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From the Director's Desk



Coconut sector: Time for a much needed makeover

Sustainable livelihood of coconut farmers is contemplated ever since we have started experiencing the price stagnation of coconut. Realizing the fact that unilateral increase in productivity is not the sole solution for livelihood crisis in the sector, it is high time that we act proactively on other possible alternatives of the sector. For brightening the future prospects of coconut sector, it is imperative to delink the sector from the dependency on coconut oil and enhance the production of diversified value added products.

There exists a huge scope for coconut based agri-business in India in order to increase the present 8% level of value addition to 25%, thereby value added products ensure a fair, reasonable and steady price to the farmer. Foreseeing the imperativeness of high value coconut sector, ICAR-CPCRI has developed complete package of practices for the production of virgin coconut oil, coconut chips, coconut honey, jaggery and sugar. The Institute has also developed a technology for collecting coconut inflorescence sap by using a device. The sap thus collected is called Kalparasa, which can be preserved up to 45 days under cold condition without adding any preservatives and additives with the

bottling technology. For sustaining the value added coconut sector, women self-help groups were formed and equipped with technical know-how. With regard to the commercialization of technologies Institute had successfully developed market for the value added products through well established link with the retail distributor.

As a matter of fact, the processing and value addition in the coconut sector has to be scaled up manifold. India is lagging far behind in processing for value addition and export even in comparison with countries like Sri Lanka. The coconut industry will revive dramatically if it is made part of Prime Minister's 'Make in India' campaign. This can be made possible through formation of coconut parks across the major hubs, which can provide new impetus to the coconut industry by ensuring economic enhancement of the farmers and other stakeholders through large scale activities. As a proactive step to enter into the premium value export sector, establishment of quality control and testing lab in accordance to the sanitary and phytosanitary (SPS) regulations should be envisaged.

Effective monitoring and management of value chain system with appropriate horizontal and vertical linkages along with price support system would play a crucial role in the formation of a vibrant coconut sector in the country. Our past experience with the coconut value chain reinforces these factors wherein an active participatory support in all facets of the functioning of the chain is inevitable.



RESEARCH HIGHLIGHTS

Promising coconut genetic stock

The conserved tall coconut accession Straits Settlement Apricot of CPCRI, acquired during 1941 from Malaysia, bears orange coloured, small to medium in size fruits. Controlled pollination of select individual palms with bright orange coloured fruits and evaluation of seedling progenies, has resulted in the development of a dwarf population bearing bright apricot coloured fruits (having shades of red, orange and pale yellow) at the tender fruit stage. The fruits of this genetic stock are large in size with less husk thickness and large inner cavity. The tender nut water is good to taste (TSS 5.7° Brix) with higher volume (870 ml). The attractive colour and fruit characteristics of this genetic stock has immense potential for exploitation in ornamental



horticulture and tender coconut production.

V. Niral and B. Augustine Jerard

Disease complex affecting betel vine crop in Arecanut gardens.

Root-knot nematode-fungal disease in betel vine crop in arecanut garden is identified as a major problem in irrigated arecanut gardens in part of Chikkamagaluru district of Karnataka. Soil borne fungal pathogen was involved in development of disease complex. The primary infestation found by root-knot nematode (*Meloidogyne incognita*) are sedentary endoparasite, infection starts with root penetration of second stage juveniles (J2) hatched in soil from eggs encapsulated in egg masses laid by the females on the infected roots and secondary infestation observed by fungal pathogens, *Phytophthora* and *Rhizoctonia* sp. causes wilting of the infected vines.

- Rajkumar



Nematode/fungi affected vines
yellowing



Second stage juveniles of
RKN



Completely wilted vines

Effect on lufenuron on red palm weevil

Lufenuron, a novel insect growth regulator interfered with larval-pupal transformation of red palm weevil grubs and induced pupal malformation upon topical application on grubs @ 0.054%. Malformation percentage increased with increase in the concentration of the lufenuron inferring its deleterious effect on the cuticle development during the process of moulting. This is the first report on the influence of insect growth regulator on the growth and development of red palm weevil grubs. With the aberration on larval cuticle by lufenuron, entry of entomopathogens through the wound would be quite easier. Pupation of red palm weevil grubs treated with lufenuron was completed in a period of 16 days, whereas the healthy insects pupated



Effect of lufenuron on red palm weevil grubs

only after 44 days. Lufenuron-treated insects attained a maximum weight gain in 10 days and healthy insects reached that stage only after 17 days. This indicates

the accelerated feeding of RPW grubs after exposure to lufenuron leading precocious pupation and abnormalities.

-Josephraj Kumar, A., Chandrika Mohan and Rajumon, M

Management of bagworm in Cocoa

Cocoa, *Theobroma cacao* L. is damaged by insect pest at different life stages. During monsoon, severe incidence of bagworms were noticed on the under/upper surface of cocoa leaves causing 5 - 35 % defoliation. Number of bagworms *Pteromasp.* recorded per tree ranged from 20 to 102 larval cases in Kasaragod. Damaged leaves had irregular shot holes and in severe cases, complete defoliation was observed. Bagworm belongs to *Psychidae* family of *Lepidoptera* consisting of more than 1000 species. Caterpillars found to be concealed in a narrow cone shaped bag, made up of plant materials and they feed by sticking top opening of the case to the cocoa leaves. Larval development and pupation takes place within the self – enclosing bag. Females are known to be apterous and wait for winged male for mating inside the bag. Similar incidence of bagworm incidence on



Shot holes caused by bagworm Severe infestation causes defoliation



Bagworm cases on the leaf

After spray recovered leaf damage

cocoa foliage recorded from Andhra Pradesh during 2010. Although it is considered to be minor pest, occasional or sporadic incidences of bagworms to be taken care with timely proper management.

- Sujithra, M.

Coconut varieties for different agro-ecological regions

Ministry of Agriculture (Department of Agriculture and Co-operation) has notified two improved varieties of coconut, Kalpa Samrudhi and Kalpatharu, for cultivation in different states of the country.

Kalpa Samrudhi, a dwarf x tall hybrid (IND 058S x IND069S) with higher nutrient use efficiency. The variety is semi-tall in stature, comes to flowering 3-4 years after planting and bears attractive dark green coloured fruits. The volume of tender nut water is around 330-350 ml, with very good taste. This variety is recommended as a dual purpose variety (tender

nut and copra) for cultivation in the states of Kerala and Assam.

Kalpatharu, a selection from Tiptur Tall coconut, has higher moisture stress tolerance potential and hence is recommended for cultivation under rainfed as well as irrigation conditions. This variety is notified for cultivation in the states of Karnataka, Tamil Nadu and Kerala. This variety is suitable for production of premium grade ball copra, in addition to production of coconut oil.

IMPORTANT EVENTS ORGANISED

International Symposium on *Phytophthora*

The 3rd International Symposium on “*Phytophthora*: Taxonomy, Genomics, Pathogenicity, Resistance and Disease Management” was organised by CPCRI, Kasaragod in association with IIHR and AAPMHE at Indian Institute of Horticultural Research Bengaluru

during 9-12, September, 2015. In the inaugural address, Dr. T. Janakiram, ADG (HS-I), ICAR, New Delhi urged scientists to utilize the opportunity to develop partnerships at global level to reduce the impact of *Phytophthora* diseases on Indian horticulture.



Dr. P. Chowdappa Director, ICAR-CPCRI, Kasaragod in his key note address, pointed that species in *Phytophthora* infect an array of plantation, tuber, spices, fruit, ornamental and vegetable crops in India and in some cases are reducing yields up to 80%. He highlighted the dramatic increase in late blight problems on potato and tomato crops in India since 2008 due to the introduction of the 13_A2 clonal lineage from Europe. In India, crop losses are especially difficult to manage by smaller and marginal-scale producers due to lack of resources and access to the fungicides. He gave strong message that "*Phytophthora* never sleeps, neither should you". In his valedictory address, Dr. N. K. Krishnakumar, DDG (HS), ICAR, New Delhi highlighted the success of Indian horticulture and said that horticultural production in India reached to 268 million tonnes and surpassed the food grain production of 252 million tonnes. Despite increase of horticultural production, problems such as pests and diseases, particularly the strengthening of bio-security in agricultural trade is the key to avoid introduction of invasive pests.

About 200 delegates had participated including delegates from Australia, Canada, Netherlands, Peru, U.K. and U.S.A. Special issues of "Indian Horticulture" and "Spice India" on *Phytophthora* and book entitled "*Phytophthora: An Indian perspective*" were released during the symposium.

Hands on training on "Rapid Diagnostic Tools for



Release of publications during the International Symposium at Bengaluru



Dr. N. K. Krishnakumar, DDG (HS), ICAR, New Delhi delivering valedictory address

Phytophthora on Horticultural Crops" was organized by Dr. Jean Beagle Ristaino, Dr. D.E.L. Cooke and Dr. P. Chowdappa as satellite workshop for benefit of students, young researchers from academia, officials from Industry and plant quarantine. About 40 delegates were participated in the workshop. The workshop consists of lectures and practical demonstrations on identification based on morphology and molecular techniques.

State level launching of the project on Farmers participatory research –cum-demonstration plots on cocoa

State level launching of the Project on 'Farmers Participatory Research –cum- Demonstration plots on Cocoa for Enhancing Productivity and Profitability' with financial support from Directorate of Cashew nut and Cocoa Development, Kochi was launched on 21-08-2015 at ICAR-Indian Institute of Oil Palm Research, Pedavegi in which 350 cocoa growers participated. The programme was inaugurated by Dr. N. K. Krishna Kumar, DDG (Hort. Sci.), ICAR, New Delhi. Dr. P. Chowdappa, Director, ICAR-CPCRI presided over the inaugural function. Dr. B.M.C. Reddy, Vice Chancellor, Dr. Y.S.R. Horticultural University delivered the keynote address. Dr. P. Kalidas, Acting Director, ICAR-Indian Institute of Oil Palm Research, Pedavegi, Smt. G.



Dr. N. K. Krishna Kumar, DDG (HS) inaugurating the programme at IIOPR, Pedavegi

Andal, Assistant Director of Horticulture, Office of Commissioner of Horticulture, Hyderabad, Mr. G. V. S.

Prasad, Progressive farmer, West Godavari and Mr. G. Shivakumar, Manager, Mondelez India Foods Pvt. Ltd., Andhra Pradesh offered felicitations.

In the inaugural address, Dr. N. K. Krishna Kumar stressed that research on cocoa production and

processing has to be strengthened further with emphasis on evolving organic farming technologies. He hoped that integrated pest and disease management and post-harvest processing of cocoa will be highly beneficial for the cocoa growers of Andhra Pradesh for enhancing productivity and income.

MY VILLAGE - MY PRIDE PROGRAMME

A Workshop on 'Mera Gaon Mera Gaurav' – 'My Village My Pride' was organized. The innovative initiative "Mera Gaon Mera Gaurav" by Ministry of Agriculture and Farmers' Welfare, Govt. of India has been planned to promote the direct interface of agricultural scientists with the farmers to hasten the lab to land process. The objective of this scheme is to provide farmers with required information, knowledge and advisories on regular basis by adopting villages. Dr. P. Chowdappa, Director, ICAR-CPCRI presided over the workshop. Dr. M. Govindan, Dean, College of Agriculture, Kerala Agricultural University, Padannakkad and Mr. P. Pradeep, Principal Agricultural Officer, Kasaragod participated in the workshop and offered felicitations. Discussion on selection of villages, interface with



Dr. P. Chowdappa Director inaugurating the workshop

stakeholders, baseline survey, linkage with other agencies, demonstration of technologies etc. was held in the workshop. Scientists from CPCRI participated in the workshop.

Farmers' Meet and Field Demonstration

A Farmers' Meet (Kisan Gosti) and Field Demonstration was conducted as part of 'Mera Gaon Mera Gaurav' – 'My Village My Pride' initiative of ICAR – Central Plantation Crops Research Institute. The programme was conducted at Kolikunnu village in Madikkai grama panchayat in Kasaragod district on 28-09-2015. The topic of the Farmers' Meet was 'Technologies for Soil Health Management for Sustainable Agricultural development'. Dr. P. Chowdappa, Director, ICAR-CPCRI inaugurated the Farmers' meet and field demonstration. Field demonstration was conducted on methods of collecting soil samples. CPCRI would be distributing soil health cards to selected farmers in the panchayat as part of the national initiative. Dr. C. Thamban, Dr. A.C. Mathew and Smt. Surekha, scientists from CPCRI, Kasaragod handled different sessions in the farmers' meet. The programme was organised in collaboration with Madikkai Coconut Farmers Federation.

Mera gaon mera gaurav was also initiated at the Regional Station Kayamkulam.



Dr. P. Chowdappa, Director inaugurating the demonstration in farmers' garden



Kisan Gosti under Mera Gaon Mera Gaurav initiative at Kolikunnu, Madikkai



List of Grama panchayats identified for Mera Gaon Mera Gaurav

Team No.	Name of the Scientists	Name of selected villages
ICAR-CPCRI, Kasaragod		
I	Dr. Rajkumar, Dr. D. Jaganathan , Mr. Krishna Prakash and Mr. M. Arivalagan	Kuntikana, Bela, Kilingar, Neerchal, Kunjar
II	Dr. Niral V., Dr. Shameena Beegum, P. P., Dr. V.H. Pratibha and Dr. C. Thamban	Periya, Ayampara, Pukkalam Kudanam, Udayapuram
III	Dr. Murali Gopal, Dr. Chandran K.P., Dr. Devakumar K. and Dr. Prathibha P.S.	Kundamkuzhy, Kundoochi, Chembakad, Perya
IV	Dr. Anitha Karun, Mr. S. Jayasekar, Dr. Sujithra M., Dr. Subramanian	Kulathur, Kuttikol, Kalakkara, Kattamkavala
V	Dr. Ravi Bhat, Dr. B. A. Jerard, Dr. Selvamani V. and Dr. Neema M.	Karicherry, Panayal, Koottakani, Veltholi
VI	Dr. Vinayaka Hegde, Dr. Muralidharan K., Dr. Samsudeen, Dr. Mukesh Kumar	Ujjeerkara, Kallankayi, Balloor, Kambur, Kottakunnu
VI	Dr. K.B. Hebbar, Smt. G. Panjavarman, Dr. Rajesh M.K., Dr. Alka Gupta and Dr. Neenu S.	Berike, Meenja, Thalakala, Chigurupade, Thalakala
VIII	Dr. A.C. Mathew, Dr. Aparna Veluru, Smt. Surekha, Ms. Sumitha S, Dr. Manikantan M.R.	Kanjirapoyil, Erikulam, Kolikunna, Kakkattu, Keekamkode, Malapachery
ICAR – CPCRI, RS, Kayamkulam		
I	Dr. S. Kalavathi, Dr. Regi J. Thomas, Dr. Merin Babu	Cherthala South , Arthunkal, Cherthala North , Thiruvizha
II	Dr. Chandrika Mohan, Dr. Abdul Haris, Dr. V.K. Chaturvedi, Dr. K. Nihad and Dr. Jeena Mathew	Kopparethu, Koipallykaraima, Menampally, Velanchira, Erezha South and Nadakkavu
III	Dr. P. Anithakumari, Dr. A. Joseph Rajkumar, Dr. Shareefa, Dr. Indhuja and Dr.V. Krishnakumar	Ilippakkulam, Kattachira, Kattanam, Pallickal, Bharanikkavu and Vettikkode
ICAR- CPCRI, RS, Vittal		
I	Dr. K S Ananda, Dr. S. Sujatha, Shri Bhavishya and Dr. M. Senthil Amudhan	Ilanthila, Mundaje, Koyyur and Badage-Karandoor,
II	Dr. S. Elain Apshara, Ms. Chaitra	Manchi and Goltamajalu
III	Dr. C. T. Jose, Dr. N. R. Nagaraja, Dr. Karthika Umapathy and Ms. Keerthana K. S.	Savanoor, Nellyady, Kuppepadavu and Balpa
ICAR- CPCRI, RC, Kahikuchi		
I	Dr. A. K. Gogoi, Dr. Alpana Das, Dr. L.S Singh and Mr. Anok Uchoi	Agsia, Kallapara, Nahira, Anderijuli and Bongora
ICAR – CPCRI, RC, Mohitnagar		
I	Dr. Arun Kumar Sit and Shri Sandip Shil	South Matiali and South Berubari
ICAR – CPCRI, RC, Kidu		
I	Shri Khadke Ganesh Navanath	Bilinele

HUMAN RESOURCES DEVELOPMENT

Training within India

Name & designation	Title of training	Place and date
Dr. K. Nihad, Scientist (Horticulture) Dr. Jeena Mathew, Scientist (Soil Science)	Analysis of Experimental Data	NAARM, Hyderabad August 17-22, 2015
Dr. M. Sujithra, Scientist	Operation of chemical ecology tools like GC, EAG, Head space volatile collection, wind tunnel olfactometer techniques	IICT, Hyderabad 06-07-2015 to 01-07-2015

Awards

McKee International Award

Water Environment Federation, Chicago has recognised the research findings of Dr. Manoj P. Samuel, ICAR-NAARM, carried out at the Technology Section of CPCRI on the contribution in developing

environmentally compatible filtration mechanisms for rainwater harvesting systems for the 2015 recipient of the "WEF McKee Groundwater Protection, Restoration, or sustainable use International Award".

ICAR Award for AICRP on Palms

Chowdhury Devi Lal outstanding AICRP Award for 2014 was conferred to the All India Coordinated Research Project on Palms (ICAR-CPCRI, Kasaragod, Kerala) for its contribution in developing many location-specific technologies in crop improvement, production and plant health management of mandate crops viz., Coconut, Oil palm and Palmyrah. The award was received by Dr. H.P. Maheswarappa, Project Coordinator (Palms) on 25th July, 2015 during the 87th ICAR Foundation and ICAR award ceremony held at Patna (Bihar), which was inaugurated by Hon'ble Prime Minister Shri Narendra Modi. The award was given by Hon'ble Minister of



Dr. Sanjeev Kumar Balyan, Hon'ble Minister of State for Agriculture handing over the award to Dr. H.P. Maheswarappa, Project Coordinator (Palms)

State for Agriculture Dr. Sanjeev Kumar Balyan and Shri Mohan Bhai Kundariya. AICRP Centre, Ambajipeta (Dr. YSRHU, AP) has been adjudged as the best centre.

Ph. D.

Shri Avrajyoti Ghosh, Senior Technical Officer was awarded Ph.D. in Agricultural Extension on 15-09-2015 for his thesis on "Studies on Small Tea Growers in North Bengal - Prospects and Perspectives" under the

guidance of Dr. Pravat Kumar Pal, Associate Professor (Agril. Extension), Uttar Banga Krishi Viswavidyalaya, Poondibari, Coochbehar.

PUBLICATIONS

Research articles

- Ajar Nath Yadav, Priyanka Verma, Murugan Kumar, Kamal K. Pal, Rinku Dey, Alka Gupta, Jasdeep Chatrath Padaria, Govind T. Gujar, Sudheer Kumar, Archana Suman, Radha Prasanna and Anil K. Saxena. 2015. Diversity and phylogenetic profiling of niche-specific *Bacilli* from extreme environments of India. *Annals of Microbiology* **65** : 611-629 (DOI 10.1007/s13213-014-0897-9, Springer).
- Bharath, B. G., Ananda, K. S., Rijith, J., Nagaraja, N. R., Chandran, K. P. Anitha Karun and Rajesh M. K. 2015. Studies on genetic relationships and diversity in arecanut (*Areca catechu* L.) germplasm utilizing RAPD markers. *J. Plantation Crops*. **43**(2): 117-125.
- Chand, R. Chattarpal, Vineeta Singh, Manoj Kumar, Singh, V.K. and Chowdappa, P. 2015. Draft genome sequence of *Cercospora canescens*: a leaf spot pathogen. *Curr. Sci.* **109**: 2103-2110.



- Chowdappa, P., Chethana, C.S. and Pavani, K.V. 2015. *Colletotrichum siamense* and *C. Truncatum* are responsible for severe outbreak of anthracnose on onion in South West India. *J. Plant Pathol.* **97**: 77-86.
- Jaganathan, D., Thamban, C., Jose, C.T., Jayasekhar, S., Chandran, K.P. and Muralidharan, K. 2015. Analysis of organic farming practices in cocoa in India. *J. Plantation Crops* **43**(2): 131 -138.
- Manoj P. Samuel and Abraham C. Mathew. 2015. Techno-Economic evaluation of a Multi-Media Vertical Flow Filter for Roof water Harvesting. *Intl. J. Curr. Res. in Biosci. and Plant Biol.* **2**:(7) 10-19.
- Rajeshkumar, P. P., George V. Thomas, Alka Gupta and Murali Gopal. 2015. Diversity, richness and degree of colonization of arbuscularmycorrhizal fungi in coconut cultivated along with intercrops in high productive zone of Kerala, India. *Symbiosis* **65** (3) : 125-141 (DOI 10.1007/s13199-015-0326-2, Springer).
- Rajkumar, Rangeshwaran, R., Sivakumar, G. and Nagesh, M. (2013). Screening and *In vitro* evaluation of native *Pseudomonas* spp., against nematode pathogens and soil borne fungal pathogens. *J. Biological Control*: **27**(4): 305-3011.
- Thomas, R. J., Rajesh, M. K., Jacob, P. M., Jose, M. and Nair, R. V. 2015. Studies on genetic uniformity studies of Chowghat Green Dwarf and Malayan Green Dwarf varieties of coconut using molecular and morphometric methods. *J. Plantation Crops* **43** (2): 89-96.
- Vedasree, S., Sateesh, M.K., Chowdappa, P. and Nirmal Kumar, B.J. 2015. Species – specific PCR based assay for identification and detection of *Phomopsis azadirachtae* causing die-back in *Azadirachta indica*. *J. Phytopathol.* **163**: 818-828.
- Paper presented in seminar/workshop/training**
- Josephrajikumar, A and Chandrika Mohan 2015. Chemo-ecological approaches in the management of red palm weevil infesting coconut. *Round Table Discussion on Semiochemicals*, NBAIR, Bengaluru, August 6th, 2015.
- Josephrajikumar, A and Chandrika Mohan 2015. Use of Spectrophotometry in Entomological Research, *National Seminar on Spectroscopic Techniques- Present Scenario*, T.K. Madhava Memorial College, Nangiarkulangara, Alappuzha district, September 17, 2015.
- Rajkumar, Maheshwarappa, H. P. and Santosh 2015. Incidence of root-knot nematode on noni, *Morinda citrifolia* L. in coastal sandy soils of Kasaragod. National Symposium on Nematode Management - A Challenge to Indian Agriculture in the Changing Climate at Yashwantrao Chavan Academy of Development Administration (YASHADA), Pune, Maharashtra, 8-10 January, 2015. p70-71.
- Chowdappa, P., Hegde, V. and Muralikrishna, H. 2015. Abstracts - 3rd International Symposium on Phytophthora: Taxonomy, Genomics, Pathogenicity, Resistance and Disease Management, ICAR-IIHR, Bengaluru, 9-12, September, 2015 p. 75.
- Chaithra, M. Prathibha, V.H., Apshara, E.S. and Vinayaka Hegde. Bio-efficacy of endophytic *Trichoderma* species against *Phytophthora palmivora* the causal agent of black pod disease of cocoa. p. 48.
- Chowdappa, P. *Phytophthora* diseases of vegetable crops. p. 65.
- Chowdappa, P. Severe outbreaks of foliar blights and fruit rots on vegetable crops in India caused by invasive and emerging *Phytophthora* populations. p. 12.
- Madhura, S., Chowdappa, P. and Pavani, K.V. Genetic structure, aggressiveness and fungicidal sensitivity of *Phytophthora* associated with foliar blights of hot pepper. p. 20.
- Mohan Kumar, S.P. and Chowdappa, P. Development of bio-control formulations for management of late blight of tomato. p. 46.
- Nirmal B., Kumar, J. and Chowdappa, P. Population structure of *Phytophthora infestans* infecting potato and tomato in India. p. 20.
- Prathibha, V.H., Vinayaka Hegde, Sharadraj, K.M., Nidhina, K., Nagaraja, N.R. and Chaithra, M. Identification of sources of resistance against *Phytophthora* in arecanut. p. 40.
- Sharadraj K.M., Nidhina K., Gangaraj K.P., Smita Nair, Prathibha V.H. and Vinayaka Hegde. A species - specific PCR for detection of *Phytophthora meadii*, the causal agent of fruit rot of arecanut. p. 24.
- Sridhar, V., Vinesh, L.S. Mohan Kumar, S. P., Chowdappa, P. and Saxena, A. K. Global potential distribution of *Phytophthora infestans* under current and climate change situations. p. 34.
- Vinayaka Hegde and Chowdappa, P. *Phytophthora* diseases of palms. p. 66.

Popular articles

- Bijila, P.V., Muralidharan, P. and Rajeev, M.S. 2015. Bird's eye chilli: For health and profit. *Karshakan*. **23** (9): 57 – 59
- Chowdappa, P. 2015. Management of *Phytophthora* blight in chillies. *Spice India*, 28: 8-9 (In Kannada).
- Chowdappa, P., Krishnakumar, V. and Jayasekhar, S. 2015. Coconut research and development in Kerala: Achievements and aspirations. In: Souvenir – Prof. M.S. Swaminathan Felicitation Programme 2015. AAICARP, Thiruvananthapuram, pp 109-118.
- Chowdappa, P., Krishnakumar, V. and Jayasekhar, S. 2015. Sectoral strategies, issues and coping up strategies of coconut arecanut and cocoa in India. In: *Agricultural Year Book* 2015. pp. 104-111.
- Chowdappa, P. 2015. Mitigating devastating diseases in vegetables. *Indian Hort.* **60**: 17-23.

- Chowdappa, P. and Vinayaka Hegde 2015. Scientific management of *Phytophthora* diseases in plantation crops. *Indian Hort.* **60**: 28-33.
- Chowdappa, P. and Janakiram, T. 2015. Diversity of *Phytophthora* causing disease in horticultural crops. *Indian Hort.* **60**: 51-53.
- Chowdappa, P. and Krishna Kumar, N.K. 2015. *Phytophthora* diseases in horticultural crops. *Indian Hort.* **60**: 1-5.
- Leena, S. and Rajkumar 2015. Veru theenikkethire mithra nima virakal (Entomopathogenic nematodes against root grub of arecanut), *Karshakashree*, September, 2015.
- Maheswarappa, H. P. 2015. Successive farmers of oil palm production. *Negilamidita*, **1** (6): 6. (In Kannada).
- Maheswarappa, H.P. and Geetha Kumari, A. 2015. Tendernut production, importance and success story of a progressive farmer. *Bharatiya Thengu Patrike*, **26**(3):42-46. (In Kannada).
- Maheswarappa, H.P., Subramanian, P. and Geetha Kumari, A. 2015. Coconut based cropping systems. *Negilamidita*, **1** (9): 12-13. (In Kannada).
- Maheswarappa, H.P., Niral, V., Sumitha, S. and Geetha Kumari, A. 2015. Coconut Varieties. *Negilamidita*, **1** (9): 10-11. (In Kannada).
- Nagaraja, N. R., Jaganathan, D., Ananda, K. S. and George V. Thomas. 2015. Research-Farmer-Extension Interface in Arecanut for bridging the knowledge gap - A Success Story. *Indian J. Arecanut, Spices and Medicinal Plants*. **17**(2): 27-32.
- Nair, R. V., Shareefa, M., Ranjith, P. B. and Thomas, R. J. 2015. Tapping economic potential of *Raphia*. *Indian Horticulture* **60** (3) : 17-18.
- Sahoo, S.C., Mohapatra, K.B. and Maheswarappa, H.P. 2015. Mushroom, a best companion crop for coconut. *Indian Coconut J.*, **8** (3): 30-32.
- Thomas, R. J., Josephraj Kumar, A., Shareefa, M. and Babu, M. 2015. Domestic quarantine umbrella to prevent spread of root (wilt) disease to be strengthened. *Indian Coconut Journal LVIII* (4): 32-35.

Books

- AICRP on Palms, 2015. Annual Report for 2014-15. All India Coordinated Research Project on Palms. (Eds. Maheswarappa, H. P., Krishna Kumar, V. and S. Sumitha). AICRP on Palms, ICAR-CPCRI, Kasaragod. 122p.
- CPCRI 2015. Annual Report, ICAR-CPCRI 2014-15. Chandran, K.P., Krishnakumar, V., Vinayaka Hegde, Augustine Jerard, B., Jayasekhar, S., John George and Muralikrishna, H. (Eds.). ICAR-CPCRI, Kasaragod. 122p.
- Chowdappa, P. 2015. *Phytophthora: An Indian Perspective*. Today & Tomorrows Publications, New Delhi, p. 281.
- Ristaino, J. B., Cooke, D. and Chowdappa, P. 2015. *Rapid Diagnostic Tools for Phytophthora on Horticultural Crops*, ICAR-CPCRI, Kasaragod, India. p. 52.

Library Additions: Priced books: 2, gratis books: 9, reprints: 5, other publications: 50.

TRANSFER OF TECHNOLOGY

Training

Value addition in coconut with special reference to neera

A training on Value addition in coconut with special reference to neera was organized during 28-09-2015 to 01-10-2015 at ICAR- CPCRI, Kasaragod, in which twenty four trainees from East Godavari

district of Andhra Pradesh were imparted the know-how. Exposure visits to ICAR- CPCRI, RS, Vittal and CAMPCO chocolate factory were also arranged for the trainees.

Community based bio - resource management under coconut based farming systems

Training programmes on soil test based nutrient application was conducted, in which 64 farmers participated. The results of soil and plant analysis provided to individual farmers as health card was discussed in detail and required quantity of zinc sulphate and copper sulphate along with neem cake @ 3 kg/palm was distributed to the farmers for application. Application of N, P and K as per requirement was completed along with incorporation of green manure

crop, cow pea. Household level demonstrations on microbial enrichment and plant protection were undertaken in 18 holdings and one FFS on IPM of rhinoceros beetle and red palm weevil was conducted at Thanneermukkam with 19 beneficiaries. Nine farmers mass multiplied and applied 1.1 metric tons of *Trichoderma*-enriched bio-suppressive compost to coconut/intercrops. Established one community based bio-primed coconut nursery with 200 CGD/COD nuts.



Off-campus trainings

Integrated coconut field clinics (ICFC)

ICFC is being conducted in Bharanikkavu grama panchayath with an objective of reaching out to farmers groups/ communities, improving

knowledge, skills and utilization of plant protection technologies of coconut with farmers' participation.

Technology evaluation trial

Dr. Arun Kumar Sit conducted two off farm training programme on "Scientific arecanut cultivation" for 63 numbers of arecanut growers

on 01.08.15 at Panighata, Darjeeling and for 40 farmers at Gorubathan, Darjeeling district, on 21.08.15.

Frontline demonstration of integrated root (wilt) disease management

The Front Line Demonstration (FLD) on root (wilt) diseasemanagement started in seven districts of Kerala during the period. Stakeholders meetings, interactive sessions, and training programmes were organized in Kizhuvillampanchayath (Thiruvananthapuram district) on 07-07-2015, Kulasekharapuram (Kollam district) on 10-07-2015, Vellangallurpanchayth

(Thrissur district) on 22.07.2015, Parakkadavu (Ernakulam District) on 24-06-2015, Nedumpurampanchayath (Pathanamthitta) on 25-07-2015, Cherthala South (Alappuzha District) on 29-07-2015 and Kooroppada (Kottayam district) on 06-08-2015.

Scientist - Farmer Interface Programme

Radio/TV programme

Dr. P. Anithkumari, Principal Scientist participated in the live phone-in programme at All India Radio, Trivandrum on 'community management of red palm weevil of coconut – experiences of Bharanikkavu programme' on 31-07-2015

TV programme

A Children's interactive cum educational programme about World Coconut Day, 2015 was recorded at CPCRI, Regional Station, Kayamkulam by Kochu TV (Surya TV), covering various aspects of coconut cultivation and product diversification. The programme was telecasted on 19-09-2015.

Dr. Arun Kumar Sit attended one Phone in Programme on "Cultivation aspects of Plantation Crops in Kharif Season" on 26-08-2015 in North Bengal region on Uttarbanga Channel at Siliguri.

Exhibitions

An exhibition was arranged at University campus, Tumkur University, Tumkur on 02-09-2015 in connection with World coconut day celebrations. Another exhibition was arranged at ICAR - Indian Institute of Horticultural

Research, Bengaluru during 08-09-2015 to 10-09-2015 in connection with 3rd International symposium on *Phytophthora*: Taxonomy, Genomics, Pathogenecity, Resistance and Disease management.

Women cell activities

Seminar on 'Food security and sustainable food production – role of women' in the annual day of Edava women groups meet on 12-08-2015. More than 200 women farmers attended.

KVK, Kasaragod

Training programmes

KVK has conducted about 20 training programmes during this period including apiculture, IPM in paddy, organic cultivation, soil and water conservation, mini set techniques in tuber crops and value addition in which 867 persons got benefitted.

On farm trials

KVK is conducting six on farm trials to assess the local specificity and suitability of various crops and technologies in Kasaragod district. It include the assessment of the performance of dwarf varieties of coconut in three farmers' fields at West Eleri Panchayat

where in COD, Kalpasree, Kalparaksha, Kalpa Jyothi, Kalpa Soorya and Kalpa Haritha were introduced. Management of rhinoceros beetle in coconut was initiated in four plots in Mangalpady and Mogral Puthur panchayats and Micronutrient management in pepper using the IISR micronutrient mixture was initiated in five farmers plots in Karadka panchayat. Performance of fodder grass varieties and cassava varieties under coconut was initiated in 5 plots in Kinanoor Karindalam and Mangalpady panchayats. A trial on value addition was also initiated to diversify the uses of coconut sugar by incorporating in nutrimix powder.

Frontline demonstrations

KVK Kasaragod had undertaken the demonstration of 11 FLD programmes in farmers fields at Mangalpady and Kinanoor Karindalam panchayats and 6 programmes are being initiated for the second season from October 2015.

Front line demonstrations are being carried out on Organic cultivation of paddy in 10 farmers fields in Mangalpady panchayat, management of bud rot disease using *Trichoderma* cake in 6 plots in Kunchethur and West Eleri panchayats, management of *Phytophthora* foot rot disease in black pepper in seven plots at Karadka panchayat and demonstration of the mini set techniques in ginger, turmeric and elephant foot yam in 15 farmers fields at Kinanoor- Karindalam. The other demonstrations being continued are integrating bee colonies in coconut gardens, management of pseudostem weevil in banana, EDP programme in value addition, canopy management in cocoa, coastal sandy soil management in coconut gardens, bio enrichment of areca leaf sheath as fodder supplement and organic cultivation in coconut gardens.

Farmers' Meet (Pre Rabi Kissan Sammelan) and Exhibition on Agricultural Technologies and Products

Krishi Vigyan Kendra, ICAR-CPCRI, Kasaragod organised Farmers' Meet and Agricultural technology exhibition in collaboration with Kinanur Karindalam panchayath from 28-29 September, 2015. The function was inaugurated on 28th September by Shri P. Karunakaran, Hon. M.P., Kasaragod. In his inaugural address he stressed the importance of organic cultivation in Kasaragod and lauded the efforts taken by CPCRI and KVK in promoting the same. In his presidential address, Shri Lakshmanan K., President, Kinanur Karindalam panchayath thanked the Hon. M P for selecting Kinanur Karindalam panchayat under the

Sansad Adarsh Gram Yojana for implementing various developmental activities. He also urged the farmers and self help groups to implement the various technologies showcased during the seminar and exhibition.

Dr. P. Chowdappa, Director, CPCRI delivered the key note address and deliberated the extensive farmer friendly programmes taken up by CPCRI scientists in villages adopted under 'Mera Gaon, Mera Gaurav' programme, promotion of soil health management through soil health card and also stressed the importance of value addition for increasing profitability of farming.

An exhibition on Agricultural technologies was inaugurated by Shri P. Karunakaran, Hon'ble M. P. of Kasaragod and was attended by over 1000 farmers. It depicted the various organic technologies and products developed by CPCRI and KAU.

KVK, Alappuzha

Launching of activities

Launching of the KVK activities for 2015-16 in Aryad Grama Panchayath was done by Shri K.C. Venugopal, Hon'ble MP on 03-07-2015. The village has been proposed under the Prime Minister's Sansad Adarsh Gram Yojana by the M.P. About 200 persons including Grama Panchayath Members, Officers of the line departments, members of the NABARD farmer club, coconut producer's society, Kudumbasree, and farmers attended the programme.

Scientific Advisory Committee meeting

The fourteenth scientific advisory committee meeting was conducted on 30-07-2015. The meeting was chaired by Dr. P. Chowdappa, Director, ICAR-CPCRI, Kasaragod. Dr. P. V. Balachandran, Director of Extension, Kerala Agricultural University, Dr. C. V. Sairam, Principal Scientist, Zonal Project Directorate, Bangalore, officials from line departments attended the meeting.

Extension activities

Agricultural technology Meet on 17th & 18th, September, 2015 at Rice Research Station Campus, Moncompu to scale up the successful climate resilient technologies demonstrated in Muttarpanchayath under the NICRA project for the past 4 years to different parts of Kuttanad region.

A poultry vaccination campaign at Muttar Panchayath was conducted on 21-07-2015.

COMMERCIALIZATION OF TECHNOLOGY

During the period 2015, four technologies were commercialised by the Institute to entrepreneurs through MoA as per the details given below, by which

an amount of rupees 1.20 lakhs were collected as technology transfer fees.

No.	Technology	Date	Rs.	Licensee
1	Know-How on Cryopreservation of Coconut Pollen	01-07-2015	50000	Raam Mohan N.U. , Palladam (TK), Tirupur, Tamil Nadu
2	Coconut Leaf Vermicomposting	02-07-2015	5000	Raam Mohan N.U. , Palladam (TK), Tirupur, Tamil Nadu
3	<i>Metarhizium anisopliae</i> culture	02-07-2015	5000	Raam Mohan N.U. , Palladam (TK), Tirupur, Tamil Nadu
4	Production of virgin coconut oil (VCO) by hot process	23-07-2015	25000	Raju.K, Karunagappally P.O, Kollam, Kerala
5	Coconut chips	23-07-2015	10000	Raju.K, Karunagappally P.O, Kollam, Kerala
6	Production of virgin coconut oil (VCO) by hot process	13-08-2015	25000	Swaroop VR, Vadakara, Kozhikode, Kerala

NEW PROJECTS

A project on 'Demonstration of EPN in Arecanut for the management of Root grub' sanctioned from Directorate of Arecanut and Spices Development (DASD), Calicut, Kerala to Dr. Rajkumar, as the Principal Investigator with an outlay of 22 lakhs for three years.

Multi-institutional farmer participatory research project on soil health

A collaborative project "Enhancing Economic Viability of Coconut Based Land Use System for land use planning in Kerala" comprising multi institutions such as ICAR-NBSSLUP, ICAR-CPCRI, ICAR-CTCRI, ICAR-IISR, KVKs at Alleppey, Pathanamthitta, Ernakulum, and Calicut was



Shri T.V. Rajesh M.L.A addressing the gathering at Cherutazham



Dr. P. Chowdappa, Director, ICAR-CPCRI inaugurating demonstration plot in farmers' garden at Cherutazham



Shri T.V. Rajesh M.L.A formally inaugurating the project at Cherutazham

initiated in six different agro ecological units (AEU-1, 3, 9, 10, 11 and 23). For scientific documentation of soil related constraints in each of the selected AEU's,

developing soil test-based and site specific nutrient management practices (through field experiments) and validation of the practices thus developed in farmers' coconut gardens as demonstration plots. The project has a total financial outlay of Rs. 2.33 crores with

ICAR-CPCRI's share being Rs. 92.21 lakhs.

Mr. T.V.Rajesh, Hon'ble M.L.A., Kalliasseri inaugurated the programme. Dr. P. Chowdappa, Director, ICAR-CPCRI delivered the key note address.

SEMINAR/ SYMPOSIA/ CONFERENCES/ WORKSHOPS ATTENDED

Name and designation	Title	Place and date
Dr. P. Chowdappa, Director	World Coconut Day Celebrations	Tumkur University, Tumkur 02-09-2015
	Workshop on Rapid diagnosis of <i>Phytophthora</i>	IIHR, Bengaluru 07-08-2015
Dr. P. Chowdappa, Director, Dr. Vinayakahegde, Dr. V.H. Pratibha, Kum. Chaitra M., Kum. Keerthana U.	International Symposium on <i>Phytophthora</i> :	IIHR, Bengaluru 09-08-2015 to 12-08-2015
Dr. P. Chowdappa, Director	Coconut farmers and entrepreneurs meet	Fisheries College, Mangalore 11-07-2015
Dr. P. Chowdappa Dr. K. B. Hebbar Dr. D. Jaganathan	Conference on Sweet Neera policy in Karnataka	University Campus, Tumkur University, Tumkur 02.09.15
Dr. S. Leena	National Workshop on "Vrikshayurveda in Plant Health Management"	Thiruvananthapuram 18.09.2015
Dr. P. Muralidharan, Senior Scientist and Head	National Conference on KVKs	Patna from 25 th to 26 th July, 2015

CELEBRATIONS

Hindi Celebrations

Hindi Week was celebrated at ICAR-CPCRI, Regional Station, Kayamkulam from 14-09-2015 to 19-09-2015 during which nine Hindi competitions were held in which a total of 38 staff members participated. At the Hindi Week Closing function on 19-09-2015 Mr. M. Samraj, Hindi Officer, Southern Railway, Thiruvananthapuram was the Chief Guest who handed over prizes to the winners of various competitions.

Hindi Fortnight was celebrated at CPCRI, RS, Vittal from 14-09-2015 to 28-09-2015 in association with TOLIC, Puttur. On 28-09-2015 concluding ceremony was held in which Smt. Sandhyalakshmi, Lecturer, Jr. College Vittal was the chief guest.

World Coconut Day

Quiz completion for farmers, essay writing competition for school children and competition for best coconut farmer were organized as part of World Coconut Day



Dr. P. Chowdappa, Director, CPCRI offering Kalparasa to Shri T.B. Jayachandra, Hon'ble Min. Law, Justice and Animal Husbandry, Karnataka



celebration in collaboration with Cheruthazham Krishi Bhavan. Mr. T.V. Rajesh M.L.A distributed prizes to the winners of various competitions.

World Coconut Day was jointly organized by CPCRI-Kasaragod, Tumkur University and Bhoomi Susthira Abhivrudhi Samsthe, Hassan on September 2, 2015 at University Campus, Tumkur. While inaugurating the programme, Shri T.B. Jayachandra, Hon'ble Minister for Law, Justice and Animal Husbandry, Government of Karnataka complimented the efforts of CPCRI to popularize the neera technology and its value added products for empowering coconut producers and wellness of consumers. Shri Krishna, former speaker, Karnataka Legislative Assembly, Government of Karnataka released a technical bulletin on Kalparasa and stressed the need for evolving neera policy in Karnataka for the benefit of producers and consumers. Dr. P. Chowdappa, Director, ICAR-CPCRI explained that CPCRI Kalaparasa technology could improve the economy of small and marginal farmers and could create green colour jobs in rural areas and can empower rural youth and women. In his presidential address, Prof. A.H. Rajasab, Vice Chancellor, Tumkur

University emphasised development of neera policy in Karnataka and urged the scientists to develop a technology to avoid fermentation so as to store neera at room temperature. Dr. K. B. Hebbar, Head, PB&PHT, CPCRI, Kasaragod presented a detailed account of Kalparasa collection method, its handling, transportation, quality standards and processing into value added products like sugar, jaggery, honey and other confectionary products. As part of the programme, an interface session on 'Present status of formation of companies and federations and the way forward for Kalparasa collection and its marketing in Karnataka' was organised. About 350 coconut growers from Karnataka participated in the programme

World coconut day was celebrated at RS, Kayamkulam on 3rd September, 2015. The programme was inaugurated by Dr. Varghese George, Chairman, Plantation Corporation of Kerala.

ICAR-Foundation day

ICAR Foundation Day was celebrated at ICAR-CPCRI Regional Station, Kayamkulam on 16-07-2015 with variety programmes.

OTHER INFORMATION

KVK Sales Outlet

The Krishi Vigyan Kendra, Kasaragod and CPCRI opened a sales counter at CPCRI on ICAR foundation day to make available to farmers organic inputs, seeds, planting materials, value added products and agricultural publications at a single point. The outlet was declared open by Dr. P. Chowdappa, Director

Swachh Bharat activities

Swachh Bharat campaign was organized every month

at the Station with cleaning of laboratories, farm office and KVK premises as well as removal of weeds in village road along Block IV & V during July, August and September, respectively. The tractor inaccessible spots of the farm were cleaned with perfectness removing wastes and disposing in relevant areas. Cleaning of weeds along the village road side has taken the message of clean India even to the hamlets nearby as well as the travelers. Swachh Bharat has taken greater strides not only among the CPCRI inmates but also to local people in the region.

DISTINGUISHED VISITORS

Hon'ble Chief Minister of Kerala, Sri Oommen Chandy visited CPCRI, RS, Kayamkulam on 27-09-2015 and interacted with the Head of the Station.

Shri. K.C.Venugopal, M.P., Alappuzha visited KVK on 09-09-2015 during the training programme on 'Jackfruit processing and value addition'



PERSONALIA

PROMOTION

Name of the staff	From (Designation)	To (Designation)	w.e.f.
Shri V. Balakrishna	Senior Tech. Asst. (Field/ Farm), CPCRI, Kasaragod	Technical Officer (Field/ Farm), CPCRI, Kasaragod	05-08-2014
Shri K.P. Udayabhanu	Senior Tech. Asst. (Field/ Farm), CPCRI, RS, Kayamkulam	Technical Officer (Field/ Farm), CPCRI, RS, Kayamkulam	24-08-2014
Shri V.K. Gopalakrishnan	Senior Tech. Asst. (Civil Engg.), CPCRI, Kasaragod	Technical Officer (Civil Engg.), CPCRI, Kasaragod	13-09-2014
Shri P.K. Surendran	Assistant, CPCRI, Kasaragod	AAO, CPCRI, RS, Vittal	08-07-2015
Smt. K. Prabhavathi	Assistant, CPCRI, Kasaragod	AAO, CPCRI, Kasaragod	27-08-2015
Shri V. Suresh Kumar	Tech. Asst. (Field/ Farm), CPCRI, Kasaragod	Senior Tech. Asst. (Field/ Farm), CPCRI, Kasaragod	21-10-2013
Shri K. Krishnan Nair	Tech. Asst. (Field/ Farm), CPCRI, Kasaragod	Senior Tech. Asst. (Field/ Farm), CPCRI, Kasaragod	05-08-2014
Shri Sunny Thomas	Tech. Asst. (Field/ Farm), CPCRI, RS, Kayamkulam	Senior Tech. Asst. (Field/ Farm), CPCRI, RS, Kayamkulam	28-09-2014
Shri C. Purandhara	Senior Tech. Asst. (Field/ Farm), CPCRI, RS, Vittal	Technical Officer (Field/ Farm), CPCRI, RS, Vittal	01-01-2014
Shri M. Narayana Naik	Tech. Asst. (Field/ Farm), CPCRI, RC, Kidu	Senior Tech. Asst. (Field/ Farm), CPCRI, RC, Kidu	08-08-2014
Shri B. Koragu Naik	Senior Tech. Asst. (Field/ Farm), CPCRI, Kasaragod	Technical Officer (Field/ Farm), CPCRI, Kasaragod	01-01-2015
Shri K. Raghavan	Senior Technician (Field/ Farm), CPCRI, Kasaragod	Tech. Asst. (Field/ Farm), CPCRI, Kasaragod	27-12-2014
Shri A. Sanjeeva	Senior Technician (Field/ Farm), CPCRI, Kasaragod	Tech. Asst. (Field/ Farm), CPCRI, Kasaragod	27-12-2014
Shri K.J. Sebastian	Technician (Field/ Farm), CPCRI, Kasaragod	Senior Technician (Field/ Farm), CPCRI, Kasaragod	07-12-2014
Shri N. Dinesh Kumar	Technician (Field/ Farm), CPCRI, Kasaragod	Senior Technician (Field/ Farm), CPCRI, Kasaragod	14-12-2014
Shri V.P. Joy	Senior Technician (Field/ Farm), CPCRI, RS, Kayamkulam	Tech. Asst. (Field/ Farm), CPCRI, RS, Kayamkulam	31-12-2014
Shri Y. Sreenivasa Bhat	Tech. Asst. (Field/ Farm), CPCRI, RS, Vittal	Senior Tech. Asst. (Field/ Farm), CPCRI, RS, Vittal	27-10-2013
Shri Prakash Burman	Technician (Field/ Farm), CPCRI, RC, Kahikuchi	Senior Technician (Field/ Farm), CPCRI, RC, Kahikuchi	16-12-2014
Shri M.V. Sreedharan	Tech. Asst. (Field/ Farm), CPCRI, Kasaragod	Senior Tech. Asst. (Field/ Farm), CPCRI, Kasaragod	27-12-2014

TRANSFER

Name of the staff	From (Place)	To (Place)	w.e.f.
Shri Sandeep Shil	Scientist, CPCRI, RC, Kahikuchi	Scientist, CPCRI, RC, Mohitnagar	07-08-2015
Dr. D. Jaganathan	Scientist, CPCRI, RS, Vittal	Scientist, CPCRI, Kasaragod	01-07-2015
Shri M.P. Ramesh Kumar	CTO (Lib.), CPCRI, Kasaragod	CTO (Lib.), IISR, Kozhikode	08-07-2015

Dr. H. Moosa	Asst. Chief Technical Officer, CPCRI, Rs, Vittal	Asst. Chief Technical Officer, CPCRI, Kasaragod	09-07-2015
Shri P. Ravindran	Asst. Chief Technical Officer, CPCRI, Kasaragod	Asst. Chief Technical Officer, CPCRI, RC, Minicoy	04-08-2015
Shri M. Krishnan	Technical Officer, CPCRI, RC, Minicoy	Technical Officer, CPCRI, Kasaragod	11-08-2015
Shri B. Sathish	Administrative Officer, CPCRI, Kasaragod	Senior Administrative Officer, NRC Banana, Trichy	26-08-2015
Smt. Sumithra Nambiar	Asst. Administrative Officer, CPCRI, RS, Kayamkulam	Asst. Administrative Officer, CPCRI, Kasaragod	27-07-2015
Shri Pradeep Kumar Vasu	Asst. Administrative Officer, CPCRI, Kasaragod	Asst. Administrative Officer, CPCRI, RS, Kayamkulam	06-07-2015
Shri K.G. Bhageerath	Assistant, CPCRI, RS, Kayamkulam	Assistant, CPCRI, Kasaragod	10-08-2015
Shri A. Neil Vincer	PA, CPCRI, Kasaragod	PA, NIANP, Bengaluru	04-07-2015
Shri A.O. Varghese	Senior Technician, CPCRI, Kasaragod	Senior Technician, CPCRI, RS, Kayamkulam	30-06-2015
Shri N. Ramakrishnan	Senior Technical Officer, CPCRI, Kasaragod	Senior Technical Officer, CPCRI, RS, Vittal	30-06-2015
Shri S. Rajesh	SSS, CPCRI, Kasaragod	SSS, CPCRI, RS, Kayamkulam	10-07-2015
Shri Saran Kumar Rizal	Chief Technical Officer (Field/Farm), CPCRI, RC, Mohitnagar	Chief Technical Officer (Field/Farm), CPCRI, Kasaragod	30-09-2015

RETIREMENT

Name	Designation	Place	Date
Smt. C.H. Usharani	Asst. Administrative Officer	CPCRI, Kasaragod	31-07-2015



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