



# NBPGR



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**QUARTERLY**

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## Golden Jubilee Celebration of NBPGR, Regional Station, Shimla

The regional station of NBPGR located at Shimla was established in 1960 as a Plant Introduction Station of the Indian Agriculture Research Institute, with a view to introduce exotic germplasm from analogous agro-ecological zones of the world. With the elevation of NBPGR to an independent institute in 1976, the station came under its fold. To commemorate more than 50 years of its establishment, NBPGR, R/S, Shimla organized a Golden Jubilee Celebration on 6 April. Dr J.C. Rana, Principal Scientist and Officer-in-Charge of the station welcomed all the dignitaries. Mr Sudripta Roy, Chief Secretary, Govt. of Himachal Pradesh was the Chief Guest of the function. While delivering the inaugural address, he highlighted the importance of biodiversity in the present context of increasing population and climate change. He expressed happiness that institutions like NBPGR are doing great service for ensuring sustainable food and livelihood security.



**Dr P.L.Gautam, Mr Sudripta Roy, Dr K.C. Bansal and Dr M.Dutta releasing a book during the golden jubilee function**



**Dr P.L.Gautam delivering the first 'Dr Harbhajan Singh Memorial Lecture'**

Dr P.L. Gautam, Vice Chancellor, Career Point University, Hamirpur, Himachal Pradesh was the Guest of Honour. He delivered the first 'Dr Harbhajan Singh Memorial Lecture' to commemorate the occasion. His address included his memories about late Dr Harbhajan Singh, when he was working with him. He enumerated several incidents highlighting the level of knowledge, dedication, commitment, simplicity and focussed research undertaken by late Dr Harbhajan Singh. Dr Gautam gave an overview of the plant genetic resources (PGR) in the world and laid out the roadmap for future PGR research in the country, keeping in view the global intellectual property rights regimes.

The function was attended by more than 250 participants from different research institutes and state agricultural universities. Special guests comprised members of the QRT, Dr K.R. Dhiman, Vice Chancellor, Dr Y.S. Parmar University of Horticulture & Forestry, Solan and Dr R. Sain Dass, Former Director, Directorate of Maize Research, besides Dr K.C. Bansal, Director, NBPGR, and Drs M. Dutta, R.K. Tyagi, P.C. Agrawal and Arjun Lal, Heads of various Divisions of NBPGR, New Delhi. Several current, former and retired staff of the Shimla Station were given mementoes on the occasion. The programme concluded with a cultural event organized by the staff.



**A view of the gathering at the golden jubilee celebrations**

## Plant Exploration and Germplasm Collection

### Exploration and Germplasm Collection of Medicinal and Aromatic Plants



*Ocimum gratissimum* collected from Kukuprasad village, Nayagarh, Odisha

The NBPGR Regional Station (R/S), Cuttack, undertook an exploration mission for collection of targeted medicinal and aromatic plants (M&AP) in collaboration with AICRP on M&AP, Orissa University for Agriculture and Technology (OUAT), Bhubaneswar. Species of *Ocimum*, *Mucuna* and *Tinospora* were collected from Bhitarkanika, Kapilas, Mahanadi and Satkosia Gorge Sanctuary and Malyagiri Hills, Odisha. A total of 91 samples of M&AP were collected from four diversity rich areas covering nine districts of Odisha. Ethnobotanical information on more than 80 species of potential use were collected and documented.

### Exploration and Collection of Seed Spices

Crop specific exploration was undertaken by NBPGR R/S, Shillong, in collaboration with National Research Centre on Seed Spices (NRCSS), Ajmer, in 13 blocks of Nagaon, Golaghat and Karbi-Anglong districts of Assam. Some 32 diverse germplasm of *Coriandrum sativum* (28), *Nigella sativa* (2) and *Anethum sowa* (2) were collected with variability for aroma, maturity period and plant height.



Fruits and seeds of *Nigella sativa*

### Germplasm Collection of Millets and Brassica

NBPGR R/S, Jodhpur collected some 70 samples of millets comprising 40 of finger millet

(*Eleusine* and 30 of little millet (*Panicum sumatrense*) from Dangs and Valsad districts of Maharashtra. In another exploration in the interior villages of Jodhpur, Nagaur, Sikar and Churu districts of Rajasthan, 59 samples of *Brassica tournefortii* (Asian mustard/pili sarson) were collected.

### Germplasm Exploration of Palmyrah Palm

NBPGR R/S, Hyderabad collaborated in an exploration undertaken by Tamil Nadu Agricultural University (TNAU) and Dr Y.S.R. Horticultural University, in parts of Dakshin Kannada district of South-western region of Karnataka for the collection and conservation of Palmyrah palm (*Borassus flabellifer*) germplasm. A total of seven accessions of Palmyrah palm germplasm were sampled and significant variability was observed in palm height, leaf colour, fruit colour, fruit shape, fruit size, yield, bearing.



Variability in palmyrah palms collected from Karnataka

## Germplasm Exchange

### Import

A total of 3,435 samples (germplasm - 3,310; trials-125) were introduced from 23 countries.

### Promising Introductions

***Arabidopsis* (EC774619-765) USA:** Transgenic *Arabidopsis* seed lines transformed with different T-DNA binary plasmid.

**Chilli (EC771549- 771554) Taiwan:** CMS lines.

**Chilli (EC771555) Taiwan:** Virus resistant line.

**Chilli (EC771556-57) Taiwan:** Paprika line.

**Chilli (EC771558-60) Taiwan:** Phytophthora resistant lines.

**French Bean (EC771628) USA:** High level of resistance to common bacterial blight (caused by *Xanthomonas axonopodis* pv. *phaseoli*).

**Sorghum (EC774526-35) Australia:** Forage sorghum seed.

**Soybean (EC773525-27) USA:** Expressing HPPD protein.

### Export

Vegetable crops (8) to Bangladesh, wheat (626) to Kenya and Ethiopia.

### Plant Quarantine

A total of 1,899 imported samples comprising germplasm, trials and transgenics were processed for quarantine clearance. Of these, 35 samples were found infected with insects/mites (6), fungi/bacteria (27) and weeds (2). Out of 27 samples infected with fungi/ bacteria, one sample of paddy from China infected with *Tilletia barclayana* was rejected. Remaining 34 samples were salvaged using various treatments. A total of 191 samples of rice were given prophylactic hot water treatment (HWT); 894 samples of *Capsicum* and *Lycopersicon* spp. were given Trisodium orthophosphate treatment and 404 samples of vegetative propagating materials were given prophylactic dip treatment with pesticides before their release.

A total of 626 samples of *Triticum aestivum* meant for export to Kenya and Ethiopia were processed for detection of association of pests and pathogens and two Phytosanitary Certificates were issued.

At NBPGR R/S, Hyderabad, a total of 1,724 samples of import germplasm were processed from quarantine point of view. Import germplasm consisting of paddy, maize, sorghum, pearl millet, finger millet, pigeonpea, groundnut, clover, tomato and tobacco was received from different countries. Of the above, 258 samples of tobacco were freeze dried green leaf material. Also, quarantine service was provided to 15 institutions.

### Germplasm Evaluation and Characterization

Evaluation of Wheat Germplasm for Terminal Heat Tolerance

A set of 3,200 wheat accessions (selected from previous year's screening of 22,000 accessions) based on days to maturity, grain yield, 1000-seed weight, canopy temperature depression and leaf

waxiness were evaluated for identification of heat tolerant wheat accessions during Rabi 2012-13 at Issapur Farm, NBPGR, New Delhi. These accessions were grown under two different sowing conditions (20-22 Nov. and 20-22 Dec, 2012) in ABD with a plot size of 5 rows of 2 m length. Experimental material comprised of *Triticum aestivum*, *T. durum* and *T. dicoccum* subspecies and with respective checks. Observations were recorded for various agro-morphological traits and physiological traits.

### Characterization and Evaluation of World Collections of Wild Annual *Lens* Taxa

*Lens* taxa are represented by six wild species which are annual in nature. Some 420 accessions, collected from ICARDA, Syria, representing the world's centre of diversity, were characterized and evaluated for various morpho-agronomic and major biotic (rust and powdery mildew) traits under pot culture conditions at NBPGR, New Delhi. Eleven qualitative traits viz., seedling stem pigmentation, leaf pubescence, leaflet size, tendril length, pod shedding, pod dehiscence, pod pigmentation, flower colour, ground colour of testa, pattern of testa and cotyledon colour were recorded. These traits are helpful in distinguishing between the different phenotypic groups and also their inheritance pattern can be studied using classical genetics for aiding plant breeding programmes. Similarly, variations for 10 agronomic traits were also assessed. The wild *Lens* accessions exhibited considerable variations within the species for some of the morphological parameters indicating the need of further purification of accessions. Of the wild *Lens* species, *L. culinaris* ssp. *odemensis*, *L. ervoides* and *L. nigricans* had the



View of *Lens* germplasm under evaluation at NBPGR, New Delhi

maximum representation of resistant accessions (5%) including multiple resistance for rust and powdery mildew.

### **Germplasm Characterization of Wild Bittergourd**

At NBPGR R/S, Thrissur, 38 collections of wild and semi-domesticated bittergourd (*Momordica charantia* var. *muricata*) were characterised for 19 quantitative and five qualitative traits. Drought tolerance manifested through continuous flowering and fruiting was observed in JB/11-51, JB/11-127, JB/11-136, JB/11-113, JB/11-139, JB/11-98, JB/11-104, IC582420, IC582434, IC582471 and IC582449.

### **Germplasm Characterization of Jackfruit**

At NBPGR R/S, Thrissur, 11 accessions of jackfruit (*Artocarpus heterophyllus*) were characterised for 20 fruit characters. Among the table purpose types IC092377 (33.0%), IC091778-2A (35.3%) and IC096148-2B (35.6%) were found to have TSS percentage on par with check variety Muttamvarikka (36.0%). These accessions also possess big flake size, low gum quantity, crisp texture and other consumer preference traits.

### **Germplasm Characterization, Evaluation and Seed Multiplication of Rice**

At NBPGR R/S, Cuttack, 70 accessions of rice germplasm comprising collections from drought affected areas of Odisha (59) and collections from West Bengal (11) were evaluated for drought tolerance and multiplied for seed increase in collaboration with CRRRI. The promising genotypes were identified and will be further evaluated for identification of donor. A set of 168 accessions of wild *Oryza* species were maintained in earthen pots for characterization and seed multiplication. Observation on morphological and quantitative traits was recorded.

### **Germplasm Evaluation at Shimla**

A total of 341 germplasm accessions of field pea were evaluated for 19 characters using seven check varieties at NBPGR R/S, Shimla. Germplasm accessions EC598777, IC219027, IC310833, IC381155, JCR/JV-20 and EC598758 showed superiority for multiple traits like days to flowering, pod length, pods/plant, seed/pod, pod clusters/plant and field resistance to powdery mildew. In apricot, 46 accessions were evaluated



**Apricot accession EC552701 with early maturity, high productivity and attractive fruit colour**

and wide range of variation for traits like maturity days, fruit size, fruit taste, %TSS etc. Accessions viz. EC552701, EC539003, EC140316, and EC346008 showed early maturity, high TSS and fruit weight. Among seven varieties of nectarine EC464324 was found superior for fruit weight, fruit length and %TSS.

### **Germplasm Characterization and Evaluation at Hyderabad**

Ten germplasm accessions of *Clitoria ternatea* were characterized for seed protein content. The range varied from 32.6% to 58.6%. RJR-619 possessed the highest protein content.

Oil analysis of sesame (18 accessions) was completed. The range observed was between 36.54% and 56.02%, with accessions IC413243 recording the highest (56.02%) followed by IC413211 (53.3%) oil content.

### **Identification of Promising Germplasm at Jodhpur**

Ber (*Ziziphus mauritiana*) is the important fruit



**Stones of ber of varieties 'Hardseb' and 'Pamely' infested by stone weevil in contrast to uninfested stones of 'Tikdi'**

crop of arid regions. Stone weevil (*Aubeus himalayanus*) is a major damaging insect of ber causing losses up to 46%. NBPGR R/S, Jodhpur is maintaining 56 trees of 17 accessions of different landraces of ber in its field genebank. The incidence of stone weevil was recorded in all ber trees except all three trees of 'Tikdi' where no fruits were infested by the weevil. Thus, Tikdi possesses genetic resistance to stone weevil. Another important landrace identified as 'Bedana' is sweet in taste and does not contain stone in its fruit. The seed is soft and chewable.

In field crops, following promising accessions have been identified:

| Crop                       | Promising accessions with traits  |
|----------------------------|---|
| <i>Brassica campestris</i> | IC422157 (aphid resistant)  |
| Buckwheat                  | IC313470 (branches/plant); IC013145, IC018889, IC363948 (early maturing); IC412722, IC521304 (yield)  |
| Guar                       | IC432117-P7 (high green pod yield); IC421811-P6 high yielding (up to 33.5 q/ha), plant short and unbranched   |
| Job's tear                 | IC089387, IC089389, IC521338 (days to maturity); IC012639 (4.33), IC012639 (tillers/plant); IC334314, IC416824 (yield)  |
| Maize                      | IC527214, IC526585, IC557461 (days to Maturity); IC 540187 (ear width); IC538954, IC557464 (cob length)); IC527215, IC557464 (100-grain weight)   |
| Mothbean                   | IC36522 (Yellow mosaic virus disease resistant)   |
| Perilla                    | IC006442, IC524554 (early flowering); SHL13/5, IC010240 (branches/plant); IC284512, IC422905, IC521292 (early maturing); IC006440, IC326132 (1000-seed weight); IC524615, SHL13/5 (yield) |
| Ricebean                   | IC419604, IC421929 (early flowering); MRS-82, IC395028 (yield); IC394537, IC395028 (pods/plant)   |
| Upland rice                | MRS-79, MRS-100 (early, yield); IC 0589031 (early flowering, 100-seed weight, early maturing); IC583067, MRS-14 (yield); IC583057, RSR/SKR-12 (tillers/plant)                             |



**Yellow mosaic virus disease resistant mothbean accession IC36522 between two susceptible accessions**

### Genomics Related Activities

In finger millet, among 154 primer combinations of sequence-related amplified polymorphism (SRAP), aimed for amplifying open reading frames (ORFs), 33 selected SRAP primers were analyzed for polymorphism. From such analyses, 18 SRAP primer combinations produced satisfactory polymorphic profiles in 67 finger millet reference genotypes known for contrasting blast disease response. In kodo millet, among 80 Start Codon Targeted (SCoT) markers tested for amplification in four germplasm lines, 55 markers have been identified for their usefulness in diversity analysis.

In wheat, 30 functional or genic-SSR markers were developed based on MYB transcription factors that were subsequently validated in 24 varieties.

GMO gene detection: Singleplex PCR assays for detection of endogenous zein gene, P-35S, T-nos and marker genes have been optimized to screen GM maize events. Additionally, multiplex PCR assays for simultaneous detection of endogenous zein gene, P-35S, T-nos and marker genes have also been optimized to screen GM maize events. Moreover, specificity test for LAMP assays for control elements have also been done. In order to screen adventitious presence of transgenes in cotton, the DNA samples from 55 non-GM cotton accessions were analyzed for PCR based detection of cotton specific endogenous gene.

# FIELD DAYS, TRAININGS AND MEETINGS ORGANIZED

## Biodiversity Day and World Environment Day Celebrations



**Glimpses of the Biodiversity Day Celebration organized by NBPGR R/S, Shimla**

Biodiversity Day (May 22) was celebrated at NBPGR R/S, Shimla and Thrissur. At Shimla an exhibition depicting genetic diversity was organized which displayed a wide range of seeds, live plants, posters, photographs and literature related to activities of NBPGR. It was inaugurated by Dr (Col.) Dhani Ram Shandil, Minister for Social Justice, Empowerment and Welfare, Govt. of HP. More than 500 school children and people from the city visited the exhibition. Significance of Biodiversity Day was highlighted through live discussion at Shimla Doordarshan and live phone-in programme on radio.

At Thrissur, Biodiversity Day was celebrated by planting some 114 seedlings comprising of *Areca catechu* (12), *Cassia fistula* (3), *Caesalpinia bonduc* (30), *C. sappan* (25), *Cocos nucifera* (5), *Datura stramonium* (1), *Embllica officinale* (20), *Moringa oleifera* (3), *Rauvolfia serpentina* (15) and saplings of Bougainvella, in the field by the staff of the station.

The World Environment Day (June 5) was also celebrated at NBPGR R/S, Thrissur and 20 seedlings of minor fruits were planted in the office block involving women local farmers.

## Germplasm Field Day

A Germplasm Field Day on Wheat, Barley and Triticale was organized at Post Entry Quarantine Nursery and IARI New Area Farm, NBPGR, New Delhi on 3 April. Dr B.B. Singh, ADG (Seed), ICAR and Dr Malavika Dadlani, Jt. Director, IARI were

the distinguished guests. More than 35 participants belonging to different ICAR Institutes and SAUs, besides NBPGR scientists, participated in the event, selected material of their choice and placed indents for supply.



**Participant of Germplasm Field Day on Wheat, Barley and Triticale**

A Germplasm Field Day on Rabi Oilseeds and Pulses was organized at IARI New Area Farm, NBPGR, New Delhi on 15 March. A total of 433 accessions of Brassica (including a large number of leafy vegetable type germplasm collected from Arunachal Pradesh), 130 accessions of linseed, 102 accessions of Crambe and 498 accessions of lentil were grown. More than 60 participants belonging to different institutes viz., GBPAUT, Pantnagar, PAU, RS, Gurdaspur, CSKHPKV, Palampur; CSAUAT, Kanpur; IARI, New Delhi; SKUAST, Jammu; BAU, Sabour; CCSHAU, Hisar; IGKV, Raipur and Advanta India Ltd, Hyderabad participated in the event. The participants selected material of their choice and placed indents for supply.

## Meeting for Results Framework Document

The Prioritization, Monitoring and Evaluation (PME) Cell, NBPGR, organized a discussion on Results Framework Document (RFD), a management tool to evaluate institutional performance. The presentation was made by Dr R.K. Tomar, RFD Coordinator, RFD Coordination Unit, ICAR, for general awareness and to further improve the RFD document of NBPGR.

## New Project

A project entitled 'Establishment of association of begomovirus species with yellow vein mosaic disease (YVMD) in wild and cultivated species of okra and identification of sources of resistance to

the most predominant virus' was awarded to Dr. Anirban Roy, Senior Scientist (Plant Pathology), Division of Germplasm Evaluation, NBPGR, New Delhi as Co-PI. The project is funded by National Fund for Basic, Strategic & Frontier Application Research in Agriculture (NFBSFARA), ICAR, with a total budget outlay of Rs 183 lakhs.

### Deputation Abroad

**Dr Gurinder Jit Randhawa**, Principal Scientist, Division of Genomics, NBPGR, New Delhi, participated as technical expert in the 'International Workshop of GMO-analysis Networking' and in Brainstorming on 'The present and future of DNA-based diagnostics within the broader context of the bio-based economy', sponsored by European Commission at Joint Research Centre, ISPRA, Italy, 8-10 April, 2013. Delegates from 52 countries comprising five major global regions viz. Middle East North Africa, Asia, Africa, Latin America and Europe participated in the deliberations to evolve globally harmonized cost efficient and user friendly GMO detection strategies.

**Dr Kavita Gupta**, Principal Scientist, Division of Plant Quarantine, NBPGR, New Delhi was invited to present an oral paper on 'Status report on agricultural biotechnology and biosafety regulatory status of India' during the 'Stakeholders Dialogue on Biosafety Regulations in the Asia Pacific Region' held at Bangkok, Thailand, 16-17 April, 2013.

**Dr Gurinder Jit Randhawa**, Principal Scientist, Division of Genomics, was invited by FAO (Regional Office for Asia and the Pacific), as a Resource Person to make three presentations during the Regional Workshop on strengthening 'Regional Cooperation and National Capacity Building on Biosafety in Asia', 17-20 June, 2013 at Bangkok, Thailand. Delegates from 12 countries of the Asia and the Pacific region participated in the program. The workshop was aimed at promoting technical capacity of member countries on various issues of biosafety and LMOs, support development of related policies and biosafety regulatory frameworks and to ensure safe evaluation of LMOs and further strengthen regional cooperation on biosafety and LMO including the operationalization of established 'Asian Bionet'.

**Dr J.C. Rana**, Principal Scientist, NBPGR R/S, Shimla, was invited by the Bioersity

International and Chinese Academy of Agricultural Sciences to present a lead paper on 'Utilizing agro-biodiversity for enhancing farm incomes and livelihoods in the mountain production systems in India', during the 'International Symposium on Agro-biodiversity for Sustainable Development', held at Beijing, China, 3-4 June, 2013.

### Awards and Honours

**NBPGR R/S, Shimla** was awarded the '**Sh. Om Prakash Sood Memorial Running Trophy**' in the category of Government Institution for their efforts on agro-biodiversity conservation and awareness, by the Shimla Amateur Garden and Environment Society (SAGES) during the SAGES Flower Show, Shimla, 1-3 June, 2013.

**Dr Anirban Roy**, Senior Scientist, Division of Germplasm Evaluation, NBPGR, New Delhi elected as '**Fellow of Society of Plant Protection Sciences**', New Delhi for the year 2012, during the 'National Symposium on Biotechnological Approaches for Plant Protection: Constraints and Opportunities', Goa, 27-29 January, 2013.

**Dr Manas Kumar Bag**, Senior Scientist, Division of Germplasm Evaluation, NBPGR, New Delhi received '**Best Paper Award**' for the paper entitled 'Response of black gram germplasm against yellow mosaic disease and characterization of causal viruses', during the International Conference on 'Bioresource and Stress Management', Kolkata, 6-9 February, 2013. The paper was co-authored by **Anirban Roy, T.V. Prasad, Babu Ram, N.K. Gautam and M. Dutta**.

**Dr S. K. Yadav**, Senior Scientist, Germplasm Exchange Unit, NBPGR, New Delhi conferred with '**Young Scientist Award**' for his outstanding contribution and recognition in the field of Horticulture, during the 'International Conference on Impact of Technological Tools on Food Security under Global Warming Scenario' (ITTFS-2012), 11-12 May, 2013, Shobhit University, Meerut.

**Dr Sundeep Kumar**, Senior Scientist, Division of Genomics, NBPGR, New Delhi was conferred with '**Young Scientist Associate Award**' for his outstanding contribution and recognition in the field of Biotechnology, ITTFS-2012, 11-12 May, 2013, Shobhit University, Meerut.

## Promotions

**Dr N. Sunil**, Scientist, NBPGR R/S, Hyderabad promoted as Senior Scientist w.e.f. 1.1.2011.

**Dr Dipti Ranjan Pani**, Scientist, NBPGR R/S, Cuttack promoted as Senior Scientist w.e.f. 13.4.2007.

## Transfers

**Dr Asha K.I.**, Principal Scientist, NBPGR R/S, Thrissur, transferred to CTCRI, Thiruvananthapuram w.e.f. 8.3.2013.

**Dr (Mrs) Sangeeta Yadav**, Senior Scientist, Division of Germplasm Evaluation, NBPGR, New Delhi, transferred to IARI, New Delhi on her promotion as Principal Scientist w.e.f. 23.5.2013.

**Dr Zakir Hussain**, Senior Scientist, Tissue Culture and Cryopreservation Unit, NBPGR, New Delhi transferred to IARI, New Delhi on his promotion as Principal Scientist w.e.f. 31.5.2013.

## Retirements



**Dr Arjun Lal**, Principal Scientist (Nematology) and Officer-in-Charge, Germplasm Exchange Unit, NBPGR, New Delhi superannuated on 30 April, 2013.

## Appointments

**Dr Dhammaprakash Pandhari Wankhede** Scientist (Plant Genetics) joined NBPGR, New Delhi w.e.f. 4 April, 2013. He obtained M.Sc. (Ag) in Genetics & Plant Breeding from Acharya N. G. Ranga Agricultural University (ANGRAU), Hyderabad and his Ph.D. from National Institute of Plant Genome Research, Jawaharlal Nehru University, New Delhi.



**Dr (Mrs) Vikender Kaur**, Scientist (Economic Botany) joined NBPGR, New Delhi w.e.f. 11 April, 2013. She is M.Sc. (Botany) from Punjab University, Chandigarh and Ph.D. (Botany) from CCS Haryana Agriculture University, Hissar.

**Mr J. Aravind**, Scientist (Plant Genetics), joined NBPGR, New Delhi w.e.f. 11 April, 2013. He is M.Sc. (Ag.) in Genetics and Plant Breeding from University of Agricultural Sciences, Bangalore.



**Ms P. Pranusha**, Scientist (Plant Physiology) joined NBPGR, New Delhi w.e.f. 11 April, 2013. She is M.Sc.(Ag.) from ANGRAU, Hyderabad.



**Mr Bharat Hanamant Gawade**, Scientist (Plant Nematology), joined NBPGR, New Delhi w.e.f. 11 April, 2013. He is M.Sc (Ag.) in Nematology from IARI, New Delhi.

**Mr Soyimchiten**, Scientist (Horticulture Fruit Science) joined NBPGR, New Delhi w.e.f. 12 April, 2013. He is M.Sc. (Hort.) from IARI, New Delhi.



## DG, ICAR visits NBPGR R/S, Bhowali



**Dr S. Ayyappan**, Director General, ICAR and Secretary, DARE visited NBPGR R/S, Bhowali on May 31. He was accompanied by Dr Barat, Director, Directorate of Cold Water Fisheries Research (DCFR), Bhimtal (Nainital) and Dr Patnaik, Project Director, Foot and Mouth Diseases, Mukteshwar (Nainital). He expressed his satisfaction regarding the work and also suggested that the station should start preparing for a platinum jubilee celebration to commemorate its achievements.

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