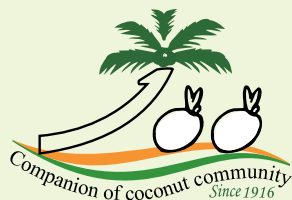




### From the Director's Desk



#### Desiccated Coconut: Opening up New Vistas

Desiccated coconut, sometimes referred to as coconut powder, is dehydrated white coconut meat from freshly selected mature coconut kernels. It is prepared from substantially sound white kernel obtained from the whole nut of coconut. Desiccated Coconut is rich in healthy saturated fats with no cholesterol and it is an excellent source of dietary fibre. With 30% of the world's imports, the European Union (EU) is the largest importer of desiccated coconut in the world. Desiccated coconut is a traditional bakery ingredient in many European countries. Imports of desiccated coconut to the world are increasing with the Netherlands, Belgium, Germany and the United Kingdom as the leading importing countries. Over the last five years, imports of desiccated coconut to the world grew by 19% in value and by 4.1% in quantity, which provides opportunities for new suppliers from developing countries.

The Philippines is the main global exporter of desiccated coconut, accounting for more than a third of exports. Though India is the largest producer of raw coconut in the world, Desiccated Coconut export is only to the tune of less than one percent of the global demand. Nevertheless, during the year 2015-16 India exported 4261 MT Desiccated Coconut worth ₹ 52.60 Crores. In comparison with the export figure of previous year, India achieved an increase to the tune of 63 percent, which is indeed remarkable. The major export

destinations of Desiccated Coconut from India are UAE, Saudi Arabia, Qatar, Oman, Kuwait, Spain and USA. Due to the growing consumer demand for Desiccated Coconut across the world, there exists an immense export potential for the product. The capital investment required to start up a Desiccated Coconut production unit, of capacity to process 15,000 coconuts per day, amounts to ₹ 1.29 Crores. It is noteworthy that there are attractive export promotional schemes initiated by the Government of India in this under the new Foreign Trade Policy (2015-20), wherein under Merchandise Export from India Scheme, five percent export subsidy can be availed on Free on Board (FoB) prices. There is also a Duty Draw Back scheme wherein up to one percent of the FoB prices are refunded for the service taxes paid for raw materials and other input services for the production of Desiccated Coconut.

There exists a huge scope for coconut based agri-business in India by increasing the present 8% level of value addition to 25%, and thereby ensuring fair, reasonable and steady price to coconut farmers. Although, Indians have been using coconuts in food and snack preparations since time immemorial, till recent times, desiccated coconut was not used in large quantities in individual households as it has been used in confectionary and biscuit industry. But in recent times due to the fast pace in urban life, there is considerable growth in the Indian confectionery industry (25 percent/ year). It is an indubitable fact that Desiccated Coconut is a high potential breakthrough product, which can bring in a paradigm shift in domestic coconut sector of India. Hence, there is tremendous potential in the domestic market as well wherein a meticulous plan to tap this potential would benefit the Desiccated Coconut industry in a big way.

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## SPECTRUM

## Varieties released to commemorate centenary celebrations

A coconut variety, Kalapa Shatabdi, an arecanut variety, Shata Mangala and a cocoa hybrid, Netra Centura were approved and recommended at the XXV AICRPP Group Meeting held during May 2016 for submission to Central Sub-committee on Crop Standards, Development and Release of Varieties of Horticultural crops for release and notification. Brief description of these varieties, commemorating the Centenary Celebrations of ICAR-CPCRI, are illustrated here.

**Kalpa Shatabdi**

The variety has been developed through selection and *inter se* mating between the selected palms from the ICAR-CPCRI accession IND 034, San Ramon Tall, which was introduced from The Philippines during the year 1955 and evaluated by ICAR-CPCRI. The variety gives high copra outturn of 28.65 kg palm<sup>-1</sup> yr<sup>-1</sup> or 5.01 t copra ha<sup>-1</sup>, which is 61.40 % higher than the copra yield of WCT (local control). The variety is characterized by large fruits with average copra content of 272.9 g and higher volume (612 ml nut<sup>-1</sup>) of good quality tender nut



Kalpa Shatabdi coconut palm

water (TSS 6.2° Brix) and gives an average nut yield of 105 nuts palm<sup>-1</sup> yr<sup>-1</sup>. Considering the high copra out turn and tender nut quality, the variety Kalpa Shatabdi is recommended for cultivation in the coconut growing tracts of Kerala, Karnataka and Tamil Nadu. Performance of this variety at ICAR-CPCRI Kasaragod and AICRP on Palms Centre, Aliyarnagar, were considered for release.

V. Niral and B. Augustine Jerard

**Shata Mangala**

This variety is a high yielding selection from germplasm lines collected from Gujarat. The palms of the variety are regular bearing with good kernel quality suitable for tendernut processing. The variety has exhibited better performance for yield over the released varieties viz., Mangala, Sumangala, Sreemangala, Madhuramangala and SK Local, with high recovery of first quality processed tendernut (68.4%). The palms possess medium thick stem, shorter internodes, particularly drooping crown and semi tall. The fruits are



Shata Mangala arecanut palm

round shaped with high recovery of chali (26.8%). The average dry kernel yield and tendernut yield was 3.98 kg palm<sup>-1</sup> year<sup>-1</sup> and 3.10 kg palm<sup>-1</sup> year<sup>-1</sup> respectively.

K.S. Ananda

**Netra Centura**

A cocoa hybrid, VTLCH-5, was recommended for release as Netra Centura variety during the XXV Annual Workshop of ICAR-AICRP on Palms at Kasaragod. It is a hybrid between IC 565554 x IC 565559, is precocious, stable and heavy bearer with medium canopy (16-18 m<sup>2</sup>) under arecanut and coconut gardens, with an average of 66 pods tree<sup>-1</sup> yr<sup>-1</sup> (43 beans pod<sup>-1</sup>), the highest dry bean yield of 3.2 kg tree<sup>-1</sup> yr<sup>-1</sup> i.e., the yield of 1800 kg ha<sup>-1</sup> (600 trees). This variety is suitable for chocolate industry, with 11% shelling percentage, 88% nib recovery and 52% fat content. It is recommended for Western Ghats and plains of Kerala and Karnataka and irrigated arecanut and coconut gardens of Tamil Nadu and Andhra Pradesh.

S. Elain Apshara



Netra Centura cocoa hybrid

## QR code labeled coconut seedlings

In order to fulfil the commitment of supplying quality coconut seedlings to the farming community, ICAR-CPCRI has started distributing QR (QR response) code tagged coconut seedlings from Regional Station, Kayamkulam. There was overwhelming response from the farmers from the southern districts of Kerala. A total of 1,420 farmers registered for coconut seedlings. About 1,200 farmers collected the seedlings during 1-4 June, 2016. Altogether 9,000 coconut seedlings were distributed, which include Kalpasree (4,500), Kalparaksha (200), West Coast Tall (2,150), Chowghat Orange Dwarf (1,100) and hybrid seedlings (1,050).



Seedlings are individually tagged with QR coded labels for distribution

The Kalpasree and Kalparaksha varieties have been recommended for root (wilt) disease affected tracts for their disease tolerance / resistance.

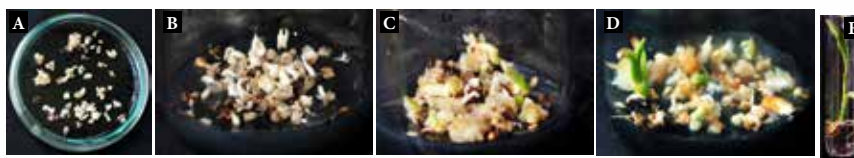
The link to ICAR-CPCRI's website is obtained on scanning the QR code affixed on the labels tagged to individual coconut seedling, which

will enable the farmer and obtain an authentic information about the characteristics of each variety being distributed (<http://www.ICAR-CPCRI.gov.in/index.php/2014-03-04-05-33-14/qrcode-labelled-coconut-seedlings>).

*Regi J. Thomas, M. Shareefa and V. Krishnakumar*

## Development of Hirehalli Dwarf arecanut tissue culture plantlets

Hirehalli Dwarf (HD), a natural mutant with short stature, is a valuable genetic resource for arecanut improvement. In order to have uniform Hirehalli Dwarf mother blocks for future breeding programmes, typical dwarf palms have been identified and these palms have been utilized for *in vitro* multiplication. Immature inflorescence explants were inoculated in Eeuwens' Y3 basal medium for somatic embryogenesis. Calli were induced using picloram



Stages of development of tissue cultured arecanut plantlet a) explant, b) callus, c) germinating somatic embryos, d) germinating plantlets and e) tissue cultured plantlet in liquid medium

and somatic embryo formation was achieved in hormone-free Y3 medium supplemented with cytokinins. Developed plantlets are now under different stages of hardening. These tissue culture derived palms will be planted in

ICAR-CPCRI, RS, Vittal and AICRP on Palms centres to form uniform mother blocks for utilization in future arecanut breeding programmes.

*Anitha Karun, Krishna Prakash and Rajesh M.K.*

## Pink husked coconut selection

A coconut palm bearing fruits with pink coloured mesocarp was identified from San Ramon Tall population for exploitation in breeding programme to develop genetic stocks and new tender coconut varieties. The flowers and fruits from all bunches of the palm exhibit pink colour below the tepals, slightly extending outwards. The husk fibres of tender fruits also exhibit the colour ranging from intense to light pink from outer to



Pink husked coconut with a) pink fruits at various stages, b) pink tendernut husk, c) pinkish tinged male flowers and d) pink and yellow anther filaments

inner side. A significant observation was made on the male flowers of this palm which has potential use in marker assisted selection in coconut in the development of tender nut varieties with attractive

pink husk. It was observed that the palm produces two different types of male flowers, one with dark pink and another with yellow colour anther filaments. Although no morphological difference could





be seen on size of male flowers and anthers, the flowers with pink filaments could be easily identified even at unopened stage as the

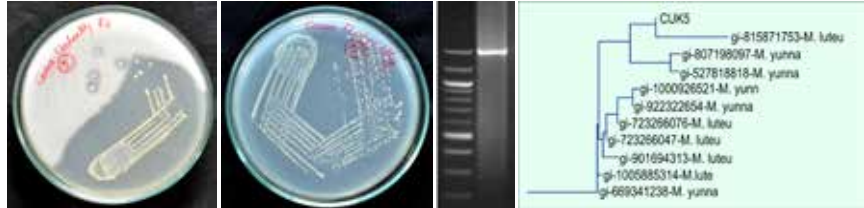
pink tinge is present in the bottom of tepals. The palm is selected for further studies on the pollination behaviour, use of pollen from the

pink flowers for pollination and studies on segregation.

B. Augustine Jerard and V. Niral

## 16S rDNA sequencing identifies Zn solubilizer as *Micrococcus luteus*

Studies on Zn solubilization potential of isolates obtained from rhizosphere of coconut, cocoa and arecanut growing in north-eastern region revealed that most of the isolates solubilized more Zn when ZnCO<sub>3</sub> was used as insoluble source of Zn in solid minimal medium. However, the isolate CUK5 could solubilize both ZnO and ZnCO<sub>3</sub> with equal efficiency (upto 400%). The microorganism was found to be a Gram positive bacterium with round, pinhead type colonies raised in the centre, belonging to Micrococcaceae family. To identify the genus, DNA of bacterial isolate CUK5 was isolated using Purelink Genomic DNA kit (Invitrogen) and 16S rRNA region was PCR amplified with 16S 27F and 16S 1492R primers. The amplicon was sequenced in ABI 3730xl cycle



Zinc solubilizing microorganism from cocoa rhizosphere  
a) Isolate CUK5 b) pinhead colonies c) sequence bands d) phylogram

sequencer and forward and reverse sequences were assembled and config was generated after trimming the low quality bases. The sequence analysis using bioinformatic tool BLAST of NCBI revealed it to be *Micrococcus luteus*. Partial 16S rRNA gene sequence of ~1.3 kb was obtained and deposited in NCBI Genbank database with Accession number KX532238. Based on maximum identity score, first few sequences were selected and

aligned using multiple sequence alignment software ClustalW2 and a dendrogram was constructed. Hence, the best zinc solubilizing microorganism, which could solubilize both ZnO and ZnCO<sub>3</sub> with equal efficiency, was identified as *Micrococcus luteus* by 16S rDNA sequencing based on nucleotide homology and phylogenetic analysis.

Alka Gupta, Murali Gopal and V. Selvamani

## Emergence of slug caterpillar on coconut

Surveys conducted in Ramenahalli, Tiptur taluk, Tumkur District, Karnataka during April 2016 indicated the outbreak of slug caterpillar, *Darna nararia* Moore (Limacodidae: Lepidoptera) on coconut palms (Tiptur Tall variety). Different instars of the caterpillar fed from the under surface of palm leaflet. Early-instar caterpillars caused glistening type of feeding marks inciting the leaf blight infection by *Pestalotiopsis palmarum* and caterpillars of late-instar devoured the leaf leaving only midribs causing tremendous yield loss. The infestation level was found to be severe in affected palms with an average of 7.9±4.0 caterpillars could be located in each leaflet and a total of >2800 caterpillars could be observed from one frond. Unhygienic practices including burning of shells could have



Coconut plantation affected by slug caterpillar at Tiptur, Karnataka

enhanced temperature and incited the moths for egg laying. Integrated pest management strategies including cutting and burning heavily infested 3-4 outer whorl leaves, installation of light traps @8-10/acre, spraying chlorantraniliprole @ 0.3ml / litre of water or *Bacillus thuringiensis* @ 20 g/ litre of water on all infested leaves

were recommended. Sensitization of local farmers and documentation of natural enemies for mass multiplication and augmentation were suggested as follow up measures.

Chandrika Mohan, A. Josephraj Kumar and H. P. Maheswarappa

## Red palm weevil repellent

A new botanical formulation for repelling red palm weevil pest of coconut was developed on a pilot scale, which was also found promising on field trials. In a laboratory test based on Y tube choice assay, red palm weevil, which were inflicted 70% by citriodora oil at 1000 ppm concentration. It was followed by CNSL that caused 60 % repulsion. Repellent property of citriodora was also confirmed by wind tunnel assay in which 13.33 % beetles merely exhibited up wind flight response, 23.33 % beetles exhibited downwind flight response after moving up to mid-point,

63.33 % beetles remained at the point of release in the wind tunnel. Gel-based slow release matrix of essential oil was developed in which essential oil was impregnated at 5 % and 10 % concentration. Two gram sachets of essential oil beads were prepared and kept on coconut leaf axils @ 2 sachets palm<sup>-1</sup> as prophylactic treatment for field evaluation. Similarly, a gel based slow release matrix has been developed for aggregation pheromone of red palm weevil. It is under field evaluation, which could capture 81 beetles from one plot and 59 beetles in another spot



Gel based beads of citriodora oil

over a period of three weeks in Chittarikkal.

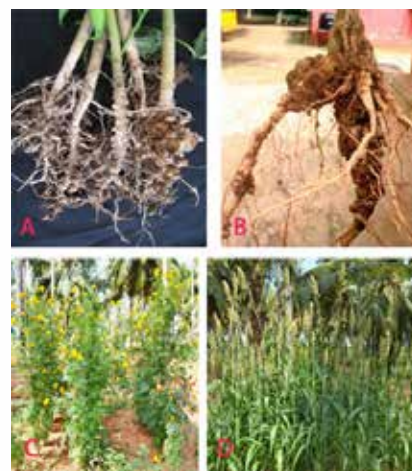
P. S. Prathibha

## Nematode menace in vegetables under coconut cropping system

To provide safe and fresh vegetables to the rapidly growing demand from the consumers in plantation growing regions, there is a spurt in vegetable cultivation as intercrops in interspaces of the coconut. The most common vegetables such as tomato, brinjal, okra, amaranthus, chillies and cucurbits are grown in coconut garden are susceptible to root-knot nematodes, *Meloidogyne incognita* due to their extensive host range, world-wide distribution and interaction (disease complexes) with bacteria, fungi and viruses make them potentially serious constraints and limiting factors to the crop produce. The damage

is to an extent of 40 - 90 % and maximum gall index (5) was observed in okra followed by cucurbits plants, amaranthus, brinjal and chillies (3.5). Their menace can effectively managed by the introduction of antagonistic crops like marigod, *Tagetes erecta* and non-host crops like fodder sorghum and maize in alternate small patches in coconut gardens, which suppress the nematode multiplication by sustained release of active ingredients from the root exudates.

Rajkumar



Nematode infection in crops  
a) & b) galls on roots of okra and bitter gourd infected by *M. incognita* c) *Tagetes erecta* d) sorghum

## IMPACT OF INSTITUTE TECHNOLOGIES

### Bio-management of coconut black headed caterpillar in Arsikere, Karnataka

The black headed caterpillar, *Opisina arenosella*, is a major pest of coconut distributed in all coconut growing tracts of the country. The caterpillars live in galleries on the abaxial surface of fronds and feed on the chlorophyll containing leaf tissues. Extensive

feeding of caterpillars causes a crop loss of 45.4% in terms of nut yield in the succeeding years. Integrated Pest Management (IPM) has been recommended as the ideal, long-term and sustainable strategy for the bio-management of the pest.

A demonstration-cum-technology delivery on IPM of coconut black headed caterpillar with emphasis on





biological control was conducted at Arsikere region, Hassan District, Karnataka by ICAR-CPCRI where an outbreak of *O. arenosella* was observed in during October 2013 with leaf damage to the extent of 80-95% infesting in about six ha of coconut garden. The technology options successfully showcased in the affected garden through farmer-participatory approaches were removal and burning of heavily infested 2-3 outer fronds, one time spraying of chlorantriliprole (green labeled) @ 0.1ml l<sup>-1</sup> of water, release of stage specific parasitoids (*Goniozus nephantidis* and *Bracon brevicornis*) after three weeks of pesticide application and adoption of soil and palm health management strategies.

Emergence of healthy new leaves in the pest- infested plantation after intervention is so convincing that most



Leaf eating caterpillar affected plot at Arsikere before and after biocontrol

of the nearby farmers emulated the technology at the shortest period. Sustainability of the technology was visible by recovery of palms in the adjacent coconut plantations also. Pest infestation showed visible decline in a period of four months from an initial leaf damage of 76% during October 2013 to 43% during February 2014. Subsequently complete recovery of palms was achieved in a period of 15 months by January 2015 and no further pest incidence was noticed in subsequent monitoring done during April 2016 indicating sustainability of the eco-friendly technology. The participating farmers took forward the technology as positive spokesperson to nearby locations making the entire zone pest free with successful establishment of parasitoids.

### Beekeeping as an enterprise

Shri Devaraj, Gaddemoole House, Kundamkuzhi, Kasaragod, aged 41 years, is a farmer, who had served as a catering unit worker for around two years. He owns around one acre of land where he cultivates coconut and arecanut. He also cultivates vegetable crops in around 80 cents owned by one of his relatives. To do his farming organically, he also maintains two cows. He attended the vocational training programme on beekeeping and stingless beekeeping organized by KVK, Kasaragod during the year 2014 – 15 and was given ten colonies of bee with 50% subsidy from State Horticultural Mission. He managed the colonies very well as per scientific knowledge gained out of training and was able to multiply the colonies to around 30 before the honey flow season of 2015 – 16 (December - January).

Subsequent to the training on beekeeping enterprise, he was confident to leave his temporary job and expanded his farming activities also. During the current year his total earnings was ₹1,90,000/- as compared against previous year's ₹ 1,35,000/- (4 qtl of arecanut, 2000 coconuts and around 10 qtls. of different vegetable crops). This year, so far, he could get an additional income of ₹ 55,000/- from the sales of 1.7 quintals of honey from Indian bees and 3 kg from stingless bees. He expects three more harvests of honey during the ongoing season and more yield from crops due to enhanced pollination.

The success of bee keeping by Shri Devaraj, is a model for aspirant youth who like to integrate beekeeping integrating with farming as he extends all help to them. Around 30 rural youth from the area have approached the KVK for obtaining training on bee keeping which is an evidence for the horizontal spread of the technology.



Shri Devaraj along with his kids successfully doing beekeeping

## IMPORTANT EVENTS

### Awareness programme on Pradhan Mantri Fasal Bima Yojana

An awareness programme on 'Pradhan Mantri Fasal Bima Yojana' was conducted on the 23<sup>rd</sup> of May, 2016 at ICAR-CPCRI, RC, Kahikuchi. Farmers from the locality have participated in the programme.

An awareness Programme on 'Pradhan Mantri Fasal Bima Yojana' (PMFBY) was organised on 28<sup>th</sup> May, 2016 for the benefit of farming community of Kasaragod district by KVK, Kasaragod. Shri P. Karunakaran, Member of Parliament, Kasaragod, inaugurated the function. In his inaugural address, Shri Karunakaran felt that this would be a great support to the farmers in the eventuality due to climate change and consequent calamities. He expressed that crop insurance should also support against price fall of the commodity to safeguard the farmers. Shri N.A. Nellikkunnu, MLA, Kasaragod delivered the presidential address. He appreciated the purpose of the meeting saying that many government schemes do not reach the stakeholders due to lack of orientation. He wished that many farmers be benefited by PMFBY and that more and more people in the district take up farming as their main livelihood occupation by virtue of this scheme. Dr. P. Chowdappa, Director, ICAR-CPCRI welcomed the guests and delivered introductory remarks highlighting the benefits of PMFBY to the farmers to overcome crop losses due to natural calamities mainly because of drought, flood, pest and disease epidemics. He also said that programme was launched by Govt. of India in which premium is low for crop insurance and it is 2.0% for Kharif, 1.5% for Rabi and 5% for commercial and horticulture crops. Shri A.A. Jaleel, Panchayat President, Mogral Puthur panchayat, Shri Janardanan, Chief Manager, SBI RBO, Kannur, Smt. Veenarani, ADA, Nileshwar and Shri Jyothis Jagannath, AGM, NABARD, Kasaragod offered felicitations. This was followed by Technical Sessions which included PMFBY Awareness and Farmer Interface programme.

A Farmers' Meet and Exhibition in connection with the awareness programme on "Pradhan Mantri Fasal Bima Yojana" ICAR-KVK, Alappuzha was organized (PMFBY) at Angel King Auditorium, Pathirappally, Alappuzha, Kerala on 20<sup>th</sup> June 2016. The district level programme was inaugurated by Shri K.C. Venugopal,



Shri P. Karunakaran, M.P., Kasaragod addressing the gathering for awareness programme on PMFBY at ICAR-CPCRI, Kasaragod



Shri K.C. Venugopal, M.P., Alapuzha inaugurating the awareness programme on PMFBY at Alapuzha, Kerala



Release of ICAR-KVK, Alapuzha publication during the programme

Hon'ble MP, Alappuzha. During the inaugural address, he emphasised on the importance of converging new agricultural technologies to help farmers to improve their income and livelihood and wished that more crops especially coconut and spice crops which are important in Kerala, which are added under the PMFBY scheme. He urged the farmers to utilize the benefits of all the schemes so that they do not suffer in adverse conditions and urged the insurance companies to settle the claims of the farmers at the earliest and in a hassle free manner. Dr. P. Chowdappa, Director, ICAR-CPCRI, explained various technologies developed





A view of the exhibition hall and the farmers at Alapuzha, Kerala during the awareness programme



by the institute for the benefit of farmers. The latest issue of KVK newsletter and a ICAR-CPCRI centenary series booklet on "Scientific fodder cultivation" were released by the chief guest on the occasion. The agricultural seminar included sessions on 1. PMFBY: Features and benefits, 2. Integrated Pest Management in coconut, and 3. New technologies for dairy farming and schemes of Dairy Development Department. The

sessions were handled by resource persons from Agricultural Insurance Company of India, IFFCO, Dairy Development Department and KVK. More than 300 persons participated including farmers, farm women, rural youth, office bearers of farmers' organisations, SHG members, extension officials, and Panchayath members have actively participated in the programme.

## Annual Group Meeting of ICAR-AICRP on Palms

The XXV Annual Group Meeting of All India Co-ordinated Research Project on Palms was organized from 19<sup>th</sup> to 21<sup>st</sup> May, 2016 at ICAR-CPCRI, Kasaragod. The Annual Group Meeting was inaugurated by Dr. K. Ramasamy, Vice Chancellor, TNAU, Tamil Nadu. Dr. P. Chowdappa, Director, ICAR-CPCRI, Kasaragod. Dr. R.K. Mathur, Director, IIOPR, Pedavegi, and Dr. P.L. Saroj, Director, DCR, Puttur graced the occasion. Dr. H.P. Maheswarappa, Project Coordinator (Palms) informed the house that ICAR-AICRP (Palms) was awarded with the Chaudhary Devi Lal Best ICAR-AICRP Award in the country. He further presented a brief report of the progress and activities of the project. During the three days programmes, three varieties were recommended for release from ICAR-CPCRI, Kasaragod viz., Kalpa Shatabdi (Coconut), Shatamangala (Arecanut) and Netra Centura (Cocoa). Deliberations were held to review the technical programmes of the project. On 21<sup>st</sup> May, 2016, during plenary session, Dr. N.K. Krishna Kumar, DDG (Hort. Sci.) opined upon including cocoa as a mandate crop under ICAR-AICRP on Palms to address the problems of that crop and renaming the project as ICAR-AICRP on Palms & Cocoa. Various recommendations emerging out from the centres were released for farming community. For the year 2015-16, ICAR-AICRP on Palms, Aliyarnagar



Inauguration of the Annual Group Meeting



Release of publications on coconut varieties

(TNAU) centre was adjudged as the best centre. Dr. A. Snehalatharani, Scientist (Pathology) of Ambajipeta centre bagged the best presentation award. During the programme, 10 publications were released for the benefits of the stakeholders. The meeting was attended by 100 participants representing 29 ICAR-AICRP on Palms centres spread across 13 States and one Union Territories, apart from the scientists from the ICAR-CPCRI and ICAR-IIOPR.



## Interface Programme on 'Coconut Farming'

An Interface Programme on 'Coconut Farming' was conducted at ICAR-CPCRI, Kasaragod on 15<sup>th</sup> June 2016 to evolve strategies for effectively implementing the 'Kera Suraksha Scheme' for the development of coconut farming in Kasaragod District. 'Kera Suraksha Scheme', to be implemented by the Kasaragod District Panchayat during 2016-17, has been proposed as part of the programme involving ICAR-CPCRI, Kasaragod and Kasaragod district panchayat in connection with the Centenary Celebrations. The interface programme was inaugurated by Shri A.G.C. Basheer, President, Kasaragod District Panchayat. Dr. P. Chowdappa, Director, ICAR-CPCRI gave the introductory remarks. Shri Arshad Vorkady, Chairman, Kasaragod District



Dr. P. Chowdappa, Director, ICAR-CPCRI inaugurating the research-extension-farmer's interface at ICAR-CPCRI, Kasaragod

Panchayat standing committee, Shri Pradeep, Principal Agricultural Officer, Kasaragod and Shri V. Venu, Deputy Director of Agriculture offered felicitations.

## Training on terrace cultivation of vegetables and home gardening

Owing to the rapid subdivision and fragmentation of holdings, which are predominantly small and marginal (87 % of the operational holdings being 0.5 ha or less), the farmers in different Islands of Lakshadweep practice very close planting of coconut and plant more seedlings on the boundaries or corners to mark their fields, thus creating overcrowding of palms and leaving very little space for cultivating other crops. For the requirement of fruits and vegetables, often they depend on the arrival from the main land. In order to sensitize the Islanders on the scope of "Terrace Cultivation of Vegetables and Home Gardening", training programmes were organized under joint auspices of ICAR-CPCRI unit at Minicoy and Department of Agriculture, UT of Lakshadweep on 2<sup>nd</sup> April 2016 at Govt. J.B. School Hall, Minicoy and on 5<sup>th</sup> April, 2016 at Administrative Training Institute Hall, Kavaratti.

Shri O. Ibrahim Manikfan, Vice Chairperson, Village Dweep Panchayat, Minicoy while delivering the presidential address, highlighted the importance of agriculture in the day to day life and urged the youth to adopt farming as a profession. Shri Jatin Goyal, Deputy Collector while inaugurating the programme, briefed the importance of Agriculture in the Lakshadweep Islands and requested the farmers to take advantage of such training programmes to promote terrace cultivation. Shri C. Cheriya koya, Assistant Engineer, LPWD and Shri F.G. Mohammed, IAP offered felicitations.

The training programme held at Kavaratti on 5<sup>th</sup> April 2016 was presided over by Shri Puneet Kumar Patel, Director of Agriculture, UT of Lakshadweep, who



Dr. V. Krishnakumar, Head, ICAR-CPCRI, RS, Kayamkulam handing over a polybag seedling to Minicoy Islander

explained about various schemes implemented by the Department and requested the participants to make use of the opportunity provided to them. Shri Achada Ahammed Haji, Chief Councillor & President District Panchayat, Kavaratti, while inaugurating the function stressed up on the health hazards of consuming vegetables contaminated by pesticides and wanted the farmers to take up terrace cultivation to the fullest possibility to produce quality vegetables in the homes itself. Smt. Raziya Beegum, Chairperson, Village Dweep Panchayat, Kavaratti offered felicitations.

Dr. V. Krishnakumar, Head, ICAR-CPCRI, Regional Station, Kayamkulam and Dr. B. Augustine Jerard, Principal Scientist (Hort.) ICAR-CPCRI, Kasaragod, took classes on terrace cultivation and home gardening with video presentations. Seed kits of different vegetables and seedlings were distributed to the participants and the farmers interacted with the resource persons during both the programmes.



## HUMAN RESOURCES DEVELOPMENT

### Training attended

Mr. Rajeev M.S. (SMS, Agronomy) had attended Resource Persons at IIM, Kozhikode during a Capacity building programme for POPI 17-21 May, 2016.

## PUBLICATIONS

### Research articles

- Anithakumari P., Muralidharan K. and Chandrika Mohan 2016. Impact of area wide extension approach for bio-management of rhinoceros beetle with *Metarhizium anisopliae*. *Journal of Plantation Crops* **44**(1): 16-22.
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**TRANSFER OF TECHNOLOGY**

**Training programmes**

Training on 'Hybridization Techniques in Coconut' was organized at Kasaragod on 15<sup>th</sup> April, 2016 for the benefit of four farmers. A training on 'Coconut Production Technology' was organized on 2<sup>nd</sup> May, 2016 for 45 farmers of Sullia, Dakshina Kannada district sponsored by Mission for Integrated Development of Horticulture (MIDH).

Training on 'Value Addition in Coconut and Neera Production' was organized on 27<sup>th</sup> May, 2016 for 48 farmers of NITTE Coconut Producers' Society, Uttara Kannada,

Karnataka.

A training programme on 'Planting Material Production in Coconut' was conducted at Kasaragod for farmer members from Thulunadu Coconut Producers Company Ltd. on 10<sup>th</sup> June 2016 as part of ICAR-CPCRI centenary celebration. Dr. Anitha Karun, Acting Director, ICAR-CPCRI, inaugurated the training. Practical session on pollination for hybrid production and other aspects of seed production was organized in the coconut field with provisions for hands-on training.

A training on 'Pest and Disease Management Strategies in Coconut' as part of the ATMA-sponsored exposure visit was organized at ICAR-CPCRI Regional Station, Kayamkulam on 15<sup>th</sup> April, 2016 in which 25 farmers from Vallikunnam panchayat participated.

A team of Agricultural Officers, Assistants and progressive farmers from Madapally Block visited the the Regional Station, Kayamkulam on 30<sup>th</sup> April, 2016 and got acquainted with the latest production technologies in coconut. The team was also exposed to in



*situ* field demonstration of crop habitat diversification for pest regression experiments and hybridization techniques in coconut.

A hands-on training programme on 'Vermicomposting and EM composting' was organized at Kayamkulam on 15<sup>th</sup> May, 2016 for the benefit of 11 farmers.

A capacity building programme was conducted during 12-16<sup>th</sup> April, 2016 on 'Coconut Hybridization Techniques and Palm Health Management in Coconut' at ICAR-CPCRI, Regional Station, Kayamkulam. A total of 20 participants including agricultural officers, agricultural assistants and skilled climbers from Alappuzha district participated in the training programme.

Training programme on 'Advances in Arecanut and Cocoa Production Technology' was organized for officers from Department of Horticulture, Coimbatore, Tamil Nadu at ICAR-CPCRI, Regional Station, Vittal on 1<sup>st</sup> April, 2016.

A hands-on training in 'Soil Testing for Sustainable Agriculture' was organized for 18 Agricultural Officers/ Technical Personnel of the Department of Agriculture was conducted at ICAR-CPCRI, Kasaragod during 20-24<sup>th</sup> June, 2016, in connection with distribution of 'Soil health card' to farmers under 'National Mission on Sustainable Agriculture'.

A training programme on 'Application of Statistical Methods and Software's in Plantation Crops Research' was organised at ICAR-CPCRI Regional Station Vittal on 20<sup>th</sup> June, 2016. Topics covered under the training programme included basic statistical procedures, data analysis techniques, design of experiments and data analysis using SAS statistical package. A total of 24 Scientists/ Research scholars from different ICAR institutes (ICAR-DCR Puttur, ICAR-IISR Appangala, ICAR-CHES (IIHR) and ICAR-CPCRI) have participated in the training programme.



Dr. P. Chowdappa, Director, ICAR-CPCRI addressing the trainees at Kasaragod

Training programme on 'Plant Protection Measures in Plantation Crop and Demonstration on Palm Climbing' was organised on 30<sup>th</sup> of June, 2016 at ICAR-CPCRI, RC, Kahikuchi, which was attended by 18 farmers from three villages.

### **ATMA inter-state farmers' training programme**

ATMA inter-state farmers training programme on 'Integrated Crop Management and Value Addition in Coconut' was organized at ICAR-CPCRI, Kasaragod for 48 coconut farmers of Thanjavur and Nagapattinam districts of Tamil Nadu during 23-25<sup>th</sup> May, 2016 and 7-9<sup>th</sup> June, 2016.

### **Interactive meeting**

An interactive meeting on 'Integrated Pest and Disease Management in Arecanut' was organized on 10<sup>th</sup> May, 2016 at Markanja, Sullia for the benefit of 70 farmers. Mr. Monappa Poojary President, Grama Panchayat, Markanja inaugurated the meeting. Dr. Ravi Bhat, Head, Division of Crop Production, ICAR-CPCRI, Kasaragod delivered introductory remarks. Mr. Rukmayya Gowda M.P., President, Cooperative Society, Markanja, Shri. Ramesh, progressive farmer, Markanja, Sullia, Dr. Vinayaka Hegde, Head, Division of Crop Protection, ICAR-CPCRI, Kasaragod offered felicitations. Dr. K. S. Ananda delivered introductory remarks. Scientists from ICAR-CPCRI Kasaragod and ICAR-CPCRI Regional Station, Vittal discussed on the nutrient, pest and disease management in arecanut. It was decided to establish demonstration plots on root grub management and yellow leaf disease management at Markanja, Sullia for the benefit of farming community.

### **Research Extension – Farmers Interface programme**

Research- Extension- Farmers interface programme on 'Coconut Farming' was organized on 15<sup>th</sup> May, 2016 at Kasaragod for the benefit of 32 stakeholders.

### **Rural Agricultural Work Experience (RAWE) programme**

RAWE programme for nine B.Sc. (Agri.) students of Gandhigram Rural Institute, Dindigul, Tamil Nadu was organized during 23<sup>rd</sup> May to 10<sup>th</sup> June, 2016 at Kasaragod and Vittal. Lecture cum discussions on improved technologies on coconut extension systems in India, extension tools, personality development etc. were conducted. Field visits to various organizations



Participants of RAWE programme along with resource persons

related to agriculture were also conducted as part of RAWE programme.

### Documentation of experiences of successful coconut growers

Documentation of experiences of successful coconut growers was done in West Godavari, East Godavari, Krishna and Vishakapatnam districts of Andhra Pradesh. Socio economic profile of farmers, farming practices, nutrient management, pest and disease management, innovative practices, linkage with research / extension agencies, value addition details, marketing etc. were collected and documented from 12 innovative coconut growers in Andhra Pradesh.

### Techniques for soil health assessment-Training convened at Kayamkulam

A capacity building programme on 'Techniques for Soil Health Assessment' was conducted at Kayamkulam during 27<sup>th</sup> June to 1<sup>st</sup> July, 2016. The programme was funded by State Department of Agriculture Development and Farmer's Welfare. Twenty participants comprising



Cocoa demonstration in West Godavari

Agricultural Officers of Krishi Bhavan, District Soil Testing Laboratories and Scientific Assistants attended the programme. Besides the theoretical lectures on soil and palm health care analysis, hands on practical sessions on a wide array of soil health parameters were imparted to the trainees during the period.

### Off- campus training programmes

Training on 'Diagnosis and Management of Root-knot Nematode in Black Pepper - Arecanut Cropping System' was conducted for 25 farmers at Nirchal, Kasaragod District on 28<sup>th</sup> March, 2016.



Training farmers for diagnosis of root-knot nematode infestation in black pepper

Three training programmes, two off campus at Kajadighi, Maynaguri block, Jalpaiguri & Sulka para, Nagrakata block of Jalpaiguri and one on-campus at Mohitnagar, were organized on 'Crop Diversification of Plantation Garden with Spices and Cocoa Cultivation in Arecanut Garden' on 27<sup>th</sup> April, 2016, 13<sup>th</sup> June, 2016 and 27<sup>th</sup> May, 2016, respectively. A total of 148 numbers of farmers have attended training programme.

A *Kisan Gosthi* was conducted at Kandallor on 1<sup>st</sup> June, 2016 to create awareness to Farmers club members for the prophylactic treatments for palm health management and agronomic management practices to be adopted during monsoon season.

A training programme on 'Palm Health Management in Coconut' was conducted on 04<sup>th</sup> June, 2016 for the farmers in Velanchira and Koppareth villages of Kandallor Panchayath attended by 65 farmers.

A training programme on IPM of coconut was organized to farmers of Kera Gramam, Parakkadavu on 25<sup>th</sup> May, 2016.



A training programme on water conservation, low cost irrigation methods and farm health management for coconut farmers was organized at Vellanallur panchayat, Thrissur on 11<sup>th</sup> April, 2016 in which sixty coconut farmers representing various coconut producers' federation participated.

A training programme on Integrated nutrient management for coconut was organized at Kulasekharapuram panchayath, Kollam district on 26<sup>th</sup> May 2016 in which 23 FLD participant farmers participated.

### Farmer-Scientist Interface programme

A Farmer-Scientist interface programme was organized on 23<sup>rd</sup> June, 2016 at Marari Marketing Company Hall, Kanjikuzhi, Alappuzha by ICAR-CPCRI, Regional Station, Kayamkulam to mark the successful completion of the NABARD funded project on "Community based bio-resource management for sustaining production and livelihood security under coconut based farming systems". Adv. D. Priyesh Kumar, President, Mararikulam North Grama Panchayat presided over the function. Smt. Sinimol Soman, President, Kanjikuzhi Block Panchayat inaugurated the meeting and emphasized the need to disseminate the technologies gained through the project to more farmers. Dr. (Mrs.) Kalavathi, Project leader and Principal Scientist, presented key activities undertaken viz., soil test based nutrient application, bio-resource management, production of quality planting materials, intercropping for additional income, need based plant protection and production of organic manures enriched with bioagents. Dr. V. Krishnakumar Head, ICAR-CPCRI RS Kayamkulam, in his keynote address summarized the

technologies developed at ICAR-CPCRI, and assured necessary scientific and technical support from the institute to farmers' groups. Mr. R. Raghunathan Pillai, District Development Manager, NABARD, Alappuzha interacted with the farmers. Soil health cards were distributed to the project beneficiaries for ensuring need based application of nutrients to coconut and intercrops. Distribution of bioprimered coconut seedlings, *Trichoderma* enriched organic manure and *Trichoderma* cake produced by the trained farmers' groups turned out to be the main highlight of this programme.

### Snap survey on coconut cultivation in Bidar, Karnataka

Dr. Ravi Bhat, Head and Dr. Rajkumar, Scientist, have visited Bidar Parliamentary Constituency, Karnataka to identify the feasibility of coconut cultivation in the district and feasibility of value added technologies for the region from 25<sup>th</sup> to 29<sup>th</sup> May 2016. Tall varieties of coconut (Tiptur and Arsikere tall) were introduced way back of 1976 and these varieties have provided an average yield of 40 - 55 nuts per palm in irrigated gardens. Continuous drought, scarcity of water and an average annual rainfall is 885.8 mm resulted in reduction of yield and in many cases death of palms. The dwarfs (COD and GBDG) were recently introduced in the region from the private nurseries of neighbouring states of Telangana and Andhra Pradesh. These palms have very low nut setting with poor palm growth. In view of this, it can be concluded that if adequate water is ensured in the region, coconut can be cultivated profitably. Therefore, it is most essential to develop irrigation facility before promoting coconut cultivation the region.



Farmer – scientists interaction at Kanjikuzy and distribution of bio-primered seedlings



A view of the coconut plantation in Bidar, Karnataka



Exhibition

Exhibition stall of ICAR- ICAR-CPCRI was arranged at Muramalla, East Godavari in connection with Konaseema festival during 6-10<sup>th</sup> April, 2016 organized by Govt. of Andhra Pradesh. Large number of stakeholders visited the stall and got familiarized with ICAR-CPCRI technologies.

Exhibition stall of ICAR-CPCRI was arranged during 13<sup>th</sup> – 17<sup>th</sup> April, 2016 at Marine Ground, Kozhikode organized by Mathrubhumi Press.

Exhibition stall of ICAR-CPCRI was arranged during 26<sup>th</sup> May – 1<sup>st</sup> June, 2016 at Nileswaram, Kasaragod in connection with 'Jaivolsavam' organized by Nileswaram Municipality.

Radio talks/ TV programme broadcast

Dr. Arun Kumar Sit, Principal Scientist (Hort.) attended one live phone in TV Programme on 'Prospects of cocoa cultivation and its cultivation practices' at Kisan Channel, Doordardarsan Kendra Jalpaiguri in its Krishi Darsan programme on 26<sup>th</sup> April, 2016.

In Vayalum Veedum programme of AIR Alapuzha, a radio talk on 'Sustaining coconut production in the climate change senerio' by Dr. P. Muralidharan, Head, KVK, Alapuzha was broadcasted on 6<sup>th</sup> April, 2016. A radio talk on 'How to obtain good coconut seedlings' by Mr. T. Sivakumar (SMS, Agrl. Entomology) was

broadcast on 9<sup>th</sup> April, 2016. Another radio programme on the Agricultural Meet and Exhibition conducted by KVK in relation with PMFBY awareness Programme was broadcasted on 24<sup>th</sup> May, 2016.

Dr. H.P. Maheswarappa delivered a talk on 'Insect pest and disease management in arecanut', which was broadcast from AIR, Bhadravathi on 10<sup>th</sup> May 2016.

A radio (AIR) programme attended by Dr. Arun Kumar Sit, Principal Scientist (Hort.), ICAR-CPCRI, RC, Mohitnagar on 'Enhancement of return from plantation garden' was recorded and broadcast on 1<sup>st</sup> June, 2016.

Dr. C. Thamban, Principal Scientist (Agrl. Extension) presented a radio talk on 'Improved varieties of coconut and production of quality planting material' which was broadcast by All India Radio, Kozhikode on 2<sup>nd</sup> June, 2016.

Dr. V. Niral, Principal Scientist, participated in a TV programme on 'Improved coconut varieties' in Kannada, telecast in DD Chandana on 15<sup>th</sup> June, 2016.

Dr. Regi Jacob Thomas delivered a talk on "Availability and planting of quality coconut seedlings: Frequently asked questions from the farmer view point" (In Malayalam) AIR, Thiruvananthapuram on 11<sup>th</sup> June, 2016.

MEERA GAON – MEERA GAURAV

ICAR- CPCRI, Kasaragod and its regional stations and research centres have implemented the Mera Gaon - Mera Gaurav initiative in collaboration with other stakeholders viz., Department of Agriculture, Krishi Vigyan Kendra, grama panchayats, input dealers, progressive farmers, SHGs etc. During April

- June 2016, training programmes, demonstration on improved practices, farm advisory visits, mobile advisory services were organized in the selected villages for the benefit of farming community. A total of sixty scientists adopted sixty six villages for the overall development of the villages as given below.

Venue	No of scientists	No of adopted villages	No. of training programmes / meetings organized	No of farmers benefitted
CPCRI, Kasaragod	32	34	22	680
CPCRI, RS, Kayamkulam	13	16	16	540
CPCRI, RS, Vittal	9	9	7	345
CPCRI, RC, Kahikuchi	4	4	6	124
CPCRI, RC, Mohitnagar	2	3	3	103
Total	60	66	54	1792





Interface programme on pest and disease management in palms and cocoa at Badiadka



Interface programme at Matali



Farm advisory visit to Kanjirapoyil



Farm advisory visit to Palthady



Hands on training on pest management in coconut for the farmers of Kattachira



Farm advisory visit to Palthady



Demonstration on palm climbing at CPCRI, RC, Kahikuchi



EM preparation session during Kisan Gosthi at Kayamkulam





**Sensitisation Programme**

NABARD has sanctioned a project for promotion of farmer producer organization under their Produce Fund during March 2016. The total project cost sanctioned by NABARD is ₹ 9.06 lakhs. In this connection a sensitization programme was organized at KVK, Kasaragod on 10<sup>th</sup> June 2016. A total of 63 farmers attended the programme and it was unanimously decided to form a Farmer Producer Company with activities such as production, processing, value addition and marketing of honey, mushroom, spices, etc. A total of 15 members were nominated as promoters.

**Monthly Technology Advisory Meeting**

A farmer-scientist interface and monthly technology advisory meet under the joint auspices of ATMA, Department of Agricultural Development, ICAR-CPCRI and KVK, Kasaragod was organized at KVK on 28<sup>th</sup> of May, 2016. The programme was inaugurated by Dr. P. Chowdappa, Director, ICAR-CPCRI. Dr. T.S. Manojkumar, Head, KVK briefed about the programme and Scientists from ICAR-CPCRI – Dr. C. Thamban, Dr. Ravi Bhat, Dr. Vinayak Hegde and Dr. M.R. Manikantan



Scientific Advisory Committee meeting of KVK, Kasaragod

**KVK, ALAPUZHA**

**Trainings Conducted**

Training	No. of Programmes	Participants		
		Men	Women	Total
On campus	15	159	112	271
Off campus	8	111	149	260
Sponsored	1	2	24	26
<b>Total</b>	<b>24</b>	<b>272</b>	<b>285</b>	<b>557</b>

and Dr. S. Leena presented the farmer friendly technologies developed by ICAR-CPCRI. The interface meet was attended by Officials from the Department of Agriculture, Agricultural officers and Subject experts from ICAR-CPCRI and KVK.

**Field Day of the Technology demonstration on 'Polybag cultivation of TC banana for overcoming flood during initial growth stages'**

A technology demonstration was conducted at Muttar under NICRA project for growing tissue culture plants of banana in poly bags during the initial growth stages up to 1.5 months to surpass the flooding period for transplanting later when water recedes and following scientific management practices. Harvest festival cum Field day of this demonstration was conducted on 13<sup>th</sup> June, 2016 at Govt. UPS, Muttar with participation of farmers, extension officials and students. Mrs. Jayasree M. (Headmistress), Mr. Sasikumar M.K. (Chairman, SMC), Dr. P. Muralidharan (PS & Head, KVK) and Mr. M.S. Rajeev (SMS, KVK) addressed the farmers on the occasion. Partner farmers, Mr S.T. Chacko and Mr. K.S. Thomas shared their experiences on the new technology. More than 20 farmers and 30 students attended the programme.



Students of RAWE programme Farmers field

**Field Day of the Frontline demonstration on 'Introduction of Kadaknath breed in backyard poultry rearing'**

Kadaknath poultry breed which has more disease resistance and known for its medicinal properties was introduced for backyard poultry rearing in Aryad Panchayath during 2015-16. Selected housewives from 18 wards of the Aryad Panchayath were provided with a unit and were trained in scientific management of this breed. Field day of this demonstration was conducted on 26<sup>th</sup> May 2016 in which farmer partners shared their experiences to other farmers. Sri. Bipin

Raj, Vice President, Aryad Panchayath inaugurated the programme.

### RAWE programme

A batch of 21 B.Sc. (Agri.) students from College of Agriculture, Vellayani attended KVK module of RAWE



Students of RAWE programme Farmers field

programme from 2<sup>nd</sup> April, 2016 to 6<sup>th</sup> April, 2016. They visited various KVK off campus sites, attended trainings and successfully completed the module by organising a training programme at Kandallloor Panchayath

### Turmeric Farmer's Producer Company

NABARD has sanctioned a new project under the produce fund scheme to KVK-Alappuzha for promoting a farmer producer company on turmeric with a budget outlay of ` 9.06 lakhs. The proposed Turmeric Farmers' Producer Company covers Bharanikkavu block of Alappuzha district and it includes different activities like organizing turmeric farmers to undertake scientific cultivation, seed production, centralized nursery for seedling production, and processing of turmeric; packing, labelling, branding, and marketing of turmeric powder; and extraction of curcumin on an organized and collective basis.

## PARTICIPATION IN SEMINARS/ SYMPOSIA/ CONFERENCES/ WORKSHOPS

Name and designation	Title of the programme	Place and Date
Dr. D. Jaganathan Scientist	National Seminar on Planting Material Production in Spices	Hotel Malabar Palace, Kozhikode 21-22 April, 2016
Dr. P. Chowdappa, Director, Dr. H.P. Maheswarappa, PC (Palms), Dr. Anitha Karun, Dr. Vinayaka Hegde, Dr. Ravi Bhat, Dr. K.B. Hebbar, Dr. V. Krishnakumar, Heads, Dr. Chandrika Mohan, Dr. Augustine Jerard, Dr. C. Thamban, Dr. V. Niral, Dr. P. Subramanian, Dr. S. Elain Apshara, Dr. A. Joseph Rajkumar, Principal Scientists, Mr. S. Jayasekhar, Scientist (SS), Dr. Merin Babu, Dr. Rajkumar, Mrs. Prathibha V.H. and Ms. Sumitha S., Scientists	XXV Annual Group Meeting of ICAR-All India Coordinated Research Project on Palms	ICAR-CPCRI, Kasaragod 19-21 May, 2016
Dr. H.P. Maheswarappa	National Level Seminar on Neera and Palm Gur Industry Under ABFPI, (Khadi Village Industries)	Patna, Bihar 5-6 June, 2016
Dr. Anitha Karun, Head, Mrs. Prathibha P.S., Mr. Krishna Prakash and Mrs. Aparna V., Scientists	Global Conference on Perspective of Future Challenges and Options in Agriculture-2016	Jalgaon, Maharashtra 28 - 31 May 2016
Dr. P. Chowdappa, Director, Dr. V. Niral and Dr. M.K. Rajesh, Principal Scientists	Group Meeting of Coconut Genome Sequencing	ICAR-NRCPB, New Delhi 10 June 2016



## NEW PROJECTS

A new project on 'Development of DUS testing criteria and establishment of national genebank for cocoa, with ₹ 27 lakhs for three years outlay from Protection of

Plant Varieties and Farmers' Rights Authority (PPVFRA), New Delhi was granted to Dr. S. Elain Apshara, Principal Scientist (Hort.) w.e.f. 12<sup>th</sup> May 2016.

## SWACHH BHARAT CAMPAIGN



ICAR-CPCRI staff taking Swachh Bharat pledge and taking part in cleaning activities along with scientists under AICRP (Palms) at Kasaragod

Cleaning drive was continued at headquarters on every Fridays and one day in a week in ICAR-CPCRI Regional Stations and Research Centres punctually with participation of all the staff. Swachh Bharat Fortnight was observed in the institute including headquarters, two regional stations as well as four research centres during 16<sup>th</sup> May 2016 to 31<sup>st</sup> May 2016. Special cleaning drive along with oath taking by the staff on 19<sup>th</sup> May 2016, were held during the fortnight.



Swachhata Pakhwara celebration at Kahikuchi on the 23<sup>rd</sup> of May, 2016 along with farmers of adopted village.

## CELEBRATIONS

### World Environment Day-2016

World Environment Day (WED-2016) was commemorated at ICAR-CPCRI, Regional Station, Kayamkulam in a befitting manner. Nearly 50 school students from RVLP School, Mukkada and Govt. UPS, Krishnapuram participated in the programme. Shri K.V. Dayal, a noted environmentalist from Muhamma, Alappuzha was the Chief Guest and inaugurated the programme by lighting the lamp. In his inspiring inaugural address, he called upon the students to emerge out with "out of box" thinking and bring forth novel idea for harnessing science at the highest order. He opined that "Ecology is more important than



Dr. V. Krishnakumar, planting a sapling at Kalavoor school, Alapuzha, Kerala



economics” and urged the students to understand basics in sustainable and organic farming to evolve evergreen revolution. Dr. V. Krishnakumar, Head, RS, ICAR-CPCRI, Kayamkulam in his presidential address emphasized the role of students in biodiversity conservation and proper nurturing of trees to mitigate climate change. Shri Anilkumar, Member, Kayamkulam Municipality and Shri Viji, Member, Krishnapuram Grama Panchayat offered felicitations and expressed wholehearted delight to participate in the programme.

Shri K. Narendran, Nambaruvikala, Karunagapally, Kollam was the Guest of Honour and recipient of prestigious National Plant Genome Saviour Farmer Recognition-2013 award from PPV&FR, New Delhi was honoured during the occasion. The message of “eco-restoration through mass tree-planting campaign” was thus justified on the eve of WED-2016.

A quiz competition on “Agriculture and Environment” and awareness talk on “Environmental conservation through eco-friendly agricultural practices” were conducted by KVK Alapuzha as a part of the World Environment Day celebrations at Govt. Higher Secondary School, Kalavoor on 6<sup>th</sup> June 2016. More than 50 students actively participated in the programme.

## 2<sup>nd</sup> International Yoga Day Celebrations

International Day of Yoga was convened under the Chairmanship of Dr. P. Chowdappa, Director, ICAR-CPCRI, Kasaragod on 21<sup>st</sup> June 2016 in the Institute. Dr. K. Muralidharan, Nodal Officer welcomed the gathering. Dr. A.B. Sapna, MBBS, DVD, MD, Dermatology Consultant, District Hospital, Kanhangad and Spine Care Teacher, Art of Living Foundation, Bengaluru delivered a talk on yoga followed by a



A view of the Yoga performance as a part of International Yoga Day at ICAR-CPCRI, Kasaragod



International Yoga Day at ICAR-CPCRI, RS, Kayamkulam

practical session for the benefit of all staff members. An impressive display of yogasanas by the staff of the Institute was held at the end of the programme.

International Yoga Day-2016 was observed at ICAR-CPCRI, Regional Station, Kayamkulam on 21<sup>th</sup> June 2016 with a thought provoking lecture on the basics of yogic sciences and a practical demonstration of Yoga session which was attended by all scientists, officers and staff. In his presidential address, Dr. V. Krishnakumar, Head, RS, ICAR-CPCRI, Kayamkulam called upon the colleagues to make yoga an integral part of life to tide over all lifestyle diseases. He urged to embrace yoga for leading a hale, healthy and gleeful life ushering universal peace. He emphasized yoga as the gift to the world by India, symbolizing the union of body and consciousness. Dr. E.M.G. Nair, Founder and Chief Acharya, Pathanjali Pranayoga Vidyapeedom, Kottayam inaugurated the session. In his illuminating inaugural address, he pointed out the importance of yoga for basic well-being of mankind. He emphasized on the science of hormonal regulation in humans well coordinated through practicing yoga in a perfect and routine manner. This was followed by demonstration of yogasanas.

International Day of Yoga was also celebrated at ICAR-CPCRI, RS, Vittal. All the staff members attended the training session conducted by Dr. S. Elain Apshara, Pr. Scientist., Shri Ashok, P. and Shri Venkappa Gowda, Ex Serviceman. World Yoga Day was also celebrated at ICAR-CPCRI RC Kahikuchi on 21<sup>st</sup> June, 2016.

## DISTINGUISHED VISITORS



Dr. Trilochan Mohapatra, DG, ICAR visiting ICAR-CPCRI, RC, Kahikuchi



Visit of Dr. K.L. Chaddha, National Professor to ICAR-CPCRI, Kasaragod

Name and designation	Date	Place visited
Dr. H.P. Singh, Former Deputy Director General (Hort.), ICAR	29 <sup>th</sup> March, 2016	ICAR-CPCRI, Kasaragod
Shri Shakil P. Ahmed, IAS, Joint Secretary, Dept. of Agriculture & Cooperation	18 <sup>th</sup> April, 2016	ICAR-CPCRI, Kasaragod
Dr. R. K. Mathur, Director, IIOPR, Pedabvegi, A.P.	6 <sup>th</sup> May, 2016	ICAR-CPCRI, RC, Mohitnagar
Dr. A.K. Singh, Chairman, Coconut Development Board, Kochi	13 <sup>th</sup> May, 2016	ICAR-CPCRI, RS, Kayamkulam
Dr. Trilochan Mohapatra, Secretary, DARE and Director General, ICAR	14 <sup>th</sup> May, 2016	ICAR-CPCRI, RC, Kahikuchi
Shri P. Karunakaran, Member of Parliament, Kasaragod	28 <sup>th</sup> May, 2016	ICAR-CPCRI, Kasaragod
Shri N.A. Nellikkunnu, MLA, Kasaragod	28 <sup>th</sup> May, 2016	ICAR-CPCRI, Kasaragod
Dr. K.L. Chaddha, National Professor, ICAR	18 <sup>th</sup> June, 2016	ICAR-CPCRI, Kasaragod
Dr. K. Ramasamy, Vice Chancellor, TNAU, Tamil Nadu	20 <sup>th</sup> June 2016	ICAR-CPCRI, Kasaragod
Dr. R.K. Mathur, Director, IIOPR, Pedavegi	20 <sup>th</sup> June 2016	ICAR-CPCRI, Kasaragod
Dr. P.L. Saroj, Director, DCR, Puttur	20 <sup>th</sup> June 2016	ICAR-CPCRI, Kasaragod
Dr. N.K. Krishna Kumar, DDG (Hort. Sci.), ICAR, New Delhi	21 <sup>st</sup> June 2016	ICAR-CPCRI, Kasaragod



Visit of Shri Shakil P. Ahmed, IAS Joint Secretary, DAC to ICAR-CPCRI, Kasaragod



Dr. A.K. Singh, Chairman, Coconut Development Board, Kochi interacting with scientists at ICAR-CPCRI, RS, Kayamkulam

## OTHER INFORMATION

### Aspire-2016 programme for young talents

Sensitizing the scope of and importance of agricultural sciences among 10+2 students, under the ambit of ICAR's Agricultural Science Pursuit for Inspired Research Excellence (ASPIRE), was convened at ICAR-CPCRI, Regional Station, Kayamkulam on 27<sup>th</sup> May 2016. The programme aimed at infusing farming instincts in young minds (IFIYM-2016) in tune with ICAR's twin major initiatives of "Farmer First" and "Student Ready" with the participation of 47 students. In addition to the systematic lectures on agricultural sciences, students were exposed to various experimental fields and laboratories in Genetics, Soil Science, Entomology and Pathology. Smt. Rajani Jayadev, Block Panchayat President, Bharanikavu was the chief guest of the



Smt. Rajani Jayadev, Block Panchayat President, Bharanikavu inaugurating Aspire – 2016 programme at ICAR-CPCRI, RS, Kayamkulam

valedictory function. Smt. Rajani Jayadev and Dr. V. Krishnakumar, Head of the Regional Station released the training manual, "Cognizance towards Farming" and "E-manual" (CD form) containing the lecture notes.

## PERSONALIA

### APPOINTMENT

Name of the official	Designation	Location	w.e.f.
Ms. Jilu V. Sajjan	Scientist (Ag. Entomology)	ICAR-CPCRI, Kasaragod	11-04-2016
Mr. Pandiselvam	Scientist (PE)	ICAR-CPCRI, Kasaragod	11-04-2016
Ms. Ranjini T.N.	Scientist (SP& M&AP)	ICAR-CPCRI, Kasaragod	11-04-2016
Ms. Saneera E.K.	Scientist (Ag. Entomology)	ICAR-CPCRI, Kasaragod	11-04-2016
Ms. Suchitra M.	Scientist (SP& M&AP)	ICAR-CPCRI, Kasaragod	11-04-2016
Mr. Thava Prakasa Pandian R.	Scientist (Pl. Pathology)	ICAR-CPCRI, Kasaragod	11-04-2016

### PROMOTION

Name of the staff	From (Designation)	To (Designation)	w.e.f.
Dr. Arun Kumar Sit	Senior Scientist (Hort)	Principal Scientist (Hort)	19-04-2014
Dr. P. Muralidharan	Sr. Scientist & Head KVK	Pr. Scientist & Head KVK	11-11-2014
Mrs. Meenakshi Patil	Sr. Technical Officer, ICAR-CPCRI, RS, Vittal	Asst. Chief Technical Officer, ICAR-CPCRI, RS, Vittal	07-01-2014
Mr. K.K. Nair	Personal Assistant, ICAR-CPCRI Kasaragod	Private Secretary to Director, ICAR-CPCRI Kasaragod	16-01-2016

### RETIREMENT

Name	Designation	Place	Date
Mrs. Rukmini	Skilled Support Staff	ICAR-CPCRI, RC, Kidu	30-04-2016
Mrs. Sumithra Nambiar	Asst. Administrative Officer	ICAR-CPCRI, Kasaragod	31-05-2016
Mr. G. Sasidharan Achary	Skilled Support Staff	ICAR-CPCRI, RS, Kayamkulam	31-05-2016



## TRANSFER

Name of the staff	From (Place)	To (Place)	w.e.f.
Mr. Diwakar Y.	Scientist (SP& M&AP) NRC Seed Spices, Ajmer	Scientist (SP & M&AP), ICAR-CPCRI, RC, Kidu	02-05-2016
Dr. Mukesh Kumar	Scientist (Biochem.), CPCRI, Kasaragod	Scientist (Biochem.), CIAH, Bikaner	20-05-2016
Dr. B. Augustine Jerard	Principal Scientist (Hort.), CPCRI, Kasaragod	Head, CIARI, Port Blair	06-06-2016

## New mandate for the institute

The mandate of ICAR was amended along with that of its institutes, w.e.f. 16<sup>th</sup> May, 2016 vide Notification, F.No. 13(102)/2015-Cdn.Tech. dated 20<sup>th</sup> May, 2016. Accordingly, the revised mandate of ICAR-CPCRI is as follows:

### Revised Mandate

- Basic, strategic and applied research to enhance sustainable productivity, quality and utilization of coconut, arecanut and cocoa,
- Repository of plantation crops genetic resources and scientific information,
- Transfer of technology, capacity building and impact assessment of technologies,
- Coordinate research and validation of technologies on plantation crops through AICRP on Palms.



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