.80
65	ICAR, Research Centre, NEH Region, Umiam, Meghaleya	7.20
66	Indian Institute of Agricultural Biotechnology, Ranchi	0.80

S. No	Name of Beneficiary	Amount (₹ in Lakh)
67	Indian Institute of Horticulture Research, Bengaluru	0.80
68	Indian Institute of Spcies Research, Calicut	0.80
69	ICAR Research Complex for NEH Region, Tripura	0.80
70	ICAR Research Complex for Eastern Region, Patna	0.80
71	ICAR Unit DSR, Hyderabad	0.80
72	ICAR Unit NRCP, Solapur	0.80
73	Indian Grassland and Fodder Research Institute, Jhansi	0.80
74	Indian Institute of Sugarcane Research, Lucknow	1.60
75	Indian Institute of Vegetable Research, Varanasi	0.80
76	Jawaharlal Nehru Krishi Vishwavidyalaya, Jabalpur	4.80
77	Junagadh Agricultural University, Junagarh	0.80
78	Karnataka Veterinary, Animal and Fisheries Sciences University, Bidar	0.80
79	Karnataka State Seed Corporation Ltd., Bengaluru	1.60
80	Kerala Agricultural University, Thrissur	3.20
81	KVK, Medinipur	0.80
82	KVK, Hulkoti, Karnataka	0.80
83	KVK, Sharadanagar, Baramati	0.80
84	KVK, Ahmednagar	0.80
85	KVK, Amravati	0.80
86	KVK, Jalna	0.80
87	KVK, Dhalai	0.80
88	KVK, Erode	0.80
89	KVK, Idukki, Kerela	0.80
90	KVK, Jaipur	0.80
91	KVK, Kurnool	0.80
92	KVK, Suttar, Karnatka	0.80
93	KVK, Tiruvalla, Kerela	0.80
94	KVK, Udaipur	0.80
95	KVK, Vivekanandapuram	0.80
96	KVK, West Tripura	0.80
97	KVK, Majhgawan, Satna	0.80
98	KVK, Jammikunta	0.80
99	Maharana Pratap University of Agriculture and Technology , Udaipur	1.60
100	MS Swaminathan Research Foundation, Chennai	1.60
101	Mahatma Phule Krishi Vidyapeeth, Rahuri	0.80

S. No	Name of Beneficiary	Amount (₹ in Lakh)
102	Narendra Dev University of Agriculture and Technology, Faizabad	1.60
103	National Seed Corporation Ltd., New Delhi	1.25
104	Navsari Agricultural Universtiy, Navsari	1.60
105	NRC for Citrus, Nagpur	0.80
106	NRC of Orchids, Sikkim	0.80
107	National Research Centre on Seed Spcies, Ajmer	0.80
108	National Bureau of Plant Genetic Resources, New Delhi	0.80
109	NRC for Litchi, Muzaffarpur	0.80
110	NRC on Mithun, Medziphema	0.80
111	Orissa University of Agriculture and Technology, Bhubaneshwar	4.00
112	RASS, KVK Chittoor	0.80
113	Rajasthan Agricultural University, Bikaner	1.60
114	Raja Dinesh Singh KVK, Pratapgarh	0.80
115	Rajendra Agricultural University, Samastipur	1.60
116	Rajmata Vijayaraje Scindia Krishi Vishwavidyalaya, Gwalior	2.40
117	Ramakrishna Ashram, South 24 Parganas	0.80
118	Rajendra Agricultural University, Pusa	0.80
119	Ramakrishna Mission Ashram, Ranchi	0.80
120	Sardar Vallabh Bhai Patel University of Agriculture & Technology, Meerut	0.80
121	Sardarkrushinagar Dantiwada Agricultural University, Palanpur	0.80
122	Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu, Rajouri, Jammu	5.60
123	Sam Higginbottom Institute of Agriculture, Technology and Sciences, Allahabad	0.80
124	Tamil Nadu University of Veterinary & Animal Sciences, Chennai	0.80
125	Tamil Nadu Agriculture University, Coimbatore	3.20
126	Tocklai Experimental Research Station, Jorhat	0.80
127	University of Agricultural Sciences, Raichur	2.40
128	United Planters' Association of Southern India-KVK, Nilgiris	0.80
129	UA&HS, Shimoga, Karnataka	0.80
130	University of Horticultural Sciences, Bagalkot	0.80
131	UAS, Dharwad College of Forestry, Sirsi	0.80
132	UAS,GKVK, Bengaluru	6.40
133	Uttar Banga Krishi Vishwavidyalaya, Cooch Behar, West Bengal	2.40
134	University of Agricultural Sciences, Dharwad	4.00
135	Uttarakhand University of Horticulture & Forestry, Pauri Garhwal,	0.80
136	Visva Bharati University, West Bengal	0.80

<b>S. No</b>	<b>Name of Beneficiary</b>	<b>Amount (₹ in Lakh)</b>
137	Vasantao Naik Marathawada Krishi Vidyapeeth, Parbhani	0.80
138	Vivekananda Parvatiya Krishi Anusandhan Sansthan, Almora	1.60
139	Vikas Bharti, KVK, Gumla	0.80
140	West Bengal University of Animal and Fishery Science, Kolkata	0.80
141	Zonal Projects Directorate -Zone -VIII , Bengaluru	0.20
	<b>Total</b>	<b>198.82</b>

## Crop wise and Zone wise applications of Farmers' Varieties received during the year 2013-14

S. No.	Crops/States	Assam	A.P.	Bihar	Chhattisgarh	Jharkhand	Karnataka	Kerala	Maharastra	Manipur	Mizoram	Meghalaya	Tripura	Nagaland	Rajasthan	U.P.	W.B.	Total
1	Black gram	3	-	2	4	7	3		1				1			3		24
2	Brinjal	5	-	-	-	3	4				1		2	1			1	17
3	Black pepper	-	-	-			1	3										4
4	Castor	-	-	-			1											1
5	Chickpea	-	-	-		1	5											6
6	Coconut	2					1						2					5
7	Diploid cotton												4					4
8	Field pea			1	3		2		2				1					9
9	Garlic	1					1		1		1		1					5
10	Ginger	2				2					3		3	2				12
11	Green gram					1	4									1		6
12	Ground nut					1	1											2
13	Indian mustard (Karan rai)	2		1									1					4
14	Indian mustard (Sarso)	4			4	8					2		2					20
15	Jute												1					1
16	Kidney bean						5				2		2	1				10
17	Lentil	2			3		1		1				1					8
18	Linseed	1		2	4		1											8
19	Maize			2		9	2				21		5	8				47
20	Mango		8			2	5									16		31

S. No.	Crops/States	Assam	A.P.	Bihar	Chhattisgarh	Jharkhand	Karnataka	Kerala	Maharashtra	Manipur	Mizoram	Meghalaya	Tripura	Nagaland	Rajasthan	U.P.	W.B.	Total
21	Okra						2		2				1					5
22	Onion	1	-															1
23	Orchid	-	-										3					3
24	Pearl millet	-	-			1	1									1		3
25	Pigeon Pea	2	1		9	5	3			1			1				1	23
26	Potato	1	-										2	1				4
27	Rice	312	-	6	207	73	73	3	35	157	80	131	65	35		104		1281
28	Rapeseed (Toria)	1	-	2			1						1					5
29	Safflower		-			1	1											2
30	Sesame	1	-		3		2			4			3	2		1		16
31	Small cardamom	-	-					7										7
32	Sorghum	-	-				23		3				2					28
33	Soybean	-	-						1		1							2
34	Sugar cane	3	-	-					2		1		1					7
35	Tetraploid cotton	-	-	-													1	1
36	Tomato	1	-	-	1	1	2						1			-	-	6
37	Turmeric	2	-	-		9					1		3			1	-	16
38	Wheat	-	-	-	-	2	3	-	-	-	-	-	-	-	1	1	-	7
	<b>Total</b>	<b>346</b>	<b>9</b>	<b>16</b>	<b>238</b>	<b>126</b>	<b>148</b>	<b>13</b>	<b>48</b>	<b>157</b>	<b>118</b>	<b>131</b>	<b>109</b>	<b>50</b>	<b>1</b>	<b>24</b>	<b>107</b>	<b>1641</b>

## Plant Variety Forms

Form Number	Section And Rules	Title
PV 1	Section 16(1)(e) and Rule 25	Application for Authorization.
PV 2	Section 18(3) and Rule 27(2)	Proof of Right to File Application
PV 3	Section 21(2) and Rule 31	Notice of Opposition
PV 4	Section 21(4) and Rule 31(5)	Counter-Statement
PV 5	Section 21 and Rule 33(6)	Request for Extension of Time
PV 6	Section 24(6) and Rule 39	Renewal of Registration
PV 7	Section 26(2) and Rule 41	Benefit Sharing Application
PV 8	Section 26(3) and Rule 42	Notice of Opposition
PV 9	Section 28(4) and Rule 45	Registration as an Agent or Licensee
PV 10	Section 28(9) and Rule 48	Application for Variation/Cancellation of the term of Registration
PV 11	Section 28 (10) and Rule 49	Notice of Opposition against variation/ cancellation of the term of Registration
PV 12	Section 33(1) and Rule 50	Application to Surrender the Certificate of Registration of a Plant Variety
PV 13	Section 33(3) and Rule 51 (2)	Notice of Opposition for offer to surrender the Certificate
PV 14	Section 33(4) and Rule 51(4)	Notice of Intention to attend Hearing
PV 15	Section 34 and Rule 52	Application to Revoke Certificate of Registration
PV 16	Section 34 and Rule 53	Notice of Opposition to application to Revoke Certificate of Registration
PV 17	Section 34 and Rule 53(4)	Application for an opportunity of being heard
PV 18	Section 36(1) and Rule 55	Application for Cancellation or Change of the Certificate of Registration of a Plant Variety
PV 19	Section 36(2) and Rule 57	Application for correction in National Plant Variety Register
PV 20	Section 36(4) and Rule 59	Notice of Opposition for Application for correction in National Plant Variety Register
PV 21	Section 37(1) and Rule 60	Application for correction in National Plant Variety Register by Owner/ Breeder
PV 22	Section 37 (2) and Rule 62	Application for correction in National Plant Variety Register by Registered Agent or Licensee
PV 23	Section 38(1) and Rule 64	Application to alter Denomination of a Registered Plant Variety
PV 24	Section 38(2) and Rule 65	Notice of Opposition to Application to Alter Denomination of a Registered Plant Variety
PV 25	Section 39(2) and Rule 66	Application for Claiming Compensation
PV 26	Section 39(2) and Rule 67(2)	Notice of Opposition to Application for Claiming Compensation
PV 27	Section 41(3) and Rule 68	Notice of opposition to application for claiming compensation
PV 28	Section 47(1) and Rule 71(1)	Application for grant of compulsory license
PV 29	Section 47(3) and Rule 71(5)	Notice of Opposition to an Application for Grant of Compulsory License

PV 30	Section 52(1) and Rule 73(1)	Application for Revocation of Compulsory License
PV 31	Section 53 and Rule 73(3)	Notice of Opposition for Application for Revocation of Compulsory License
PV 32	Section 81 and Rule 75(1)	Form of Authorization to Institute Suit.
PV 33	Section 84 & Rule 76	Request for Certified Copy

### Plant Varieties Registry Forms

O-1	Section 21(1) and Rule 30	Form of advertisement
O-2	Section 23 (8) and 24(2) and Rule 36, 37	Certificate of registration
O-3	Section 24(3) and Rule 38	Notice for non-completion of registration
O-4	Section 26(7) and Rule 44	Reference to District Magistrate for collection of benefit sharing amount
O-5	Section 28 (4) and Rule 47	Certificate of registration as agent/ licensee
O-6	Section 28(10) and Rule 49	Notice to breeder/agent/ licensee
O-7	Section 33(2) and Rule 51	To notify offer made for surrender of registered variety
O-8	Section 34 and Rule 53	Notice of application for revocation of registered variety
O-9	Section 36(4) and Rule 59	Change in National Register
O-10	Section 37(2) and Rule 63	Correction in National Register
O-11	Section 38(2) and Rule 65(3)	Advertisement of Alteration in Denomination
O-12	Section 41(1) and Rule 68	Notice for change in Denomination



### Crops with Genus and species under Registration (79)

S. No.	Crop species	Botanical name
1	Rice / चावल	<i>Oryza sativa</i> L.
2	Bread wheat/ गेहूँ (चपाती)	<i>Triticum aestivum</i> L.
3	Durum wheat / डूरम गेहूँ	<i>Triticum durum</i> Desf.
4	Dicocum wheat/ डिकोकम गेहूँ	<i>Triticum dicocum</i> L.
5	Other Triticum/ ट्रिटिकम प्रजातियाँ	<i>Triticum species</i>
6	Maize/मक्का	<i>Zea mays</i> L.
7	Sorghum/ज्वार	<i>Sorghum bicolor</i> (L.) Moench
8	Barley /जौ	<i>Hordeum vulgare</i> L.
9	Pearl millet/ बाजरा	<i>Pennisetum glaucum</i> (L.) R. Br.
10	Chickpea / चना	<i>Cicer arietinum</i> L.
11	Mungbean / मूंग	<i>Vigna radiata</i> (L.) Wilczek
12	Urdbean / उड़द	<i>Vigna mungo</i> (L.) Hepper
13	Fieldpea / मटर	<i>Pisum sativum</i> L.
14	Kidney bean/राजमा	<i>Phaseolus vulgaris</i> L.
15	Lentil / मसूर	<i>Lens culinaris</i> Medik
16	Pigeon pea/अरहर	<i>Cajanus cajan</i> (L.) Millsp
17	Indian mustard/ सरसो	<i>Brassica juncea</i> L. Czern & Coss
18	Karan rai / राई	<i>Brassica carinata</i> A Braun
19	Rapeseed/ रेप्सीड	<i>Brassica rapa</i> L.
20	Gobhisarson/ गोभीसरसों	<i>Brassica napus</i> L.
21	Groundnut/ मूंगफली	<i>Arachis hypogaea</i> L.
22	Soybean/ सोयाबीन	<i>Glycine max</i> (L.) Merrill
23	Sunflower/ सूरजमुखी	<i>Helianthus annuus</i> L.
24	Safflower/ कुसुम	<i>Carthamus tinctorius</i> L.
25	Castor / अरंडी	<i>Ricinus communis</i> L.
26	Sesame /तिल	<i>Sesamum indicum</i> L..
27	Linseed /अलसी	<i>Linum usitatissimum</i> L.

S. No.	Crop species	Botanical name
28	Diploid Cotton /	<i>Gossypium arboreum</i> L.
29	कपास (द्वगुणित)	<i>Gossypium herbaceum</i> L.
30	Tetraploid Cotton /	<i>Gossypium hirsutum</i> L.
31	कपास (चतुर्गुणित)	<i>Gossypium barbadense</i> L.
32	Jute / पटसन	<i>Corchorus olitorius</i> L..
33		<i>Corchorus capsularis</i> L.
34	Sugarcane / गन्ना	<i>Saccharum</i> L.
35	Black pepper / कालीमिर्च	<i>Piper nigrum</i> L.
36	Coriander/ धनिया	<i>Coriandrum sativum</i> L.
37	Fenugreek/ मेथी	<i>Trigonella foenum graecum</i> L.
38	Turmeric /हल्दी	<i>Curcuma Longa</i> L.
39	Ginger /अदरक	<i>Zingiber officinale</i> Rosc.
40	Small cardamom/ छोटीइलायची	<i>Elettaria cardamomum Maton</i>
41	Tomato / टमाटर	<i>Lycopersicon lycopersicum</i> (L.) Karsten ex. Farw.
42	Brinjal / बैंगन	<i>Solanum melongena</i> L.
43	Okra/ भिन्डी	<i>Abelmoschus esculentus (L.) Moench</i>
44	Cauliflower / फूलगोभी	<i>Brassica oleracea</i> L. var. <i>botrytis</i>
45	Cabbage / पत्तागोभी	<i>Brassica oleraceavar. capitata</i> L.
46	Bitter Gourd/ करेला	<i>Momordica charms</i> & L.
47	Bottle Gourd/लोकी (घिया)	<i>Lagenaria siceraria (Mol) Standl.</i>
48	Cucumber/खीरा	<i>Cucumis:sativus</i> L.
49	Pumpkin/ कद्दू	<i>Cucurbita moschata Duch. ex Pair.</i>
50	Potato / आलू	<i>Solanum tuberosum</i> L.
51	Onion/ प्याज	<i>Allium cepa</i> L.
52	Garlic/लहसून	<i>Allium sativum</i> L.
53	Rose/ गुलाब	<i>Rosa spp. other than R. damascena</i>

S. No.	Crop species	Botanical name
54	Chrysanthemum / गुलदाउदी	<i>Chrysanthemum L.</i>
55	Mango / आम	<i>Mangifera indica L.</i>
56	Pomegranate/ अनार	<i>Punica granatum L.</i>
57	Apple/सेब	<i>Malus domestica Borkh</i>
58	Pear/नाशपाती	<i>Pyres communis L.</i>
59	Grapes/अंगूर	<i>Vitis spp.</i>
60	Indian jujube (Ber)/ बेर	<i>Ziziphus mauritiana Lamk.</i>
61	Apricot/खुबानी	<i>Prunus armeniaca L.</i>
62	Cherry/चेरी	<i>Prunu savium L.</i>
63	Almond/ बदाम	<i>Prunus dulcis (Mill.) D.A. Webb</i>
64	Walnut/अखरोट	<i>Juglan sregia L.</i>
65	Isabgol /इसबगोल	<i>Plantago ovata Forsk.</i>
66	Menthol Mint / पुदिना	<i>Mentha arvensis L.</i>
67	Damask Rose/ गुलाब (इत्र)	<i>Rosa damascena Mill</i>
68	Periwinkle / सदाबहार	<i>Catharanthus roseus L. G Don</i>

S. No.	Crop species	Botanical name
69	Brahmi / ब्राह्ममी	<i>Bacopa monnieri L. Pennell</i>
70	Coconut / नारियल	<i>Cocos nucifera L.</i>
71	Bamboo Leaf Orchid or Boat Orchid/ साइमबिडम	<i>Cymbidium Sw.</i>
72	Spray Orchid or Singapore Orchid/ जीवती	<i>Dendrobium Sw.</i>
73	Vanda or Blue Orchid/रसना	<i>Vanda Jones ex R. Br.</i>
74	Orc hid/आर्चिड	<i>Cattleya Lindl.</i>
75	Orchid/ मोथआर्चिड	<i>Phalaenopsis blume</i>
76	Eucalyptus/ सफेदा	<i>Eucalyptus comaldulensis Dehmb</i>
77		<i>Eucalyptus tereticornis Sm.</i>
78	Casurina/ जंगली सरु	<i>Casuarina equisetrolia L.</i>
79		<i>Casuarina funghuhnicoso Miq.</i>

## Certificates of Registration issued by the Authority during 2013-14

S. No	Registration No.	Category of Variety	Denomination of the Candidate Variety	Crop	Name of applicant
1	56 of 2013/5-4-2013	Farmer	CHENNELLU	Rice	Seed Care Community, M.S. Swaminathan Research Foundation
2	57 of 2013/5-4-2013	Farmer	GANDHAKA SALA	Rice	Seed Care Community, M.S. Swaminathan Research Foundation
3	58 of 2013/5-4-2013	Farmer	CHOMALA	Rice	Seed Care Community, M.S. Swaminathan Research Foundation
4	59 of 2013/5-4-2013	Farmer	JEERAKASA LA	Rice	Seed Care Community, M.S. Swaminathan Research Foundation
5	60 of 2013/5-4-2013	Farmer	VELIYAN	Rice	Seed Care Community, M.S. Swaminathan Research Foundation
6	61 of 2013/5-4-2013	Farmer	THONDI	Rice	Seed Care Community, M.S. Swaminathan Research Foundation
7	62 of 2013/5-4-2013	Farmer	CHHOHARTU	Rice	Nehar Singh, Village Shirotkhala PO Kaloti, Tehsil Chirgaon, Sub-Division, Rohru, Dist. Shimla H.P.
8	63 of 2013/5-4-2013	Farmer	MUSHKNN	Rice	Kuldeep Singh Sandhu, Village and P.O.- Banur, Dist-Patiala, Punjab
9	64 of 2013/6-4-2013	Extant	AK-159	Groundnut	Dr. Panjabrao Deshmukh Krishi Vidyapeeth
10	65 of 2013/6-4-2013	Extant	AK-303	Groundnut	Dr. Panjabrao Deshmukh Krishi Vidyapeeth
11	66 of 2013/6-4-2013	Extant	AK-265	Groundnut	Dr. Panjabrao Deshmukh Krishi Vidyapeeth
12	67 of 2013/6-4-2013	Extant	MRCH 12 Bt	Tetraploid Cotton	Maharashtra Hybrid Seeds Company Limited
13	68 of 2013/6-4-2013	Extant	MRC 6301 Bt	Tetraploid Cotton	Maharashtra Hybrid Seeds Company Limited
14	69 of 2013/29-4-2013	New	P-1524	Rice	Maharashtra Hybrid Seeds Company Limited
15	70 of 2013/30-4-2013	New	HM-10 (HKH-1200)	Maize	Indian Council of Agricultural Research (ICAR)
16	71 of 2013/30-4-2013	Extant	MRC 6025 Bt.	Tetraploid Cotton	Maharashtra Hybrid Seeds Company Limited
17	72 of 2013/30-4-2013	Extant	MRC 7326	Tetraploid Cotton	Maharashtra Hybrid Seeds Company Limited
18	73 of 2013/30-4-2013	New	P1628	Rice	Maharashtra Hybrid Seeds Company Limited
19	74 of 2013/30-4-2013	New	P1523	Rice	Maharashtra Hybrid Seeds Company Limited
20	75 of 2013/1-5-2013	Extant	JGL-1798	Rice	Indian Council of Agricultural Research (ICAR)
21	76 of 2013/1-5-2013	Extant	Anjali (IET 16430) (RR-347-166)	Rice	Indian Council of Agricultural Research (ICAR)

S. No	Registration No.	Category of Variety	Denomination of the Candidate Variety	Crop	Name of applicant
22	77 of 2013/1-5-2013	Extant	JGL-384	Rice	Indian Council of Agricultural Research (ICAR)
23	78 of 2013/1-5-2013	Extant	Indur Samba (PDR-763)	Rice	Indian Council of Agricultural Research (ICAR)
24	79 of 2013/1-5-2013	Extant	VRI (Gn) 7	Groundnut	Tamil Nadu Agricultural University
25	80 of 2013/2-5-2013	Extant	Jawahar Kapas-35 (JK-35)	Tetraploid Cotton	Rajmata Vijayaraje ScindiaKrishi Vishwavidyalaya
26	81 of 2013/2-5-2013	Extant	Pusa Basmati 1121	Rice	Indian Council of Agricultural Research (ICAR)
27	82 of 2013/16-5-2013	Extant	Pusa Ankur (DBSR-91)	Brinjal	Indian Council of Agricultural Research (ICAR)
28	83 of 2013/16-5-2013	Extant	Pusa Meghna (DC/98-2)	Cauliflower	Indian Council of Agricultural Research (ICAR)
29	84 of 2013/16-5-2013	New	RC 86	Tetraploid Cotton	Rasi Seeds Private Limited
30	85 of 2013/16-5-2013	New	HM-8 (HKH-1188)	Maize	Indian Council of Agricultural Research (ICAR)
31	86 of 2013/16-5-2013	New	HT-Co-5101	Maize	Hytech Seed India Private Limited
32	87 of 2013/16-5-2013	Extant	Phule-492 (RHH-0492)	Tetraploid Cotton	Mahatama Phule Krishi Vidyapeeth
33	88 of 2013/17-5-2013	Extant	GHB-732 (MH-1307)	Pearl Millet	Indian Council of Agricultural Research (ICAR)
34	89 of 2013/17-5-2013	Extant	GHB-757 (MH-1328)	Pearl Millet	Indian Council of Agricultural Research (ICAR)
35	90 of 2013/20-5-2013	Extant	DRSF-108	Sunflower	Indian Council of Agricultural Research (ICAR)
36	91 of 2013/20-5-2013	Extant	CORAL 432 (PAC 432)	Indian Mustard	Advanta India Limited
37	92 of 2013/24-5-2013	Extant	KPMH-1	Pearl Millet	Kaveri Seed Company Limited
38	93 of 2013/24-5-2013	Extant	Jawahar Kapas-5 (JK-5)	Diploid cotton	Jawahar Lal Nehru Krishi Vishwavidyalaya
39	94 of 2013/28-5-2013	Extant	Netravati NIAW 1415	Bread Wheat	Mahatama Phule Krishi Vidyapeeth
40	95 of 2013/29-5-2013	Extant	PINNACLE (MON 25)	Maize	Monsanto Holdings Private Limited
41	96 of 2013/29-5-2013	Extant	Phule Unap JL-286	Groundnut	Mahatama Phule Krishi Vidyapeeth
42	97 of 2013/29-5-2013	Extant	JL-501	Groundnut	Mahatama Phule Krishi Vidyapeeth
43	98 of 2013/29-5-2013	Extant	Phule Vyas (JL-220)	Groundnut	Mahatama Phule Krishi Vidyapeeth
44	99 of 2013/31-5-2013	New	SWADESH	Rice	Pan Seeds Private Limited
45	100 of 2013/31-5-2013	New	MRP 5401	Rice	Maharashtra Hybrid Seeds Company Limited

S. No	Registration No.	Category of Variety	Denomination of the Candidate Variety	Crop	Name of applicant
46	101 of 2013/17-6-2013	Extant	MRS 4094	Sorghum	Maharashtra Hybrid Seeds Company Limited
47	102 of 2013/17-6-2013	New	TULASI 45 BG II	Tetraploid Cotton	Tulasi Seeds Pvt. Ltd.
48	103 of 2013/17-6-2013	New	TULASI-9 BG II	Tetraploid Cotton	Tulasi Seeds Pvt. Ltd.
49	104 of 2013/25-6-2013	Extant	JK VIJAY	Bread Wheat	J.K.. Agri Genetics Limited
50	105 of 2013/1-7-2013	Extant	MRM 3838	Maize	Maharashtra Hybrid Seeds Company Limited
51	106 of 2013/1-7-2013	Extant	JKSH-234	Sorghum	J.K.. Agri Genetics Limited
52	107 of 2013/1-7-2013	Extant	JKSH-434	Sorghum	J.K.. Agri Genetics Limited
53	108 of 2013/2-7-2013	Extant	Co(FS)29	Sorghum	Tamil Nadu Agricultural University
54	109 of 2013/3-7-2013	New	ANKUR-KEDAR	Wheat	Ankur Seeds(P) Limited
55	110 of 2013/10-7-2013	Extant	MRW 7070	Wheat	Maharashtra Hybrid Seeds Company Limited
56	111 of 2013/10-7-2013	Extant	SYE-2001	Rice	Dr.Panjabrao Deshmukh Krishi Vidyapeeth
57	112 of 2013/17-7-2013	Extant	86M52	Pearl Millet	Pioneer Overseas corporation-India Branch Office
58	113 of 2013/17-7-2013	New	MRS 4649	Sorghum	Maharashtra Hybrid Seeds Company Limited
59	114 of 2013/17-7-2013	New	SYN-RI-5251	Rice	Syngenta India Limited
60	115 of 2013/17-7-2013	Extant	MRB 204	Pearl Millet	Maharashtra Hybrid Seeds Company Limited
61	116 of 2013/22-7-2013	Extant	MRB 2210	Pearl Millet	Maharashtra Hybrid Seeds Company Limited
62	117 of 2013/13-7-2013	New	SYN-Co-7313	Maize	Syngenta India Limited
63	118 of 2013/13-7-2013	Extant	27P04	Rice	Pioneer Overseas corporation-India Branch Office
64	119 of 2013/14-8-2013	Extant	MIJ-005	Sorghum	Devgen N.V.
65	120 of 2013/14-8-2013	New	DHANI	Rice	Bayer Biosciences Pvt. Ltd.
66	121 of 2013/14-8-2013	New	B088	Rice	Bayer Biosciences Pvt. Ltd.
67	122 of 2013/14-8-2013	New	RCH 386 Bt	Tetraploid Cotton	Rasi Seeds Private Limited
68	123 of 2013/19-8-2013	Extant (VCK)	Harsha-NP 45	Rice	Nuziveedu Seeds Limited
69	124 of 2013/19-8-2013	Extant (VCK)	Malli-NP 222	Rice	Nuziveedu Seeds Limited
70	125 of 2013/21-8-2013	Extant	Jawahar Gram Kabuli-1 (JKG-92337)	Chickpea	Indian Council of Agricultural Research (ICAR)
71	126 of 2013/21-8-2013	Extant	Jawahar Gram-16 (Saki-9516)	Chickpea	Indian Council of Agricultural Research (ICAR)

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72	127 of 2013/22-8-2013	Extant	Mansarover	Wheat	Indian Council of Agricultural Research (ICAR)
73	128 of 2013/22-8-2013	Extant	Haryana Kabuli Chana-2 (HK 94-134)	Chickpea	Indian Council of Agricultural Research (ICAR)
74	129 of 2013/22-8-2013	Extant (VCK)	Suraj-NP 504	Rice	Nuziveedu Seeds Limited
75	130 of 2013/22-8-2013	Extant (VCK)	Moti-NP 360	Rice	Nuziveedu Seeds Limited
76	131 of 2013/22-8-2013	Extant (VCK)	RCH 20 Bt	Tetraploid Cotton	Rasi Seeds Private Limited
77	132 of 2013/22-8-2013	Extant (VCK)	RCH 308 Bt	Tetraploid Cotton	Rasi Seeds Private Limited
78	133 of 2013/22-8-2013	Extant (VCK)	RCH 134 Bt	Tetraploid Cotton	Rasi Seeds Private Limited
79	134 of 2013/23-8-2013	New	Bio 6007110	Tetraploid Cotton	Bioseed Research India Private Limited
80	135 of 2013/2-9-2013	New	CSV 17	Sorghum	Indian Council of Agricultural Research (ICAR)
81	136 of 2013/2-9-2013	New	CSH 23	Sorghum	Indian Council of Agricultural Research (ICAR)
82	137 of 2013/3-9-2013	New	SYN-CO-6621	Maize	Syngenta India Limited
83	138 of 2013/3-9-2013	Extant	VRI (Gn)6 (VG 9816)	Groundnut	Tamil Nadu Agricultural University
84	139 of 2013/3-9-2013	Extant	ALR-3 (ALG-63)	Groundnut	Tamil Nadu Agricultural University
85	140 of 2013/3-9-2013	Extant (VCK)	RCH 314 Bt.	Tetraploid Cotton	Rasi Seeds Private Limited
86	141 of 2013/11-9-2013	New	C5171	Tetraploid Cotton	Maharashtra Hybrid Seeds Company Limited
87	142 of 2013/11-9-2013	New	SYN-RI-NB 403	Rice	Syngenta India Limited
88	143 of 2013/11-9-2013	New	SYN-RI-NB 922	Rice	Syngenta India Limited
89	144 of 2013/12-9-2013	Extant	CO-94012	Sugarcane	Indian Council of Agricultural Research (ICAR)
90	145 of 2013/12-9-2013	Extant	DAMODAR (Co 99004)	Sugarcane	Indian Council of Agricultural Research (ICAR)
91	146 of 2013/12-9-2013	New	CSHH-243	Tetraploid Cotton	Indian Council of Agricultural Research (ICAR)
92	147 of 2013/12-9-2013	New	SYN-RI-NB 203	Rice	Syngenta India Limited
93	148 of 2013/13-9-2013	New	AN 105	Rice	Pan Seeds Private Limited
94	149 of 2013/13-9-2013	New	SYN-RI-NB 927	Rice	Syngenta India Limited
95	150 of 2013/16-9-2013	Extant (VCK)	Sourabh-NP 950	Rice	Nuziveedu Seeds Limited

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96	151 of 2013/25-9-2013	Extant	Rajas (Phule G-9425-9)	Chickpea	Indian Council of Agricultural Research (ICAR)
97	152 of 2013/25-9-2013	Extant	CSJD-884 (Akash)	Chickpea	Indian Council of Agricultural Research (ICAR)
98	153 of 2013/30-9-2013	Extant	CNHO 12	Tetraploid Cotton	Indian Council of Agricultural Research (ICAR)
99	154 of 2013/7-10-2013	New	SYN-RI-6302	Rice	Syngenta India Limited
100	155 of 2013/7-10-2013	Extant	CoSe-95255 (Rachana)	Sugarcane	Indian Council of Agricultural Research (ICAR)
101	156 of 2013/7-10-2013	Extant	Sweta (CoS 94270)	Sugarcane	Indian Council of Agricultural Research (ICAR)
102	157 of 2013/7-10-2013	Extant	CoJ 89	Sugarcane	Indian Council of Agricultural Research (ICAR)
103	158 of 2013/7-10-2013	Extant	Rajbhog (SoSe 92423)	Sugarcane	Indian Council of Agricultural Research (ICAR)
104	159 of 2013/7-10-2013	Extant	Mithas (CoS 96268)	Sugarcane	Indian Council of Agricultural Research (ICAR)
105	160 of 2013/7-10-2013	Extant	Haryana-92 (CoH 92201)	Sugarcane	Indian Council of Agricultural Research (ICAR)
106	161 of 2013/7-10-2013	Extant	CoM 7714 (Krishna)/CoM 88121	Sugarcane	Indian Council of Agricultural Research (ICAR)
107	162 of 2013/7-10-2013	Extant	Co-2001-15	Sugarcane	Indian Council of Agricultural Research (ICAR)
108	163 of 2013/8-10-2013	Extant	Co-0232	Sugarcane	Indian Council of Agricultural Research (ICAR)
109	164 of 2013/8-10-2013	Extant	KARAN-1 (Co 98014)	Sugarcane	Indian Council of Agricultural Research (ICAR)
110	165 of 2013/8-10-2013	Extant	Sulabh (Co-2001-13)	Sugarcane	Indian Council of Agricultural Research (ICAR)
111	166 of 2013/8-10-2013	Extant	CoH 119 (Haryana Ganna-119)	Sugarcane	Indian Council of Agricultural Research (ICAR)
112	167 of 2013/8-10-2013	Extant	Pramod (BO 128)	Sugarcane	Indian Council of Agricultural Research (ICAR)
113	168 of 2013/8-10-2013	Extant	Rasbhari (COSE 95422)	Sugarcane	Indian Council of Agricultural Research (ICAR)
114	169 of 2013/8-10-2013	Extant	Co Pant-90223	Sugarcane	Indian Council of Agricultural Research (ICAR)
115	170 of 2013/8-10-2013	Extant	Raseeli (CoS 91230)	Sugarcane	Indian Council of Agricultural Research (ICAR)
116	171 of 2013/8-10-2013	Extant	Co-0218	Sugarcane	Indian Council of Agricultural Research (ICAR)
117	172 of 2013/8-10-2013	Extant	Karan 5 (Co 0124)	Sugarcane	Indian Council of Agricultural Research (ICAR)
118	173 of 2013/8-10-2013	Extant	Sweety (CoS 96275)	Sugarcane	Indian Council of Agricultural Research (ICAR)
119	174 of 2013/8-10-2013	Extant	CoSe 96434 (Jalpari)	Sugarcane	Indian Council of Agricultural Research (ICAR)

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120	175 of 2013/8-10-2013	Farmer	RAMACHANDRA BOJTA	Rice	Gourachandra Padra Aha, Block-Hatadihi Distt. Kenjhar, Odisha
121	176 of 2013/8-10-2013	Farmer	SAMULEI	Rice	Purna Ch. Rout R/o Tarimul, Block-Ghasipur, District Keonjhar, Orissa
122	177 of 2013/8-10-2013	Farmer	MEDI	Rice	Purna Chandra Behera, R/o Rasulpur, Block-Sadar, Orissa
123	178 of 2013/8-10-2013	Farmer	KALAJIRA	Rice	Jogendra Sahu, R/o Jamujodi Block, Harichandrapur, Orissa
124	179 of 2013/8-10-2013	Farmer	KATHIA	Rice	Umakanta Mohapatra, R/o Kusudiha Block-Sadar, Orissa
125	180 of 2013/8-10-2013	Farmer	KARAKOILI	Rice	Balaram Nayak, R/o Dumra Guda, Block-Jeypore, Distt. Koraput, Orissa
126	181 of 2013/8-10-2013	Farmer	RANI KAJAL	Rice	Basudha, R/o Binodhati, P.O. Layekbandh, Bankura, West Bengal
127	182 of 2013/8-10-2013	Farmer	BAHURUPI	Rice	Basudha, R/o Binodhati, P.O. Layekbandh, Bankura, West Bengal
128	183 of 2013/10-10-2013	Extant	Birendra (CoLK 94184)	Sugarcane	Indian Council of Agricultural Research (ICAR)
129	184 of 2013/10-10-2013	Extant	Pant Dhan 16 (IET-14807)	Rice	Indian Council of Agricultural Research (ICAR)
130	185 of 2013/10-10-2013	Extant	Surya (BPT 4358)	Rice	Indian Council of Agricultural Research (ICAR)
131	186 of 2013/10-10-2013	Extant	PKV-SKL-3-11-25-30-36	Rice	Indian Council of Agricultural Research (ICAR)
132	187 of 2013/11-10-2013	Extant	Cottondora Sunnalu (MTU-1010)	Rice	Indian Council of Agricultural Research (ICAR)
133	188 of 2013/11-10-2013	Extant	VL Dhan 81 (IET-13792)	Rice	Indian Council of Agricultural Research (ICAR)
134	189 of 2013/11-10-2013	Extant	Hema Vathi (DWR-4107)	Rice	Indian Council of Agricultural Research (ICAR)
135	190 of 2013/11-10-2013	Extant	CSR-23 (CSR-891 R-5) (IER 13769)	Rice	Indian Council of Agricultural Research (ICAR)
136	191 of 2013/11-10-2013	Extant	GR-7	Rice	Indian Council of Agricultural Research (ICAR)
137	192 of 2013/11-10-2013	Extant	HRK-46	Rice	Indian Council of Agricultural Research (ICAR)
138	193 of 2013/11-10-2013	Extant	Vedagiri (NLR-33641)	Rice	Indian Council of Agricultural Research (ICAR)
139	194 of 2013/11-10-2013	Extant	WGL 3962	Rice	Indian Council of Agricultural Research (ICAR)
140	195 of 2013/14-10-2013	Extant	Gurjari	Rice	Indian Council of Agricultural Research (ICAR)



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141	196 of 2013/14-10-2013	New	GK 5003 (IET 18160)	Rice	Ganga Kaveri Seed Pvt. Ltd., Hyderabad
142	197 of 2013/14-10-2013	New	BIO 4311 BH	Rice	Bioseed Research India Private Limited
143	198 of 2013/14-10-2013	Extant	VSFH-1008 (CLEO)	Sunflower	Vibha Agrotech Limited
144	199 of 2013/14-10-2013	New	BIO 60502 IO	Tetraploid Cotton	Bioseed Research India Private Limited
145	200 of 2013/14-10-2013	Extant	RCH 317 Bt	Tetraploid Cotton	Rasi Seeds Private Limited
146	201 of 2013/14-10-2013	Extant	BIO 404	Rice	Bioseed Research India Private Limited
147	202 of 2013/15-10-2013	New	KSL-120014	Rice	Krishidhan Seeds Pvt. Ltd.
148	203 of 2013/29-10-2013	Farmer	LADARI	Rice	Buolura Poraja At-Kadalimunda, Block- Kundra, Kundra, Orissa
149	204 of 2013/29-10-2013	Farmer	RATAN CHUDI	Rice	Parameswar Mahapatra, At- Ramabilli, Block-Tangi, Tangi, Orissa
150	205 of 2013/29-10-2013	Farmer	KALABHUTIA	Rice	Dilip Kumar Raula, At- Ranpa, Block- Khuntuni, Khuntuni, Orissa
151	206 of 2013/29-10-2013	Farmer	DENGABARI	Rice	Bhagirathi Sahu, At- Bhutibahal, Block- Gaisilat, Gaisilat, Orissa
152	207 of 2013/29-10-2013	Farmer	KUSUMKHUNTALA	Rice	Dharmu Dhala, At- Duhulpali, Block-Biramaharajpur, Biramaharajpur, Orissa
153	208 of 2013/29-10-2013	Farmer	JAKSARU	Rice	Dhanurjay Ghiuria, At- Nuagada, Block-Kundra, Dist-Koraput, Orissa
154	209 of 2013/29-10-2013	Farmer	BASPATARI	Rice	Dillip Kumar Behera, At- Antapali, Block- Bhatli, Dist- Baragarh, Orissa
155	210 of 2013/29-10-2013	Farmer	LAL GORI	Rice	Jugal Behera, At- Ghardhara, Block- Khariar, Dist-Nuapada, Orissa
156	211 of 2013/29-10-2013	Farmer	DANISARIA	Rice	Santosh Saha, At- Siletпали, Block- Padampur, Dist-Baragarh, Orissa
157	212 of 2013/29-10-2013	Farmer	SAPARI	Rice	Sri Pyari Duria, At- Saipala, Block- Nuapada, Dist-Nuapada, Orissa
158	213 of 2013/29-10-2013	Farmer	SENKARA	Rice	Madan Majhi, At- Tundamuhi, GP Nakrundi, Block-Th-Rampur, Rampur, Orissa
159	214 of 2013/29-10-2013	Farmer	PUAGI	Rice	Sunil Kumar Majhi, At- Chikalchuan, block- Boden, dist- Nuapada, Orissa
160	215 of 2013/5-11-2013	Extant (VCK)	Kranti(NR-89)	Rice	Nirmal Seeds Private Ltd.
161	216 of 2013/5-11-2013	Extant (VCK)	VSFH-2006(Fame)	Sunflower	Nusun Genetic Research Ltd.

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162	217 of 2013/5-11-2013	Extant (VCK)	VSFH-1006(CLARE)	Sunflower	Vibha Agrotech Limited
163	218 of 2013/5-11-2013	Extant (VCK)	KSFH-678	Sunflower	Kaveri Seed Company Limited
164	219 of 2013/5-11-2013	Extant	Maya(RK 9902)	Indian Mustard	Indian Council of Agricultural Research (ICAR)
165	220 of 2013/5-11-2013	Extant	Basanti(RK 8501)	Indian Mustard	Indian Council of Agricultural Research (ICAR)
166	221 of 2013/6-11-2013	Extant	RCC-4	Indian Mustard	CSK Himachal Pradesh Krishi Vishvavidyalaya, Palampur-176062
167	222 of 2013/6-11-2013	Extant	Neelam(HPN 3)	Rapeseed (Gobhi Sarson)	CSK Himachal Pradesh Krishi Vishvavidyalaya, Palampur-176062
168	223 of 2013/6-11-2013	Extant	KBS-3	Rapeseed (Torja)	CSK Himachal Pradesh Krishi Vishvavidyalaya, Palampur-176062
169	224 of 2013/6-11-2013	Extant	YSH 0401	Rapeseed (Torja)	Indian Council of Agricultural Research (ICAR)
170	225 of 2013/6-11-2013	Extant	Vasundhra(RH 9304)	Indian Mustard	Indian Council of Agricultural Research (ICAR)
171	226 of 2013/6-11-2013	Extant	RH0119	Indian Mustard	Indian Council of Agricultural Research (ICAR)
172	227 of 2013/7-11-2013	Extant	Swarn Jyoti(RH-9801)	Indian Mustard	Indian Council of Agricultural Research (ICAR)
173	228 of 2013/7-11-2013	Extant	RB-50	Indian Mustard	Indian Council of Agricultural Research (ICAR)
174	229 of 2013/7-11-2013	Extant	GSC 5	Rapeseed (Gobhi Sarson)	Punjab Agricultural University
175	230 of 2013/7-11-2013	Extant	OCN-3	Rapeseed (Gobhi Sarson)	Punjab Agricultural University
176	231 of 2013/8-11-2013	Extant	DSP 222	Castor	Dantiwada Seed Private Limited, 211, Sarkar-V, B/H Ntraj Cinema, Ashram Road, Ahmedabad, Gujrat
177	232 of 2013/8-11-2013	Extant	BINWA(KL-210)	Linseed	Indian Council of Agricultural Research (ICAR)
178	233 of 2013/8-11-2013	Extant	Baner(KL-224)	Linseed	Indian Council of Agricultural Research (ICAR)
179	234 of 2013/8-11-2013	New	SYN-RI-NR 7098	Rice	Syngenta India Limited
180	235 of 2013/19-11-2013	Extant	Him Sarson-1	Rapeseed (Gobhi Sarson)	CSK Himachal Pradesh Krishi Vishvavidyalaya, Palampur-176062,
181	236 of 2013/19-11-2013	Extant	Kanti(RK-9807)	Indian Mustard	Indian Council of Agricultural Research (ICAR)

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182	237 of 2013/19-11-2013	Extant	Urvashi(RK 9501)	Indian Mustard	Indian Council of Agricultural Research (ICAR)
183	238 of 2013/19-11-2013	New	Kaveri Rice-1	Rice	Kaveri Seed Company Limited
184	239 of 2013/19-11-2013	Extant	KSFH-7049	Sunflower	Kaveri Seed Company Limited
185	240 of 2013/19-11-2013	Extant	Uttara(PT-2002-25)	Rapeseed (Toria)	Indian Council of Agricultural Research (ICAR)
186	241 of 2013/20-11-2013	Extant	Jawahar Soybean 97-52(JS 97-52)	Soybean	Indian Council of Agricultural Research (ICAR)
187	242 of 2013/20-11-2013	Extant	Samrudhi (MAUS-71)	Soybean	Indian Council of Agricultural Research (ICAR)
188	243 of 2013/20-11-2013	Extant	Shatabdi(ACN-9)	Indian Mustard	Dr. Panjabrao Deshmukh Krishi Vidyapeeth
189	244 of 2013/20-11-2013	Extant	JS-93-05(Jawahar Soybean 93-05)	Soybean	Indian Council of Agricultural Research (ICAR)
190	245 of 2013/20-11-2013	Extant	CS 56 (CS 234-2)	Indian Mustard	Central Soil Solinity Reserch Institute, Karnal
191	246 of 2013/20-11-2013	Extant	Jawahar Soybean 95-60 (JS 95-60)	Soybean	Indian Council of Agricultural Research (ICAR)
192	247 of 2013/20-11-2013	Farmer	Lilabati	Rice	Basudha, R/o Binodbati, P.O. Layekbandh, Bankura, West Bengal
193	248 of 2013/20-11-2013	Farmer	Koliha	Rice	Chhabilal Majhi & Others
194	249 of 2013/20-11-2013	Farmer	Sarsoful	Rice	Kishore Chandra Debta, Jamutpali, Block- Gaisilet, Dist- Baragarh, Orissa
195	250 of 2013/20-11-2013	Farmer	Kerela Sundari	Rice	Basudha, Binodbati, P.O.- Layekbandh, Bankura-722157, West Bengal
196	251 of 2013/20-11-2013	Farmer	Dudhsar	Rice	Basudha, Binodbati, P.O.- Layekbandh, Bankura-722157, West Bengal
197	252 of 2013/20-11-2013	Farmer	Haladi Chudi	Rice	Trinath Challan, Khoirimundi, Block- Jeypore, Dist- Koraput, Orissa
198	253 of 2013/20-11-2013	Farmer	Kelas	Rice	Basudha, Binodbati, P.O.- Layekbandh, Bankura-722157, West Bengal
199	254 of 2013/20-11-2013	Farmer	Asit Kalama	Rice	Basudha, Binodbati, P.O.- Layekbandh, Bankura-722157, West Bengal
200	255 of 2013/20-11-2013	Farmer	Machha Kanta	Rice	K. Srinivas Rao, Mahuli, Block- Boipariguda, Dist- Koraput, Orissa
201	256 of 2013/20-11-2013	Farmer	Kanakchur	Rice	Basudha, Binodbati, P.O.- Layekbandh, Bankura-722157, West Bengal

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202	257 of 2013/20-11-2013	Farmer	Karni	Rice	Benudhar Seth, Jamut bahal Block- Gaisilet, Dist- Baragarh, Orissa
203	258 of 2013/20-11-2013	Farmer	Shivli	Rice	Basudha, Binodbati, P.O.- Layekbandh, Bankura-722157, West Bengal
204	259 of 2013/21-11-2013	Extant (VCK)	SYN-SF-275PR	Sunflower	Syngenta India Limited
205	260 of 2013/21-11-2013	Extant (VCK)	MRSF 1144	Sunflower	Maharashtra Hybrid Seeds Company Limited
206	261 of 2013/21-11-2013	Extant (VCK)	SYN-SF-ARMONI	Sunflower	Syngenta India Limited
207	262 of 2013/3-12-2013	Extant	Geeta (RB-9901/ RB-24)	Indian Mustard	Indian Council of Agricultural Research (ICAR)
208	263 of 2013/3-12-2013	Extant	JLT-408 (JLT-9848-2)	Sesame	Mahatama Phule Krishi Vidyapeeth
209	264 of 2013/3-12-2013	Extant	NUDB-26-11	Rapeseed (Gobhi Sarson)	Mother Dairy Fruit & Vegetable Pvt. Ltd.
210	265 of 2013/16-12-2013	Extant	Narasimha (Nandyal-1325)	Tetraploid Cotton	Acharya N.G. Ranga Agricultural University, Hyderabad
211	266 of 2013/16-12-2013	Extant	VSFH-1003 (GLEN)	Sunflower	Vibha Agrotech Limited
212	267 of 2013/16-12-2013	New	CCH 510-4	Tetraploid Cotton	Indian Council of Agricultural Research (ICAR)
213	268 of 2013/16-12-2013	Extant	SPH-1567	Sorghum	Indian Council of Agricultural Research (ICAR)
214	269 of 2013/16-12-2013	Extant	Nandyal Tella Janna-3 (NTJ-3)	Sorghum	Acharya N.G. Ranga Agricultural University, Hyderabad
215	270 of 2013/16-12-2013	Extant	CoC (SC) 23 (CoC 01-061)	Sugarcane	Indian Council of Agricultural Research (ICAR)
216	271 of 2013/16-12-2013	Extant (VCK)	BPM 901	Pearl Millet	Bayer Biosciences Pvt. Ltd.
217	272 of 2013/16-12-2013	New	ACH-21-1 (AJEET-21 Bt)	Tetraploid Cotton	Ajeet Seeds Limited
218	273 of 2013/16-12-2013	Extant	TKM-11	Rice	Indian Council of Agricultural Research (ICAR)
219	274 of 2013/16-12-2013	Extant	RC 91	Tetraploid Cotton	Rasi Seeds Private Limited
220	275 of 2013/16-12-2013	Farmer	GHEOS	Rice	Basudha, Binodbati, P.O.- Layekbandh, Bankura-722157, West Bengal
221	276 of 2013/16-12-2013	Farmer	NAGRA	Rice	Basudha, Binodbati, P.O.- Layekbandh, Bankura-722157, West Bengal
222	277 of 2013/16-12-2013	Farmer	BENAPHOOL	Rice	Basudha, Binodbati, P.O.- Layekbandh, Bankura-722157, West Bengal

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223	278 of 2013/16-12-2013	Farmer	NINI	Rice	Chemu Munduli, Talagadday Block Davamantapur, dust, Koraput, Orisha
224	279 of 2013/16-12-2013	Farmer	KALIA	Rice	Ananta Majhi, Podapadar, Blok Rampur, Dist. Kalahandi, Orisha
225	280 of 2013/16-12-2013	Farmer	PORA SENKARA	Rice	Bai Majhi Dhaneswar, Karlapat, Block-rampur, Dist. Kalahandi, Orisha
226	281 of 2013/16-12-2013	New	SPS-14	Rice	Krishidhan Seeds Pvt. Ltd.
227	282 of 2013/16-12-2013	Extant	Nirmal-40 (NPH-40)	Pearl Millet	Nirmal Seeds Private Ltd.
228	283 of 2013/16-12-2013	Extant	NB-14A	Pearl Millet	Nuziveedu Seeds Limited
229	284 of 2013/19-12-2013	Extant (VCK)	Sai (NR-212)	Rice	Nirmal Seeds Private Ltd.
230	285 of 2013/19-12-2013	Extant (VCK)	NB-10R	Pearl Millet	Nuziveedu Seeds Limited
231	286 of 2013/19-12-2013	Extant (VCK)	Parvati (NR-48)	Rice	Nirmal Seeds Private Ltd.
232	287 of 2013/20-12-2013	Extant (VCK)	NB-61A	Pearl Millet	Nuziveedu Seeds Limited
233	288 of 2013/23-12-2013	Extant (VCK)	VNR 2355 PLUS	Rice	VNR Seeds Pvt. Ltd.
234	289 of 2013/26-12-2013	New	DGB-013	Pearl Millet	Devgen N.V.
235	290 of 2013/26-12-2013	Extant (VCK)	NB-86R	Pearl Millet	Nuziveedu Seeds Limited
236	291 of 2013/26-12-2013	Extant (VCK)	NB-153R	Pearl Millet	Nuziveedu Seeds Limited
237	292 of 2013/26-12-2013	Extant	RGN-145	Indian Mustard	Indian Council of Agricultural Research (ICAR)
238	293 of 2013/26-12-2013	Extant	RGN-48	Indian Mustard	Indian Council of Agricultural Research (ICAR)
239	294 of 2013/30-12-2013	Extant	ADT (R) 45 (IET-15924)	Rice	Indian Council of Agricultural Research (ICAR)
240	295 of 2013/30-12-2013	Extant	Co-0233	Sugarcane	Indian Council of Agricultural Research (ICAR)
241	296 of 2013/30-12-2013	Extant	RGN-73	Indian Mustard	Indian Council of Agricultural Research (ICAR)
242	297 of 2013/31-12-2013	Extant	RGN-13	Indian Mustard	Indian Council of Agricultural Research (ICAR)
243	298 of 2013/31-12-2013	Extant	Vandana (RR-167-982)	Rice	Indian Council of Agricultural Research (ICAR)
244	299 of 2013/31-12-2013	Extant (VCK)	BPM904	Pearl Millet	Bayer Biosciences Pvt. Ltd.

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245	300 of 2013/31-12-2013	Extant (VCK)	GK 1044	Pearl Millet	Ganga Kaveri Seed Pvt. Ltd., Hyderabad
246	301 of 2013/31-12-2013	Extant (VCK)	NB-151R	Pearl Millet	Nuziveedu Seeds Limited
247	302 of 2013/31-12-2013	Extant (VCK)	NB-152R	Pearl Millet	Nuziveedu Seeds Limited
248	303 of 2013/31-12-2013	Extant	KMH-22168	Maize	Indian Council of Agricultural Research (ICAR)
249	304 of 2013/31-12-2013	Extant	Pratap Makka Chari-6 (EC3135)	Maize	Indian Council of Agricultural Research (ICAR)
250	1 of 2014/2-1-2014	Extant (VCK)	NB-101A	Pearl Millet	Nuziveedu Seeds Limited
251	2 of 2014/2-1-2014	Extant (VCK)	NB-102A	Pearl Millet	Nuziveedu Seeds Limited
252	3 of 2014/2-1-2014	Extant (VCK)	NB-20R	Pearl Millet	Nuziveedu Seeds Limited
253	4 of 2014/9-1-2014	Extant (VCK)	NB-60A	Pearl Millet	Nuziveedu Seeds Limited
254	5 of 2014/9-1-2014	Extant (VCK)	BPM 906	Pearl Millet	Bayer Biosciences Pvt. Ltd.
255	6 of 2014/9-1-2014	New	ACH-155-2(AJEET-155 BG II)	Tetraploid Cotton	Ajeet Seeds Limited
256	7 of 2014/9-1-2014	New	KBH Boss 65	Pearl Millet	Kaveri Seed Company Limited
257	8 of 2014/9-1-2014	Extant (VCK)	INDAM 200-011 (AISHWARYA)	Rice	Indo-American Hybrid Seeds (I) Limited
258	9 of 2014/9-1-2014	New	HT-PM-4201	Pearl Millet	Hytech Seed India Private Limited
259	10 of 2014/9-1-2014	New	BIO 448H	Pearl Millet	Bioseed Research India Private Limited
260	11 of 2014/9-1-2014	Farmer	PANKA POTA	Rice	Kandel Mathi and others
261	12 of 2014/9-1-2014	Farmer	DHABALA BHUTA	Rice	Gourachandra Padra Aha, Block-Hatadihi Distt. Kenjhar, Odisha
262	13 of 2014/9-1-2014	Farmer	SUNAMUKHI	Rice	Ranjit Sahu and others
263	14 of 2014/9-1-2014	Farmer	BASTA BHOGA	Rice	Brunda Choudhary and others
264	15 of 2014/9-1-2014	Farmer	BIDAN SAPURU	Rice	Manjula Gunjnli and others
265	16 of 2014/9-1-2014	Farmer	BASTUL	Rice	Manda Lal Majhi and others
266	17 of 2014/9-1-2014	Farmer	NINIBUDHI	Rice	Jaganath Burudi and others
267	18 of 2014/9-1-2014	Farmer	KANTA DUMER	Rice	Bisnhu Sahu and others
268	19 of 2014/9-1-2014	Farmer	SUNAPANI	Rice	Kuber Dash

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269	20 of 2014/9-1-2014	Farmer	KADALI KENDA	Rice	Bahadul Bagh and other
270	21 of 2014/9-1-2014	Farmer	JUGAL	Rice	Basudha, Binodbati, P.O.- Layekbandh, Bankura-722157
271	22 of 2014/9-1-2014	Farmer	LOCHHE I	Rice	Pitu Halba and others
272	23 of 2014/9-1-2014	Farmer	GELEI	Rice	Sri Padaman Bag and others
273	24 of 2014/9-1-2014	Farmer	DANGAR CHUDI	Rice	Bhima Mahi and others
274	25 of 2014/9-1-2014	Farmer	KARPUR BHOG	Rice	Dhaneswar Mangaraj and others
275	26 of 2014/20-1-2014	Extant	TAMS-38	Soybean	Dr. Panjabrao Deshmukh Krishi Vidyapeeth
276	27 of 2014/20-1-2014	Extant (VCK)	BPM 905	Pearl Millet	Bayer Biosciences Pvt. Ltd.
277	28 of 2014/20-1-2014	Extant	Girnar-2 (PBS-24030)	Groundnut	Indian Council of Agricultural Research (ICAR)
278	29 of 2014/20-1-2014	Extant	Phule Panchami (RPOSV3)	Sorghum	Mahatama Phule Krishi Vidyapeeth
279	30 of 2014/21-1-2014	Extant	Pratap (MH 1642)	Pearl Millet	Nuziveedu Seeds Limited
280	31 of 2014/22-1-2014	Extant (VCK)	NSH - 54	Sorghum	Nuziveedu Seeds Limited
281	32 of 2014/22-1-2014	New	KBR 621	Pearl Millet	Kaveri Seed Company Limited
282	33 of 2014/22-1-2014	New	KBMS 329	Pearl Millet	Kaveri Seed Company Limited
283	34 of 2014/22-1-2014	Extant	CO-4	Chickpea	Indian Council of Agricultural Research (ICAR)
284	35 of 2014/22-1-2014	Extant	TAMS-98-21	Soybean	Dr. Panjabrao Deshmukh Krishi Vidyapeeth
285	36 of 2014/22-1-2014	Extant	TRY 1	Rice	Indian Council of Agricultural Research (ICAR)
286	37 of 2014/23-1-2014	Extant	SSF - 708	Safflower	Mahatama Phule Krishi Vidyapeeth
287	38 of 2014/23-1-2014	New	CSV 20	Sorghum	Indian Council of Agricultural Research (ICAR)
288	39 of 2014/23-1-2014	Extant (VCK)	Komal - 101	Rice	Krishidhan Seeds Pvt. Ltd.
289	40 of 2014/23-1-2014	Extant	TRY (R) 2	Rice	Indian Council of Agricultural Research (ICAR)
290	41 of 2014/24-1-2014	Extant	Phule Revati (RSV 1006/SPV 1830)	Sorghum	Mahatama Phule Krishi Vidyapeeth
291	42 of 2014/24-1-2014	Extant (VCK)	Ankur-Rupali	Rice	Ankur Seeds(P) Limited
292	43 of 2014/28-1-2014	New	Vimal (AKAW 3722)	Wheat	Dr. Panjabrao Deshmukh Krishi Vidyapeeth
293	44 of 2014/5-2-2014	Extant	NH-615	Tetraploid Cotton	Marathwada Agricultural University

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294	45 of 2014/5-2-2014	New	VBBH 3040	Pearl Millet	Vibha Agrotech Limited
295	46 of 2014/6-2-2014	Farmer	CHINGER	Rice	Ganesh Nag & Others
296	47 of 2014/6-2-2014	Farmer	HARISHANKAR	Rice	Guna Shau & Others
297	48 of 2014/6-2-2014	New	Ankur-3313	Rice	Ankur Seeds(P) Limited
298	49 of 2014/6-2-2014	Extant (VCK)	VSFH-180 (OLINDA)	Sunflower	Vibha Agrotech Limited
299	50 of 2014/6-2-2014	Extant (VCK)	VSFH-1044 (REYFLO)	Sunflower	Nusun Genetic Research Ltd.
300	51 of 2014/12-2-2014	Extant (VCK)	TCHH-117	Tetraploid Cotton	Tulasi Seeds Pvt. Ltd.
301	52 of 2014/12-2-2014	New	DGJ-015	Sorghum	Devgen N.V.
302	53 of 2014/12-2-2014	New	HT-GS-3201	Sorghum	Hytech Seed India Private Limited
303	54 of 2014/12-2-2014	New	DGJ-018	Sorghum	Devgen N.V.
304	55 of 2014/3-3-2014	New	DGJ-017	Sorghum	Devgen N.V.
305	56 of 2014/3-3-2014	New	KSR 6195	Sorghum	Kaveri Seed Company Limited
306	57 of 2014/3-3-2014	Extant	PBW-533	Wheat	Indian Council of Agricultural Research (ICAR)
307	58 of 2014/3-3-2014	Extant	RG-18	Diploid Cotton	Rajasthan Agriculture University, Bikaner
308	59 of 2014/3-3-2014	New	DGJ-020	Sorghum	Devgen N.V.
309	60 of 2014/11-3-2014	New	JRC-532 (C-532)	Jute	Indian Council of Agricultural Research (ICAR)
310	61 of 2014/11-3-2014	New	JRC-517 (C-517)	Jute	Indian Council of Agricultural Research (ICAR)
311	62 of 2014/11-3-2014	New	SYN-RI-NR 7238	Rice	Syngenta India Limited
312	63 of 2014/11-3-2014	Extant (VCK)	INDAM 99-01 (SUHASINI)	Rice	Indo-American Hybrid Seeds (I) Limited
313	64 of 2014/11-3-2014	Extant (VCK)	INDAM 98-55 (ROSINI)	Rice	Indo-American Hybrid Seeds (I) Limited
314	65 of 2014/13-3-2014	Farmer	SAMUDRA	Rice	Gobardhan Sarlia And others
315	66 of 2014/13-3-2014	Farmer	SAPURI CHUDI	Rice	Budhadev Majhi and others
316	67 of 2014/13-3-2014	Farmer	KRUSUDA	Rice	Sri Omma Padiami and others
317	68 of 2014/13-3-2014	Farmer	BADKESHARI	Rice	Sanjay Behera
318	69 of 2014/13-3-2014	Farmer	KENDUPHUL	Rice	Tasit Bhoi and others
319	70 of 2014/13-3-2014	Farmer	MALATI	Rice	Satari Birua
320	71 of 2014/13-3-2014	Farmer	KUSMA	Rice	Chamaru Herna and othres



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321	72 of 2014/13-3-2014	Farmer	KAINCHI	Rice	Nanda Kishore Mohanta
322	73 of 2014/13-3-2014	Farmer	BAGADA CHINAMAL	Rice	Padmalochan Pradhan
323	74 of 2014/13-3-2014	Farmer	CHINGUDI	Rice	Guru Ch. Mohanta
324	75 of 2014/13-3-2014	Farmer	MARFAL	Rice	Gupta Buruda and others
325	76 of 2014/13-3-2014	Farmer	KINARI	Rice	Adma Sadi
326	77 of 2014/13-3-2014	Farmer	MAHULA KUNCHI	Rice	Mangalu Jani and others
327	78 of 2014/27-3-2014	New	DGT 021	Sorghum	Devgen N.V.
328	79 of 2014/27-3-2014	Extant (VCK)	RATANA (NJH-40)	Sorghum	Nirmal Seeds Private Ltd.
329	80 of 2014/27-3-2014	Extant (VCK)	INDAM 200-012 (SAMRAT)	Rice	Indo-American Hybrid Seeds (I) Limited
330	81 of 2014/27-3-2014	Extant (VCK)	BGS 802	Sorghum	Bayer Biosciences Pvt. Ltd.

## Acronyms

AICRP	All India Co-ordinated Research Project
ATMA	Agricultural Technology Management Agency
BAU	Birsa Agricultural University
BMC	Biodiversity Management Committee
BCIL	Biotech Consortium India Limited
CAG	Comptroller and Auditor General of India
CARI	Central Agricultural Research Institute
CBD	Convention on Biological Diversity
CMD	Chairman-cum-Managing Director
CSIR	Council of Scientific and Industrial Research
CHES	Central Horticultural Experiment Station
CSSRI	Central Soil Salinity Research Institute
DAC	Department of Agriculture & Co-operation
DUS	Distinctiveness, Uniformity and Stability
EVRC	Extant Variety Recommendation Committee
GATT	General Agreement on Tariffs and Trade
GBPIHED	Govind Ballab Pant Institute of Himalyan Environment Development
GEF	Global Environment Facility
HADA	Hill Area Development Agency
IARI	Indian Agricultural Research Institute
ICAR	Indian Council of Agricultural Research
ICFRE	Indian Council of Forest Research & Education
IFFCO	Indian Farmers Fertilizer Cooperative Limited
IGP	Indo-Gangetic Plains

IINDUS	Indian Information System as per DUS guidelines
IPGRI	International Plant Genetic Resources Institute (Bioversity International)
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
IVRI	Indian Veterinary Research Institute
KAU	Kerala Agriculture University
KVK	Krishi Vigyan Kendra
MRDBS	Maharashtra Rajya Draksha Bagayatar Sang
MSEZ	Mangalore Special Economic Zone Limited
NASC	National Agricultural Science Centre
NGO	Non-Governmental Organization
NORV	Notified and Released Varieties of India
NSAI	National Seed Association of India
NRCPB	National Research Centre on Plant Biotechnology
NSRTC	National Seed Research and Training Centre
OECD	Organization for Economic Co-operation and Development
PS/PI	Principal Scientist/Principal Investigator
PD	Project Director
PGR	Plant Genetic Resources
PPV&FRA	Protection of Plant Varieties and Farmers' Rights Authority
PVE	Plant Variety Examiner
PVIS	Plant Variety Information System
PVJ	Plant Variety Journal of India
R&D	Research & Development
RTI	Right To Information
SAO	Senior Accounts Officer
SAU	State Agricultural Universities

STO	Senior Technical Officer
TRIPS	Trade Related Aspects of Intellectual Property Rights
UNEP	United Nations Environment Programme
UPOV	International Union of Protection of New Varieties of Plants
VCK	Variety of Common Knowledge
WTO	World Trade Organization