# संवादपत्र
# NEWSLETTER
गोवा के लिए भा.कृ.अनु.प. का अनुसंधान परिसर
(भारतीय कृषि अनुसंधान परिषद)
## ICAR RESEARCH COMPLEX FOR GOA
(Indian Council of Agricultural Research)

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हर कदम, हर डगर
किसानों का हमसफर
भारतीय कृषि अनुसंधान परिषद
Agrisearch with a human touch

## In this issue




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## *From Director's Desk...*

India ranks second next only to China in area and production of vegetables, producing 101.43 million tonnes from an area of 6.76 million hectares with an average productivity of 15.1 t/ha. In Goa, in 2006-07, vegetables were being grown in 8,213 hectares of land yielding 84,290 tonnes of produce. The productivity (10 t/ha) in vegetable crops is much lower than the national average thereby unable to meet the ever increasing demand of the local and floating population of the state.

Goa is a very popular tourist place and tourism is one of the flourishing industries of the state. Migration from different states has resulted in mixing of cultures and change in food habits. On basis of seasonal variations the planting of vegetables in Goa can be grouped into the three types as rainy or *kharif* season (June to September). Different types of gourds are cultivated along the hills, Colocasia and yams in certain areas. In winter or rabi season (October to February), cabbage, cauliflower, brinjals, some green vegetables like spinach, methi and onion, garlic are grown in the plains. In summer season (March to May) tomato, lady's finger, some gourds, cluster beans, chilli and amaranthus etc, are grown. Traditionally, a number of vegetables like jackfruit, breadfruit, raw mango, drumstick, different Dioscorea species, elephant foot, sweet potato, ambada (*Spondias mangifera*), bamboo shoots, *Achrostichum* (a mangrove pteridophytes), local mushrooms are relished.

Some traditional vegetables are grown in the kitchen gardens or Kulaagars. Most of the edible vegetables are present in Goa as cultivated in different parts by the local people. The vegetables that form a part of the agriculture in Goa are *Solanum melongena, Abelmoschos esculentus, Dolichos lab lab, Raphanus sativus, Amaranthus tricolor, Artocarpus incisus, Lagenaria siceraria*, etc. During the rainy or *kharif* the common vegetables are *Cucumis sativus, Benincasa hispida, Luffa acutangula, Trichosanthes anguiana*. Vegetables that are relished by local people and grown in kitchen gardens or in Kulagaars are

*Artocarpus integrifolius Ipomoea batatas, Cucurbita oschata, Moringa oleifera. Carica papaya, Spondias mangifera, Basella alba.*

Foliage of many local plants like *Cassia tora, Amorphophyllus campanulatus, Colocasia esculanta*, etc. are relished by the older generation.

Goa faces problems for enough cultivable land to feed its own population. The coastal areas are exposed to salinity and do not qualify as good agricultural areas, while the inland areas are not productive enough. So far its day-to-day needs of agricultural produce like vegetables, Goa is dependent on Karnataka and Maharashtra.

Efforts are made to cultivate and to grow the previously known as well as relished traditional vegetables. Farmers are given help and incentives to grow and sell local vegetables through Horticultural Corporation of Goa. Though the attempt is slow but with the change in trends of tourism the future of the traditional vegetables is not totally bleak.

Though the research work on vegetable crops was started way back in 1978 at this institute, systematic work with exclusive research project on vegetable crops was initiated from 1998 onwards. Main areas of research are collection, conservation and evaluation of available germplasm in important vegetable crops of Goa, introduction and evaluation of improved varieties in vegetables from other states and protected cultivation of high value crops under Goa condition.

There is enough work done with respect to germplasm collection and conservation in major vegetable crops of Goa *viz.,* brinjal, chilli, okra, vegetable cowpea *etc.* But the improvement of local cultivars and land races becomes priority areas of research since most of the highly preferred local types lack disease resistance and high yield.

**N. P. Singh**

# RESEARCH HIGHLIGHTS

## Promising Cashew selections for Goa

Tiswadi-3 is a promising high yielding genotype bearing jumbo nut size (9.48g) with higher shelling percentage (28.82%). The orange coloured apples are bigger in size with 72.0% juice contents. The jumbo nuts yield export grade kernels of W180 – W210 counts.

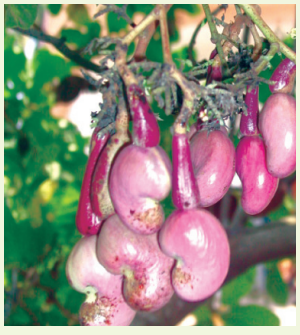


**Table. Salient characteristic features of the selected four cashew genotypes**

| Salient features | Tiswadi-3 | GNJ-2 | KN-2/98 |
|---|---|---|---|
| Tree Ht. (at 10th year) | 5.8 m | 8.8 m | 4.5 m |
| Branching Pattern | Extensive | Extensive | Extensive |
| Growth habit | Semi spreading | Spreading | Upright & Compact |
| Season of flowering | Dec – Mid Feb. | Dec–March. | Dec. – Feb. |
| Duration of flowering | 70 – 80 days | 80 – 105 days | 75-95 days |
| Season of Harvest | Mid Feb. - April | Feb. - May | Mid Feb. – May |
| No. nuts per panicle | 1.16 | 4.6 | 3.6 |
| Av Nut Weight.(g) | 9.2 - 9.6 | 8.2 | 8.2 |
| Number of Nuts / kg | 105 – 110 | 130-140 | 120-125 |
| Shelling (%) | 28.82 - 29.55 | 29.5 | 29.59 |
| Av. Kernel weight (g) | 2.26 - 2.52 | 2.26- 2.38 | 2.68 |
| Kernel gr. Counts / lb | W 180 – W 210 | W 210 – W 240 | W 210 – W 240 |
| Apple Colour | Yellowish orange | Yellow | Red |
| Apple Shape | Cylindrical | Rounded | Conical |
| Av. Wt. of apple (g) | 110 – 120 | 94.0 | 107.5g |
| Juice Contents (%) | 68.2 – 72.0 | 69.17 | 71.14 |
| TSS contents (O B) | 11.5 | 12.2 | 13.8 O B |
| Total nut yield at 10th year (kg/tree) | 10.5 | 12.15 | 11.5 |

*at >30 years of age

Ganje-2 is another promising selection for higher nut yield (15-18kg/tree) with bold nuts and bigger yellow apples (96.5 g). The apples are juicy (68%) with TSS of 11$^{O}$ B. It has cluster bearing habit (6-8 fruits/bunch). The nuts yield a kernel out-turn of 29.5 % of export grade W210 – W240 counts. KN-2/98 is the third promising selection for higher nut yield having bold nut features ( 8.2g) with 29.59% of kernel out turn of W210- W240 counts. Conical shaped red apples are bigger in size (105.0) with 71.14% juice contents. The latter two selections have bunch bearing habit. GNJ-2 is having vigorous and spreading growth habit while KN-2/98 has semi vigorous and upright growth habit.

## Field evaluation of talc formulation of *Trichoderma* on the management of watermelon wilt


Based on the in vitro evaluation, four strains of *Trichoderma* were selected for field evaluation for the management of wilt in watermelon. Talc based formulation of the *Trichoderma* was prepared according to the standard method. One week old plants were treated by drenching the suspension of biocontrol formulation. Three field experiments were conducted and the incidence of wilt was recorded periodically. Results indicated that biocontrol treatments reduced the incidence of wilt and increased the number of fruits. Incidence of wilt in the treatments was less than 2 to 10 per cent in treated plots while in the control wilt incidence ranged between 21-34%. Per cent reduction of wilt was 76-84% and per cent increase in number of fruits was 26-30% based on consolidated data of all the three trials.

## Performance of promising Kokum accessions

Local accessions viz., Kasarpal 5 and Kharekhazan 1 have been found to be consistently promising for yield traits. Kasarpal 5 has recorded an average individual fruit weight of 47.56 g, with fruit length of 3.56 cm and fruit diameter of 4.67 cm. Kharekhazan 1 has recorded an average individual fruit weight of 48.22 g, with fruit length of 3.60 cm and fruit diameter of 4.87 cm. The trees are also promising for rind thickness and sugar acid blend. Savoi Kamini 1 has consistently shown earliness in bearing for the past five years of study. It starts bearing from February and completes bearing in April. This renders easy and comfortable sun drying of rind by the farmers. It yields small fruits of 25.0 g, fruit length of 2.92 g and fruit diameter of 3.31 cm.


## Front line demonstration on cashew production

Five Front line demonstration plots are established in the fields of Mr Angelo Barretto at Kakoda, Mr Lactancio Faleiro at Raia, Mr Subhash Naik at Shiroda, Mr. Abhjit Sawaikar at Khandola and in a missionary farm at Calangute under the development programme supported by Directorate of Cashew and Cocoa Development, Kochi, Kerala. Multiple high yielding varieties namely, Goa-1, Vengurla-4 and Bhaskara were planted in each plot of one hectare area and the plots are progressing in second years growth. Two new plots were also identified Vadaval, Bicholim and Batim (Tiswadi) for taking up FLDs in the ensuing season.

## Demonstration trial on foliar application of nutrients to cashew:

Demonstration trials on foliar application of water soluble grade fertilizer were taken up jointly with Zuari Industries Ltd. Goa in three farmers' fields each in South Goa and North Goa districts, besides an observational trial in the Institute's farm. Three treatment sets with one water spray control were tried, the details of which are presented in the Table. Preliminary results indicated significant improvement in Veng.- 4, Goa-1, KN-2/98 varieties w.r.t. no. nuts per panicle (6.77). Improvement of nut set by foliar application of nutrients in Vengurla-4 variety of leaves per current twig (12.33) as against the corresponding values of 4.3 and 7.64 in water sprayed control, with three major flushes of flowering. The trees performed better despite weather fluctuations which affected the trees in control.

**Table . Details of the foliar spry application of nutrients**

| Treat. Set- I | Treat.Set- II | Treat.Set-III | Time of application | Vol. of solution |
|---|---|---|---|---|
| Poorna -19 (10g/l water) | Poorna -19 (15g/l water) | Poorna -19 (20g/l water) | first flush ( ie. October) | 5 -6 litres per adult tree |
| Boon -45 (8g/l water) | Boon-45 (10g/l water) | Boon-45 15g/l water) | at flowering initiation &fruit set (Nov.-Dec) | 5 -6 litres per adult tree |
| Boost-52 (8g/l water) | Boost-52 (10g/l water) | Boost-52 15g/l water) | Fruit development stage (Dec-Jan) | 5 -6 litres per adult tree |

## New software to map the primer sequences developed

A software DG-MAP was developed to map the primer sequences on whole genome sequences. The software works well specifically for RAPD and SSR markers and also works out the distance between the priming sites. It was validated using genome sequences of chromosome 1 of cucumber and F locus. The software predicted the known and existing markers closely linked to F locus.

# NEW INITIATIVES

## ICAR Complex Goa granted Center of Excellence on *Listeria*

ICAR Research Complex for Goa, Old Goa has been granted a Centre of Excellence and Innovation in Biotechnology on "Translational Centre for Molecular Epidemiology of *Listeria monocytogenes*" under multi-institutional network programme by Department of Biotechnology, Government of India. A launching programme cum workshop under the project was organized on 23rd May 2012. The function was chaired by Dr N.P. Singh, Director, ICAR Research Complex for Goa. Dr. V.K. Naik, Director, Tulip Groups of Companies, Verna, Goa was the Chief Guest. Dr. S. B. Barbuddhe, Project Coordinator, Dr. D. R. Kalorey, Co–Project Coordinator, Nagpur Veterinary College, Nagpur, Co-Principal Investigators from other centers, Dr. Deepak Rawool, Senior Scientist, Indian Veterinary Research Institute, Izatnagar, Dr. Rahul Kolhe, Veterinary College, Shirwal, and Dr. Kekungu-u Puro, Scientist, ICAR

Research Complex for NEH region, Barapani, Shillong were present on the ocasion. Officials from Departments of Health Services, Animal Husbandry and Veterinary Services, Forest department, Goa Dairy and faculty from Goa University also graced the occasion.

## Projects on Artificial Insemination in Pigs and awareness about Zoonoses initiated

Under Biotechnology-based Programmes for Rural Development, Department of Biotechnology, Ministry of Science & Technology, Government of India has sanctioned projects for taking up artificial insemination in pigs and awareness campaigns ob foodborne and zoonotic infections. The project aims at establishing a centre for boar semen collection, preservation and dissemination in Goa, training rural youths to undertake artificial insemination in pigs for upgrading indigenous pigs with exotic germplasm. In another project, mass awareness campaigns will be conducted to create awareness about foodborne and zoonotic infections

## Research project on Noni initiated

World Noni Research Foundation (WNRF), Chennai has granted a research project to ICAR Research Complex for Goa, Old Goa on "Genetic diversity of noni in Konkan coast of India" with a financial outlay of Rs 10.0 Lakhs. *Morinda citrifolia* is a tree in the coffee family, *Rubiaceae*. It grows in shady forests, as well as on open rocky or sandy shores. The green fruit, leaves, and root/rhizomes were traditionally used in Polynesian cultures to treat menstrual cramps, bowel irregularities, diabetes, liver diseases, and urinary tract infections. The research project will generate data on diversity of Noni in parts of Goa and Maharashtra.

## Programme on Agricultural Mechanization

A project on agricultural mechanization was proposed under Tribal Sub Plan programme with Dr. Mathala Juliet Gupta, Scientist (AS& EM) as PI. Eight Farmers' groups were provided with farm machinery sets comprising of power tiller with attachments, brush cutter, mini rotary tiller and power reaper under this project. The supply of machinery is the first step of ICAR's vision for a mechanized farm sector in Goa. The project has had great impact on the mechanised harvesting of Paddy on the same field as compared to manual harvesting. The farmers are being empowered through on farm demonstration and training for the use of the various equipments. There has been a tremendous response from farmers to this initiative taken up by the Institute.

# MAJOR EVENTS

## Institute Foundation Day celebrated


Institute Foundation Day was celebrated at ICAR Research Complex for Goa, Old Goa on 3 April, 2012. Shri Shripad Yeso Naik, Honourable Member of Parliament, North Goa was the Chief Guest. Other dignitaries present were Shri. S.S.P. Tendulkar, Director of Agriculture, Dr. H. Faleiro, Director of Animal Husbandry and Veterianry Services, Shri. N. C. Verlekar, Director of Fisheries and Dr. Narendra Pratap Singh, Director, ICAR Research Complex for Goa. On the occasion awards were presented to the staff for their best services to the Institute and also the children of the staff who excelled in academics. All the staff members along with their family attended the programme.

## Agricultural Mechanization Program for small and marginal tribal farmers of Goa

Agricultural Mechanization Program for small and marginal tribal farmers of Goa was organized under Tribal sub plan scheme, Government of India on 12 June, 2012 at the Institute. Farm machineries and agricultural implements were distributed to eight groups of tribal farmers under the Tribal Sub plan programme. Shri. Ramesh Tawadkar, Minister for Sports, Youth affairs and Tribal Welfare, Government of Goa emphasized that the farmers should adopt improved agricultural practices for their economic upliftment. Shri. Datta Prasad Kholker, Deputy Chairman, Planning Commission, Government of Goa encouraged the tribal farmers to incorporate animal husbandry activities to enhance their income level. Mr. Arvind Bugde, Director, Directorate of Tribal Welfare, Government of Goa asked the farmers to utilize the technical help from the agencies for better profitability in the agricultural activities. Dr. Narendra Pratap Singh, Director, ICAR Research Complex for Goa informed beneficiaries to concentrate on secondary agricultural activities and post harvest processing of the agricultural produce to enhance the profit from farm activities.

## Interface Meeting

An interface meeting with Developmental Departments was held on 10 May, 2012 at ICAR Research Complex for Goa. The meeting was attended by Shri. K.V. Singh, Director, IMD, Goa as Chief Guest. Shri S.S.P Tendulkar, Director of Agriculture and Dr. N. P. Singh, Director, ICAR Research Complex for Goa also attended the meeting. There was a thorough discussions among Scientists of the Institute and Officers of the Departments on the formulation of research programmes taking into the account on need of the Goa state.

## Quinquennial Review Team meeting of AICRP on Integrated Farming Systems

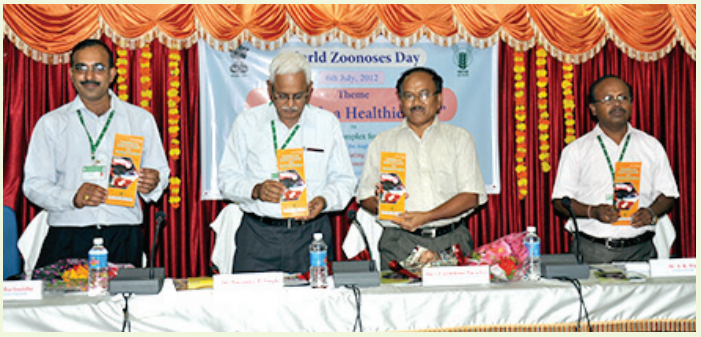
A review meeting of Quinquennial Review Team of AICRP on Integrated farming systems for the West coast zone of India was held at ICAR Research Complex for Goa, Old Goa during 9th-10th June, 2012.

The Review team constituted of experts under the Chairmanship of Dr. Panjab Singh, former Director General, ICAR and President, FAARD Foundation, Dr. C. L. Acharya, Former Director of Extension Education (HPAU, Palampur) and Former Director, Indian Institute of Soil Science, Bhopal, Dr. D.M. Hegde, Ex. Project Director, Directorate of Oilseeds Research, Hyderabad, Dr. W. S. Dhillon, Director, Institute of Post-harvest Processing, Ludhiana, Dr. Anjani Kumar, Principal Scientist (Agri. Economics), National Centre for Agricultural Policy and Planning, New Delhi, Dr. B. Gangwar, Project Director, PDFSR, Modipuram and Dr. Kamta Prasad, Programme Facilitator, PDFSR, Modipuram. The meeting was attended by all the Principal Investigators of Integrated Farming Systems and Organic farming centres of Goa, Karnataka and Maharashtra.

Presentations and discussions were made on the five yearly progress of research of all the centres on Integrated Farming systems and the organic farming with suitable suggestions for improvement.

## World Zoonoses Day celebrated

The World Zoonoses Day was celebrated on 6th July, 2012. The theme of the celebrations was 'Towards a healthier life', in order create public awareness about the importance of zoonoses. Shri. Laxmikant Parsekar, Hon'ble Minister of Health, Panchayat, and Rural Development, Govt. of Goa graced the celebrations as Chief Guest for the Valedictory function. Dr. N.P. Singh, Director welcomed the delegates and briefed about the World Zoonoses Day. Hon. Minister spoke about the importance of zoonotic infections in our day to day life and called for collaboration from Departments of Health, Animal Husbandry and Veterinary Services, Department of Agriculture, Science Colleges for creating awareness about the dreaded zoonotic infections. He assured his support of any of such programmes for the betterment of the people of Goa. During the day four resource persons, Dr Ashwani Kumar, Officer In-Charge, National Institute of Malaria Research, Goa Campus, Dr. U.V.T. Pednekar,




Assistant Director, Department of Animal Husbandry and Veterinary Services, Dr S.B. Barbuddhe, Senior Scientist and Dr Z.B. Dubal, Scientist deliberated on different aspects of zoonotic infections.

The programme was organized as a part of awareness campaign about zoonotic and foodborne infections funded by Department of Biotechnology, Government of India.

## Quinquennial Review Team visited the Institute


The second meeting of QRT of ICAR Research Complex for Goa was held during 28-29th September, 2012. The meeting was chaired by Dr. Vijay Mehta, Chairman, QRT and Former Vice Chancellor, DR BSKKV, Dapoli. The members of the QRT present were Prof. S.R. Singh, Dr. R.P. Sharma, Dr. M.B. Chetti, Dr. A.K. Singh and Dr. S.B. Barbuddhe, Member Secretary. Representatives of development departments, progressive farmers and scientists of the Institute also participated in the meeting. Dr. N. P. Singh, Director, ICAR Research Complex for Goa, Old Goa welcomed the Chairman and members of the QRT and briefed about previous QRTs. He also mentioned about the background of the Institute.

Dr. Vijay Mehta, Chairman, QRT invited the suggestions from development departments and progressive farmers for planning the future research programmes of the Institute. He expressed the need to address soil and water conservation for sustainable production.

The progressive farmers and officials from development department narrated their views about overall development of agriculture in the State of Goa. The members of the QRT also gave valuable remarks for the benefit of farming community.

Later in the day the QRT visited various experimental units of the Institute including Agricultural Technology Dissemination Unit, rice plots, horticultural units, integrated farming systems, animal units and Krishi Vigyan Kendra. On 29th September, 2012, the QRT visited farmers' fields at Dhulapi, Amona and Tisk Usgaon.

## The Second meeting of Sixth Research Advisory Committee

The second meeting of the VI RAC was held on 16 and 17th May, 2012 at the Institute. The meeting was attended by Dr. Kirti Singh as Chairman, and Dr. P. Rethinam, Dr. U. S. Singh, Dr. B. S. Hansra, Mr. Madhav Sahakari, Fr. Almeida, Dr. N. P. Singh as members and Dr. B. K. Swain as Member Secretary.

At the outset Dr. N. P. Singh, Director welcomed the Chairman and the members. Later, Shri. Madhav Sahakari and Father Almeida highlighted the areas where farmers are getting benefit from ICAR Complex and the areas which need to be researched by the ICAR Scientists., Dr. Kirti Singh, Chairman, RAC advised all Scientists and staff to work in harmony to find out the solutions of the problems faced by the farmers of the state of Goa.

Presentations were made by all the Scientists and Programme Coordinator, KVK on transfer of technology highlighting the research work done by them during the year.

## Workshop cum Exhibition on Agricultural Mechanization

A two day workshop cum exhibition on "Agricultural Mechanization for small and marginal farmers of Goa" was organized on 11-12 September, 2012 at the Institute in collaboration with Central Institute for Agricultural Engineering (CIAE), Bhopal. Agricultural machinery and technologies developed by CIAE Bhopal and CIAE Regional Centre, Industrial Extension Programme, Coimbatore were displayed. Various Agricultural equipment manufacturers and dealers Sree Industries, Dapoli, Netafim Irrigation Private Ltd., Kolhapur, M/s Goa Tractors and Tillers, Mapusa, Varsha Enterprises, Cortalim, Mr. Farmer (India) Private Ltd. displayed their products in the exhibition. The programme was inaugurated by Sh. V. P. Rao, Secretary, Agriculture, Animal Husbandry and Child & Women Welfare, Government of Goa. Dr. N.P. Singh, Director, fo the Institute and Sh. Satish Tendulkar, Director, Directorate of Agriculture, Government of Goa also graced the occasion. Large numbers of farmers from various parts of Goa visited the exhibition and interacted with the

scientists and the exhibitors in the exhibition. A workshop involving presentations, demonstration and video films presented by scientists and the exhibiting companies was organized in which the farmers were shown how best they can mechanise their farm operations for timely inputs and also shown that mechanization was a more economical option in agricultural production. The farmers interacted and presented their problems in the use of the machinery and the areas in which they sought intervention of machines during the workshop.

## हिन्दी सप्ताह कार्यक्रम

गोवा के लिए भा. कृ. अनु. प. का अनसंधान परिसर में 14 सितंबर से हिन्दी सप्ताह मनाया गया है । हिन्दी सप्ताह का प्रारम्भ गीत गायन प्रतियोगिता के साथ हुआ। सुलेख प्रतियोगिता में बड़ी उत्साह के साथ कई प्रतिभागियों ने भाग लिया । हिन्दी निबंध प्रतियोगिता में ''स्वास्थ में आहार और व्यायाम का योगदान,'' ''अपने बच्चों को यौन शोषण के खिलाफ सशक्त कैसे करें,'' ''हमारे संस्थान की टाइम मशीन, जलवायु परिवर्तन, हिन्दी का बचाव कैसे ?'' ''कृषिः किसान की उन्नति या का अभिशाप,'' ''मेरे मन में भारत की छवि'' आदि रोमांचक शीर्षक दिए गए और प्रतिभागियों ने बड़े ही मनमोहक निबंध लिखे । संस्थान के तकनिकी अफसरों ने ''भारतीय लोक परम्परा में वृक्ष'' के शीर्षक पर बड़े ही रोमांचक और लोक गीतों से भरा व्याख्यान दिया और सब का मन हर लिया । संस्थान के वैज्ञानिकों ने भी ''प्रयोगशाला से कृषक के खेत तक'' के विषय पर दिल और दिमाक से व्याख्यान प्रदान करके जीत लिया दर्शकों का दिल । हिन्दी में सामान्य ज्ञान प्रतियोगिता का भी आयोजन किया गया और अल्प हिन्दी भाषी लोगों से भरे इस संस्थान में बड़े ही उत्साह से कई प्रतिभागियों ने भाग लिया । बच्चों के लिए चार श्रेणियों में पाँच से कम साल, एक से लेकर चौथी कक्षा तक, पाँचवीं से आठवीं कक्षा तक और नौवीं से बारहवीं कक्षा तक (चित्रकला, सुलेख, निबंध, प्रतिभा दर्शन और वाद विवाद) प्रतियोगिताएं आयोजित किये गए । इस कार्यक्रम में श्रीमति निर्मला सिंहजी विशेष निर्णायक के रूप में आमंत्रित की गई, उन्होंने बडे रूचि से प्रतिभागी बच्चों का उत्साह बढ़ाया । बच्चों ने भी बड़े उत्साह से प्रतियोगिताओं में भाग लेकर हिन्दी सप्ताह समारोह का रौनक बढ़ा दिया । 1 अक्टूबर, 2012 को हिन्दी सप्ताह का समापन एवं पुरस्कार वितरण समारोह डॉ. नरेन्द्र प्रताप सिंहजी के अध्यक्षता में

संपन्न हुई । हिन्दी सप्ताह के कार्यक्रमों में 10 वैज्ञानिक, 7 तकनिकी अफसरों, 7 प्रशासनिक अधिकारियों, 13 अनुसन्धान अध्येयों और 22 बच्चों ने भाग लिया और सब कर्मचारियों में कुल 31 पुरस्कार एवं संस्थान के कर्मचारियाँ के बच्चों को 30 पुरस्कार प्रदान किये गए । सब प्रतिभागियों को प्रतिभागी पुरस्कार के रूप में उध्दरण छपा सुन्दर मग प्रदान किया गया । स्वागत भाषण में डॉ. श्रीमति मतला जूलियट गुप्ता ने हिन्दी सप्ताह के सफल आयोजन में संस्थान के सभी कर्मचारियों को उनके उत्साहपूर्ण सहयोग के लिए धन्यवाद दिया और कहा कि सब प्रतियोगिताओं को एक साथ आयोजित करने से संस्थान के कई अन्य गतिविधियों के कारण कई बाधाएँ आती है और उन्हे सालभर एक महीने के कालान्तर में आयोजित करने का सुझाव रखा । निदेशकजी ने आपनी भाषण में सभी पुरस्कार्थियों को बधाई देते हुए आशा व्यक्त किया कि इस हिन्दी सप्ताह के खत्म होने के बाद भी संस्थान के कारवाई में राजभाषा का प्रचलन और बढ़ेगा।

## IPR CELL ACTIVITIES

Memorandum of Understanding (MoU) was signed for collaborative research project, between ICAR RC, Goa and Codon Biosciences Pvt. Ltd.

"Inventillect Consultancy Services Private Limited", Pune has been appointed as authorized patent attorney for providing services related to IPR issues of this Institute.

One hundred seven *Listeria* cultures isolated at this Institute were deposited with National Facility for Veterinary Type Cultures (NRC on Equines, Hisar, Haryana) and accession numbers were obtained for each culture type under the technical expertise of Dr. S.B. Barbuddhe, Sr. scientist (VPH).

A meeting of Institute Technology Management Unit (ITMU) was convened on 13/09/2012 to discuss patenting of the Institute's technologies and matters pertaining to IPR issues.

# WORKSHOP/SEMINAR/SYMPOSIA/TRAININGS ATTENDED

| Date | Name | Programme | Venue |
|---|---|---|---|
| April 6-9, 2012 | Dr. N. P. Singh<br>Dr. Manohara K.K.<br>Dr. Maruthudurai R. | 47th Annual Rice Workers Group Meeting | Directorate of Rice Research, Hyderabad |
| April 11-13, 2012 | Dr. N. P. Singh<br>Dr. Manohara K.K. | Annual Review and Planning Workshop Phase II of BMGF funded project 'Stress Tolerant Rice for Africa and South Asia' | NASC Complex, New Delhi |
| April 19-20, 2012 | Dr. N. P. Singh | Biennial Conference on "Weed threat to Agriculture, biodiversity and Environment | Kerala Agricultural University, Thrissur |
| April 20, 2012 | Dr. M. Thangam | Seminar on analytical instruments-GC, GCMS, HPLC, UHPLC, | International Centre, Donapaula, Goa |
| May 7-13, 2012 | Dr. M. Thangam | 7th Konkan Fruit Festival | Panaji, Goa |
| May 26-27, 2012 | Dr. N. P. Singh<br>Dr. B. L. Manjunath<br>Dr. Manohara K. K. | 28th Annual Group Meeting of AICRP on Arid legumes-2012 | Regional Agricultural Research Station, Pattambi |
| May 28-31, 2012 | Dr. B. K. Swain<br>Dr. P. K. Naik<br>Dr. M. Thangam<br>Dr. M. J. Gupta | Global Conference on Horticulture for Food, Nutrition and Livelihood Options | OUAT, Bhubaneswar, Odisha |
| June 18-20, 2012 | Dr. N P. Singh | National workshop on "Integrated land use planning for sustainable Agriculture and Rural development" | NIRD, Hyderabad |
| June 20, 2013 | Dr. V. Arunachalam | Nodal officers meeting of the project on strengthening of statistical computing of NARS | UAS, Benagaluru |
| July 10-13, 2012 | Dr. V. Arunachalam | Annual group meeting of AICRP (palms) | Agri. College, Madurai |
| July 13, 2012 | Dr. N. P. Singh | Meeting of organic farmers club at Agassaim, Goa | St. Lawrence church |
| July 25-26, 2012 | Dr. B. L. Manjunath | Review meeting of mega seed project in agricultural crops and fisheries | ICAR, New Delhi |
| August 20, 2012 | Dr. N. P. Singh | Knowledge Meet | ICAR, New Delhi |
| August 28, 2012 | Dr. A. R. Desai | National Consultation Meet on Mango | IIHR, Bengaluru |
| August 29, 2012 | Dr. N. P. Singh | 10th Aniversary of Gaodongarim-Cotigao Farmers club | Canacona, Goa |
| September 9, 2012 | Dr. N. P. Singh | Nuvem Farmers' Club meeting | Nuvem, Goa |

# PERSONALIA

## Deputation abroad

Dr. R. Ramesh, Sr. Scientist (Plant Pathology) is undergone training course (DBT-CREST AWARD 2010-11) on "Molecular Plant Pathology, University of Geogria, Department of Plant Pathology, Athens, USA from 9-10-2011 to 30-9-2012.

## Appointments

- Shri Upendra Kumar, T-1 w.e.f 27-3-2012.
- Shri Vishwas Sharma, Assistant w.e.f 21-5-2012
- Shri Sanjeev Kumar Singh, T-1 w.e.f 4-4-2012.
- Dr. G. R. Mahajan, Scientist (Soil Sci.) w.e.f 2-7-2012

## Transfers

- Dr. Z.B. Dubal, Scientist (VPH) transfered from ICAR (RC) for NEH Region, Umian w.e.f 5-6-2012
- Dr. Ram Ratan Verma, Scientist (Soil Science) transferred to IISR, Lucknow. w.e.f 31-5-2012
- Shri Jagtar Singh, Administrative Officer transferred to NBAGR, Karnal w.e.f 11-5-2012

## Retirement

- Shri Krishnanath R Naik, AAO retired on superannuation on 30-4-2012
- Dr. S. Subramanian, Principal Scientist retired on superannuation on 31-5-2012
- Shri Yesodharan K, AAO retired on superannuation on 30-6-2012.

## Resignation

- Shri Gurav Kumar Rajput, AO resigned w.e.f 28-9-2012