KALPA

CPCRI Newsletter

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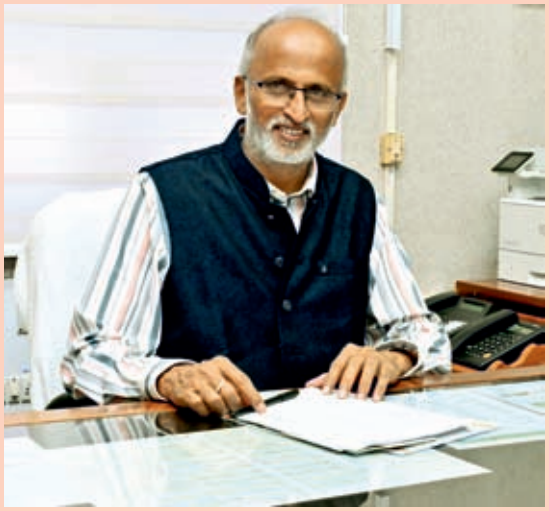
ICAR-CENTRAL PLANTATION CROPS RESEARCH INSTITUTE
Kasaragod, Kerala - 671 124
An ISO 9001:2015 Certified Institute



DIRECTOR'S DESK

During October-December 2025, ICAR-CPCRI and its regional stations worked within a strong national policy environment. These were shaped by the PM Kisan, the soil health card and the launch of the Pradhan Mantri Dhan Dhaanya Krishi Yojana, major initiatives to transform agricultural sector. Within this framework, the institute intensified its focus on plantation crops through training on coconut hybridization, promotion of natural/organic farming, and capacity-building programmes aligned with national priorities on sustainable, climate-resilient agriculture.

The quarter also emphasized institutional integrity and partnerships through the observance of Vigilance Awareness Week and an international exchange visit by a Sri Lankan delegation from the Coconut Research Institute, which strengthened collaboration on germplasm management, production technologies, and value chains. Against the backdrop of climate change impacts on crop productivity and pest-disease dynamics, ICAR-CPCRI reinforced its research on resilient varieties, eco-friendly crop management, and value addition to safeguard farmer livelihoods and support a robust, climate-smart plantation crop sector.

Viksit Bharath G RAM G scheme - A rural employment generation programme, a facelift to the MGNREGA, aiming for prosperous rural India by guaranteeing 125 days of unskilled wage work per household, linked to rural infrastructure (water, infrastructure, livelihoods), introducing tech (GPS, AI), and incorporating a 60-day 'agricultural pause' during peak seasons to ensure farm labour availability.

The agricultural pause ensures labour for farmers during critical times of planting and reaping harvests, while guaranteed wages provide year-round income for rural families. Though perennial crops like plantation crops ensure labour requirement during October - February is the period when there is labour crunch felt by the farmers. In essence, the G RAM G scheme modernizes rural employment, making the farm workers and farm managers more responsive, to achieve the Viksit Bharat vision by 2047. It acknowledges the link of rural employment and agricultural growth.

With those dynamic happenings in the backdrop, the Institute is gearing up to continue its farm services, for its 111-year's action plan to develop more farming solutions.

K. Balachandra Hebbar
Director

CONTENTS

INSIDE...

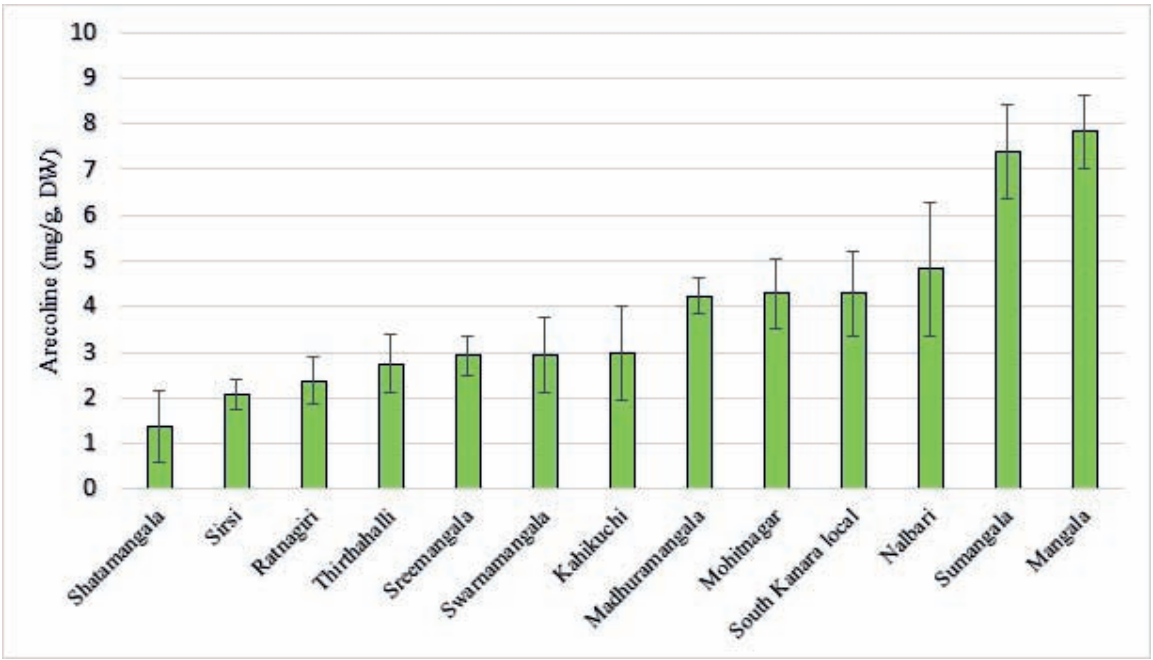
TECHNOLOGY HIGHLIGHTS

Characterization of alkaloids from different varieties of arecanut

High-performance liquid chromatography (HPLC) was used to quantify four major pyridine alkaloids—guvacine, arecoline, guvacoline, and arecaidine. Chromatographic separation was carried out on a Zorbax SCX cation-exchange column. Among the extraction systems evaluated, defatted arecanut extracted with methanol: water (80:20, pH 3) yielded the highest alkaloid recovery and was therefore adopted for alkaloid quantification in mature nuts. Temporal changes in alkaloid accumulation were examined in 13 arecanut genotypes from 6 to 12 months post-anthesis. Arecoline content generally declined with advancing maturity; however, Mangala, Sumangala, and Madhuramangala consistently retained higher concentrations, indicating superior biosynthetic potential. Guvacoline levels increased progressively during development, peaking at 9–10 months, with Mangala exhibiting the maximum concentration. Arecaidine showed a biphasic accumulation pattern, with the highest levels observed in Mohitnagar and Mangala. In contrast, Shatamangala and Sirsi maintained low levels of most alkaloids throughout development. Overall, marked genotypic variation and distinct developmental trends were observed, identifying Mangala as the most alkaloid-rich genotype. Based on arecoline content, genotypes could be clearly classified, with Shatamangala showing the lowest levels and Mangala the highest.

a) *b)*

Fruits of arecanut varieties (a) Shatamangala and (b) Mangala at 12 months post anthesis



Arecoline content in the mature fruits of arecanut varieties

Flavoured *Kalparasa*

The effect of incorporation of natural flavours on minimizing the caramelized flavour in the Kalparasa® or neera was studied. After the preliminary evaluation with different combinations of natural extracts and essences, the five best treatments (1% of ginger, 1% and 0.5% of ginger and lime, 2% of fresh mint leaves, and two brands of mint essence (at 0.02%) and 0.03%) were evaluated for shelf stability under refrigerated conditions. In addition, the amount of water to be added to the *Kalparasa* was standardized as 9:1. The processing protocol consisted of dilution of *Kalparasa*, addition of flavours, bottling, sterilization at 121°C for 10 min and storage under refrigerated condition (4°C). The treated *Kalparasa* was evaluated for physicochemical parameters and sensory acceptability. Ginger-flavoured *neera* maintained a stable TSS, had moderate acidity changes, and was highly accepted by consumers due to its taste and mild fermentation impact. Mint essence flavoured *neera* exhibited low degradation of reducing sugars, had acceptable vitamin C retention, and was well-received in sensory evaluation, making it a promising choice for storage stability and consumer preference. Thus, ginger and mint essence flavoured *Kalparasa*® / *neera* was found to be the best among all the treatments.

Rotary dryer cum flavour coating machine for coconut chips

The rotary drum with a flavour-coating function is an advanced machine developed for simultaneous dehydration and flavour application in coconut chips. With a handling capacity of 5–7 kg of coconut slices, it is particularly suited for producing salted and spicy coconut chips. Experimental trials showed that dehydrating 0.5 kg of coconut slices required approximately 25–30 minutes. The system comprises a stainless steel rotary drum (capacity: 7 kg) driven by a 0.5 hp motor operating at 30 rpm, and a 1 kW heating coil that supplies hot air at a velocity of 0.1 m/s. Using this setup, the production of 5 kg of coconut chips can be done in around 2 hours. In comparison, the conventional method requires a 4 kW heating coil running for nearly 6 hours to process 10 kg of chips. Thus, the rotary drum unit achieves about a 50% reduction in both drying time and energy consumption, while also enabling uniform flavour coating of the product. The technology is transferred to three entrepreneurs.

Innovation in motion: rotary dryer–cum–flavour coating for coconut chips

IMPORTANT EVENTS

Meeting of Central Expert Team on Coconut - Status of pest and diseases in Karnataka

Central Expert Team (CET) to assess the current status of major pests and diseases in coconut held an initial consultation meeting with Shri V. Somanna and Hon'ble Members of Parliament (MPs) of major coconut-growing districts of Karnataka, Dr C. N. Manjunath, MP, Bengaluru Rural and Shri Shreyas M. Patel, MP, Hassan, on 29 August 2025, at Kumara Krupa Old Building Guest House, Bengaluru. Following the preliminary consultations, the Department of Horticulture, Government of Karnataka, was given the task of conducting a field survey to assess the extent of pest and disease incidence in major coconut-growing districts of Tumakuru, Hassan, Chikkamagaluru, Bengaluru South, Mandya, Mysuru, and Chitradurga. Approximately 11.06% of coconut palms (53,629 ha) in these districts are severely impacted by the black-headed caterpillar, while 60.78% (294,585 ha) are affected by the rugose spiralling whitefly and other whitefly species. A meeting convened by ICAR–CPCRI, Kasaragod, Kerala on 11 November 2025 at the Mini Meeting Hall, Directorate of Horticulture, Government of Karnataka, Lalbagh, Bengaluru, reviewed the reported extent of coconut pest and disease damage across seven major districts,

devised feasible short-term and long-term management strategies, and estimated infrastructure, operational, and financial requirements to improve the overall health and productivity of coconut palms in the affected areas. A preliminary draft financial report outlining these requirements was prepared and submitted to ICAR for further approval.

Visit of the central expert team on coconut to review the status of pests and diseases in Karnataka

Visit of Sri Lankan Delegates

A delegation from the Coconut Research Institute (CRI), Sri Lanka, led by Dr. Nayanie Samantha Aratchige, Additional Director/Acting Director, visited this institute on 5 November 2025. The visit aimed to strengthen bilateral cooperation and facilitate exchange of expertise in coconut research and development.

An interactive meeting was held at CPCRI under the chairmanship of Dr. K. Balachandra Hebbar, Director, who received the visiting team and provided an overview of the institute's major achievements in coconut research.

During the interaction, delegates from both the institutes discussed key areas of mutual interests, focusing on technology adoption in coconut-based farming systems, nursery management, mechanization challenges, and value addition in coconut processing. The discussion reflected shared learning, with emphasis on strengthening collaborative research, technology transfer, and promoting farmer-oriented innovations.

The delegation later visited CPCRI's experimental farm and research facilities, and the respective heads briefed the team on ongoing research and technological advancements.

The Sri Lankan delegates also visited farmers' fields in Kasaragod district to understand the field-level activities.

Sri Lankan Delegates:

Dr. Nayanie Samantha Aratchige, Additional Director/Acting Director, Dr. Chaminda Shaman Herath, Head, Technology Transfer Division, Dr. Muhammed Khalid Fathima Nadheesha, Senior Research Officer, Dr. Atapattu Arachilage Anjana Jayasanka Atapattu, Senior Research Officer, Dr. Pasqual Handi Prasad Roshan De Silva, Research Officer.

CPCRI Scientists:

Dr. K. Ponnusamy, Dr. V. Niral, Dr. Vinayaka Hegde, Dr. P. Subramanian, Dr. Murali Gopal, Heads, Dr. M.R. Manikantan, Dr. S. Jayasekhar, Dr. K.P. Chandran, Principal Scientists, Dr. P.S. Prathibha, Dr. Surekha, Dr. V.H. Prathibha, Dr. Rajkumar, Dr. S.V. Ramesh, Senior Scientists, Dr. B. Mahendran, Dr. M. Ajith, Dr. Daliyamol Scientists, Mr H. Muralikrishna, Mr K. Shyama Prasad, CTOs, and other staff of CPCRI.

Delegates from both countries discussed key challenges and shared their experiences. The Sri Lankan team raised several queries, which were addressed by the CPCRI scientists.

Field and Laboratory Visits

The delegation toured the CPCRI experimental farm and lab facilities. The laboratory heads briefed the delegates on ongoing processes and innovations. At the end of the meeting, Dr. Nayanie Samantha Aratchige (CRI, Sri Lanka) expressed gratitude for making the entire visit so purposeful, acknowledging the warm hospitality and productive interactions.

The delegation also visited farmers' field of Mr Radhakirishnan, Pollakkada and Vittal Agro Industries, Thattummal, Kanhangad, Kasaragod district to observe field-level implementations and production of desiccated coconut powder. Team helped by Dr. K. Ponnusamy, Head, Social Science visited, is the Horticultural Research and Extension Station, Arsikere located in the Hassan district, Karnataka on 06 November 2025 wherein they observed various ongoing experimental trials in coconut based farming system.

Review meeting with scientists and staff at ICAR-CPCRI, Kasaragod

Hands-on demonstration of coconut processing technology at ICAR-CPCRI

World Soil Day-2025

Kasaragod

World Soil Day was observed at ICAR-CPCRI with great enthusiasm, focusing on this

year's theme, 'Healthy Soils for Healthy Cities.' The event highlighted the crucial role of soil health in ensuring sustainable urban development and agricultural productivity.

Dr. P. Subramanian, Head of the Division of Crop Production and Director In-charge, delivered a detailed talk on soil nutrition and health. He highlighted the direct connection between soil quality and the production of high-quality agricultural products, pointing out that healthy soil is the foundation for good crop yield with better nutritional value. Furthermore, he underscored the significance of soil conservation for both environmental and human welfare.

The chief guest for the occasion was Dr. Sindhu P.V., Associate Professor of Agronomy at the College of Agriculture, Padanakkad. She got engaged in the interactive session with scientists and farmers and delivered an insightful lecture on 'Sustainable soil management.' Her presentation emphasized practical approaches to maintaining and improving soil fertility while promoting environmentally friendly agricultural practices.

Following the presentations and interactions, participants joined a field visit to nearby experimental farms/ labs where sustainable soil management practices are being implemented.

An action plan of urban farming includes the development of green infrastructure and initiatives to promote sustainable soil management. Efforts to extend soil health practices to urban environments were strongly encouraged to support the creation of healthy cities.

Soil health cards were distributed to 35 participating farmers to help them monitor and manage soil fertility effectively in their fields. This initiative aims to empower farmers with scientific data for better crop management decisions.

The event also featured a prize distribution ceremony for students who participated in a drawing competition conducted around the theme 'Healthy soil for healthy cities', encouraging the younger generation to appreciate the significance of soil.

In total, 80 participants including scientists, farmers, students, and staff members were present for the event. The program was coordinated by Dr. V. Selvamani, Principal Scientist.

Dr. Ravi Bhat, Principal Scientist, addressing the gathering

Kayamkulam

Aligning with the global theme 'Healthy Soils for Healthy Cities', ICAR–CPCRI, Regional Station, Kayamkulam, in collaboration with ICAR–KVK, Alappuzha, jointly celebrated World Soil Day 2025 with a comprehensive set of academic, outreach, and field-oriented activities. The Chief Guest, Dr. Sam T. Kurumthottical, Retired Professor & Head, Department of Soil Science & Agricultural Chemistry, College of Agriculture, Vellayani delivered an insightful and inspiring talk. He elaborated on soil degradation issues in Kerala, challenges of urbanization and what is actually causing through the activities of urbanization, the results of land-use changes, and the need for continuous soil monitoring. He also narrated real-world examples of soil conservation successes and encouraged students to give more thrust on maintaining a healthy soil. Inter-college quiz, poster and collage competitions were conducted based on the current year theme. A total of 70 registered participants (65 students from four colleges and five interns/apprenticeship trainees) and staff members of Regional Station, Kayamkulam and ICAR-KVK, Alappuzha participated in the programme.

World Soil Day celebration in Kayamkulam

Kahikuchi

At Research Centre, Kahikuchi, Assam, about 50 participants from Maithabari, Uttar Kachi, Subankhata and Jamatapur from Baksa and Baliguri as well as adjoining areas from Baksa and Nalbari district took part in the programme. Dr. K. Ponnusamy, Principal Scientist, Head, Division of Social Science highlighted the importance of soil in agriculture, soil testing and the importance of macro and micronutrients in soil. Further, he stated that about 94 % of food comes from soil and proper soil fertility management can enhance the income of farmers to the tune of 20-30 %. Dr. Alpana Das, Principal Scientist and Scientist in-charge of the Centre mentioned the problems of soil in Assam and the need for reclaiming the soil with proper management strategies. Dr. L.S. Singh, Coordinator of the programme highlighted the theme of this year's World Soil Day Healthy soils for Healthy cities. During the question-answer session, participants enquired about nut fall, acidic soil management in Arecanut, site selection for growing coconut and Arecanut, spoilage of endosperm in coconut without any outside visible symptoms and other management practices. Later, Arecanut seedlings and literature related to Arecanut cultivation were distributed to all the participants.

Glimpses of world soil day in Kahikuchi

PM Dhan Dhaanya Krishi Yojana

PM launched PM Dhan Dhaanya Krishi Yojana & Pulse Mission from Pusa, New Delhi on 11 October 2025. Live webcast and farmers interaction were held at CPCRI, Kasaragod. Dr. K. Inbasekar IAS, District Collector was the Chief Guest, who inaugurated the programme at CPCRI, Kasaragod. Director presided over the function. He highlighted PMDDKY & Pulses mission, 1100 projects of 42000 crore worth as 6-years programme. To uplift agricultural sector in Kasaragod, it is one among the 100 districts. Objective is that Bharat should become self-sufficient in pulses. Scientific soil conservation is also another objective, Sri Raghavendra, PAO, Kasaragod highlighted the background, integration and plan of the PMDDKY programme. He indicated priority areas such as drip irrigation, credits from banks, MIDH, etc.

Sri K. Manikantan, enlighted the audience on the importance of pulses such as black gram, green gram, cowpea, red gram, horse gram, etc. Short duration pulse crops of 60 days yielding are good under Kasaragod condition. Sri Ananda, Project Director, ATMA, Kasaragod, was present, Natural farming community master trainers were distributed with certificates by the DC, Natural farming interaction with Dr. Surekha and Farmer Scientist interaction, followed by field visit were part of the programme, Dr. K. Ponnusamy, HoD, Social Science was the coordinator of the programme, around 250 stakeholders participated. The programme was telecast live from all the regional stations, research centres and KVKs under ICAR-CPCRI.

Experts address a large gathering at CPCRI during a national-level discussion on GST and the agriculture sector

Review Meeting of the Multi-Institutional Project 'Evidence-Based Research on Arecanut and Human Health'

A review meeting of the multi-institutional research project 'Evidence-based research on arecanut and human health' was held on 6 November 2025 at the National Institute of Mental Health and Neurosciences (NIMHANS), Bengaluru. The meeting was chaired by Dr. Prabhat Kumar, Horticulture Commissioner, Ministry of Agriculture and Farmers Welfare, New Delhi. Dr. K. B. Hebbar, Director, ICAR-CPCRI, formally addressed the gathering and emphasized the significance of the review meeting. It was suggested to expedite experimental work while adhering to global standards and ensuring reproducibility, rigor, and timely completion. The project is expected to generate high-quality, peer-reviewed publications. Additionally, the exploration of other potentially beneficial components of arecanut was encouraged.

Celebration of National Farmers Day

National Farmers Day was celebrated at the headquarters as well as Regional Stations and Centers on 23 December 2025. Dr. K. Balachandra Hebbar, Director, ICAR-CPCRI has inaugurated the event in Puthige Gram Panchayat (Smart Krishi Bhavan), Manjeswar block of Kasaragod district. Sri Ananda, Project Director, ATMA, Kasaragod, Smt. Ancy UA, ADA, Manjeswar, and Sri Dinesh, Agricultural officer, Puthige and Dr Benjamin Mathew, SMS (Horticulture), KVK, Kasaragod. Dr. K. Ponnusamy, Head Social Science explained the idea behind the launching of Viksit Bharat - G- RAM-G scheme and its mode of operation. Dr. Hebbar emphasized the importance of agricultural sustainability and climate resilience while spearheading the nation & progress towards Viksit Bharat 2047. He stated that soil and water are two critical ingredients of agriculture which need to be protected against the onslaught of natural calamities and ensuring food security. It is clarified that every adult in rural families will get a guarantee of 125 days of employment of unskilled work and unemployment allowance will be credited in bank account if the states fail to provide the employment within 15 days. As a part of this, a training programme was conducted on Natural farming.

In the same manner, the regional stations at Kayamkulam and Vittal as well as research centres at

Mohitnagar in West Bengal, Kidu in Karnataka and Kahikuchi in Assam organised the event with training, demonstration and visits to research farm facilities. Altogether, 580 participants took part in the programmes organized by CPCRI. Two KVKs at Kasaragod and Alappuzha districts organized vibrant activities at cluster of villages. A total of 580 participants took part in the events.

PUBLICATIONS

Research Articles

Ajith Ray, Chitranayak Sinha, Minz, P.S., Sheetal Berry, Dabas, J.K., & Hima John 2025. Kinetics study and characterization of the changes in physicochemical properties of curd during processing. *Journal of Food Measurement and Characterization*, 1-17. NAAS Rating: 8.90.

Lekhak, B., Dutta, M., Prashant, G. R., Goswami, S., Kumar, R.R., Bansal, N., Nagesh, C.R., Satish, M., Rudra, S.G., Mandal, S. and Ramesh, S.V., Vignesh Muthusamy, Shivani Nagar, Aruna Tyagi and Vinutha Thimmegowda 2025. Comparative evaluation of plant protein isolate blends and commercial isolates: structural, digestive, and functional insights. *ACS Food Science & Technology* 5(9): 3413−3429.

Pandiselvam, R., Mohan, S., Manikantan, M.R., Jacob, A., Ramesh, S.V., Shameena Beegum, P.P. and Sumitha, S. 2025. Development and characterization of Palmyra pulp-based edible leather: a sustainable approach with nutritional and antioxidant insights. *Journal of Food Measurement and Characterization,* 19(10), pp.7305-7313. NAAS Rating: 8.90.

Pandiselvam, R., Krishnan, R., Manikantan, M.R., Ramesh, S.V., Jacob, A. and Shameena Beegum P.P. 2025. Comparative study of coconut chips drying using a rotary dryer: influence of thickness on physicochemical properties. *Journal of Food Measurement and Characterization*, 19(10), pp.7297-7304. NAAS Rating: 8.90.

Pandiselvam, R., Mohan, S., Manikantan, M.R., Jacob, A., Ramesh, S.V., Shameena Beegum P.P. and Sumitha, S., 2025. Development and characterization of Palmyra pulp jelly: evaluating the impact of coconut sugar concentration on nutritional, antioxidant, and sensory properties. *Journal of Food Measurement and Characterization*, pp.1-10 https://link.springer.com/article/10.1007/s11694-025-03873-8. NAAS Rating: 8.90.

Ramesh, S.V., Neha K. Raphy, Sharanya Kodoth, Ashamol, P., Sudharshana Sathyanath, Pandiselvam, R., Sandip Shil, Shameena Beegum, P.P., Manikantan, M.R., Murali Gopal and Hebbar, K.B. 2025. Gum arabic edible coating and its impact on the phytophenolics of coconut (*Cocos nucifera* L.) haustorium during storage. *Nutrition & Food Science*, 55(5), pp.946-963. NAAS Rating: 7.00.

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Shameena Beegum, P.P., Ramesh, S.V., Gupta, A. et al. Temporal quality changes in freshly extracted coconut milk: physicochemical, sensory, and microbiological perspectives. *Journal of Food Measurement and Characterization* 19, 7628–7637 (2025). https://doi.org/10.1007/s11694-025-03445-w. NAAS Rating: 8.90.

Surya, K. T. and Ponnusamy, K. 2025. Purchase and consumption pattern of milk and dairy products in Salem district of Tamil Nadu. *Indian Journal of Dairy Science*. 78(5): 485-489. NAAS rating of 6.2.

Popular Articles

Abdul Haris, A., Nihad, K. and Neenu, S. 2025. Climate change and coconut productivity (in Malayalam) *Indian Naleekera Journal* 17(9):21-25.

Chaithra, M. and S. Elain Apshara. 2025. Innovations and advances in Diseases Management of Cocoa in Plantations and Nurseries. *The Cashew and Cocoa Journal* 13(3): 44-48.

Elain Apshara, S. 2025. Strengthening Cocoa nursery systems through good agricultural practices and biotechnological strategies for superior planting material production. *The Cashew and Cocoa Journal* 13(3): 21-29.

Elain Apshara, S. and Ravi Bhat. 2025. Sustainable soil and plant health strategies through integrated nutrient and water management for enhanced cocoa ecosystem, resilience and yield. *The*

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Jissy George 2025. Use of Retorting machine, *Karshakasree*, 31(10):66.

Lekha, G. 2025. Diseases of cool season vegetables. *Krishiankanam*, 8(5):23-26

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Ponnusamy, K. 2025. Sri Lankan Delegates from Coconut Research Institute visited ICAR-CPCRI, *Indian Coconut Journal*. LXVIII (5): 12.

Books

Hebbar, K.B., Krishnakumar, V. and Ramesh, S.V. 2025. Coconut palm sap- a natural beverage and source of value added products. Nova Science Publishers, New York, USA. ISBN: 979-8-89530-640-6. https://doi.org/10.52305/EJMS4171.

Book Chapters

Augustine Jerard, B., Sumitha, S., Ramesh, S. V., Krishnakumar, V. and Hebbar K. B. 2025. Palms and sap yielding palms - Their prevalence and utilization - global scenario. In Coconut palm sap- a natural beverage and source of value-added products. (pp. 1-40). Nova Science Publishers, New York, USA. ISBN: 979-8-89530-640-6. https://doi.org/10.52305/EJMS4171.

Murali Gopal, Ramesh, S. V., Krishnakumar, V., Sharanya, K., Asha, M., Manikantan, M. R. and Hebbar, K. B. 2025. Fermentation Chemistry, Preservation Methods, Storage and Shelf Life of Coconut Palm Sap pp 113 -15 Nova Science Publishers, New York, USA. ISBN: 979-8-89530-640-6. https://doi.org/10.52305/EJMS4171.

Manikantan, M. R., Krishnakumar, V., Ramesh, S. V., Anjitha, J., Sudharshana, S., Shameena Beegum, P. P., Ghosh, D. K. and Hebbar K. B. 2025. Coconut Palm Sap as a Beverage and Other Value-Added Products (pp 151-190). Nova Science Publishers, New York, USA. ISBN: 979-8-89530-640-6. https://doi.org/10.52305/EJMS4171.

Muralidharan, P., Rajeev, M.S., Reema, A., Sanjanath, K., Lekha, G., Sivakumar T. and Gnanamanickam, S. 2025. Field application of Pseudomonas fluorescence for rice disease management improves rice yields and leads to development of disease suppressive rice soils in southern India. In. (Ed) Gnanamanickam, S. and Hofte, M. Disease Suppressive Tropical Soils. Springer. pp 75-92.

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Ramesh, S. V., Krishnakumar, V., Anjitha, J., Sudharshana, S. and Hebbar, K. B. 2025. Coconut Inflorescence Sap: Biochemical Composition and Quality Attribute. (pp. 77-100). Nova Science Publishers, New York, USA. ISBN: 979-8-89530-640-6. https://doi.org/10.52305/EJMS4171.

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NEW PROJECT INITIATED

A project entitled 'Integrated farming for productivity improvement-laying out demonstration plots (LoDP) in the farmers-Tenkasi District' was sanctioned with a budget of Rs. 73.4 lakh for a duration of three year, funded by Corpus Fund. Dr. Josephrajkumar, Principle Scientist, Regional Station, Kayamkulam is the Principal Investigator of the project.

HUMAN RESOURCES DEVELOPMENT

Training attended

Name & designation	Programme Title	Place & date
Dr. Ajith M., Scientist	Prospects of Business Ventures in plantation crops	ICAR-CPCRI, Kasaragod 26 November 2025
Dr. Benjamin Mathew, SMS, KVK	Innovations in Digital Extension	ICAR-NAARM, Hyderabad 17-21 November 2025
Dr. Minnu Sasi, Scientist	FOCARS 115 training	ICAR-NAARM, Hyderabad 22 August- 25 November 2025

Awards and Recognition

Dr. V. Niral, Head Crop Improvement received certificate of appreciation awarded to ICAR-CPCRI for registration of varieties with PPV&FRA at National Agricultural Science Centre, (NASC) Complex, Pusa Campus, New Delhi on 12 November 2025. The programme was held as a part of the Foundation Day Celebration of PPVFRA, New Delhi.

Dr. M. R. Manikantan received ISAE fellow 2025 from Indian Society of Agricultural Engineers.

TRANSFER OF TECHNOLOGY

Training Programme on 'Hybridization Techniques and Quality Planting Material Production in Coconut'

A three-day training programme on 'Hybridization Techniques and Quality Planting Material Production in Coconut' was successfully conducted at ICAR-CPCRI, Kasaragod from 13-15 October 2025. The programme aimed to enhance the technical knowledge and practical skills of participants in advanced hybridization methods and scientific approaches for producing quality coconut seedlings. Dr. Anitha Karun, Former Director, ICAR-CPCRI, and Senior Consultant, Jain Irrigation Systems, inaugurated the training.

A total of 24 participants from various research and development organizations including the Department of Horticulture, Tamil Nadu, Department of Agriculture, Kerala, Jain Irrigation Systems, as well as coconut farmers and nursery entrepreneurs attended the programme and expressed their satisfaction. The valedictory session was presided over by Dr. Josekutty, Head, Department of *Botany*, Government College, Kasaragod. Certificates of participation were distributed to all trainees during the closing session.

Inauguration of the training programme on hybridization technique and quality plant production in coconut with the ceremonial lighting of the lamp

Group of participants, resource persons, and organizers of the training programme on 'Hybridization technique and quality plant production in coconut

Training programme on 'Plant health management in plantation crops'

A training programme on 'Plant health management in plantation crops' was conducted from 10 to 14 November 2025 at ICAR–CPCRI, Kasaragod. The programme was inaugurated by Dr. K.M. Sreekumar, Professor (Entomology) (Rtd.), The College of Agriculture, Padannakkad (KAU) who delivered the chief guest lecture, emphasizing the

need for continuous skill development in plant protection and scientific application of pesticides in plantation crops. Dr. K.B. Hebbar, Director, ICAR–CPCRI, presided over the function and highlighted the institute's commitment to capacity building and technology dissemination. A total of 12 participants, including farmers, researchers, agricultural officers and plantation entrepreneurs, took part in the programme. Interactive discussions, live demonstrations, and hands-on practice enhanced the learning experience, equipping participants with practical skills essential for sustainable crop health management. The programme also covered preparatory steps and safety aspects in biocontrol and plant protection operations.

Participants of the training programme along with resource persons at Kasaragod

Online training program in Integrated Pest Management in Coconut and Oil Palm

An online training program on Integrated Pest Management in Coconut and Oil Palm was conducted by National Institute of Plant Health Management (NIPHM) Hyderabad in collaboration with ICAR-CPCRI , Kasaragod from 15.12.2025 to 16.12.2025 (02 days). In this program, a total of 62 (57 Officers, 2 Progressive farmers, 1 EC member and 2 private members on payment basis) participants from different State departments of Agriculture, Horticulture, of Andhra Pradesh, Karnataka, Kerala and Tamil nadu, Coconut Development Board and Directorate of Oilseeds Development got benefitted. Among them 32 were male and 30 were female participants and 26 members belongs to OBC, 19 to General, 10 to SC and 6 to ST and 01 to minority group. Dr K.B Hebbar, Direcor ICA-CPCRI presented the overview of plantation crop production and plant protection requirements Dr. Vinayaka Hegde, Head, Crop Protection presented 'Plant health management in coconut strategies and challenges'.

A snip shot from the online training programme

NEH training programmes

Training programmes were coordinated and conducted under the North East training initiative. Two trainings were organized in Meghalaya State. The first training, along with a demonstration, was conducted at Nongmyndo village in Nongstoin, West Khasi Hills district, on 23 October 2025, with the participation of 100 farmers and officials. The programme was coordinated by Dr. Abdul Haris, A., Principal Scientist, RS, Kayamkulam.

The second training was organized at Amjalong village in West Jaintia Hills district on 24 October 2025, where 168 farmers and officials participated. This training was coordinated by Dr. Madhu T.N., Scientist, from the Vittal station.

A training on 'Cocoa to chocoalte - Good horticultural practices for cocoa' for Arunachal Pradesh farm women at KVK, Momong, Namsai on 27 October 2025 and at KVK, Lower Dibang Valley, Balek on 27 October 2025. Dr. S. Elain Apshara, Principal Scientist (Hort.), Dr. Hima John (Scientist, Agricultural Structures & Processing), and Dr. Chaithra, M. (Scientist, Plant Pathology) coordinated both the training programmes.

Training at KVK, Namsai, Arunachal Pradesh

Training at KVK, lower dibang valley, Arunachal Pradesh

PM-Kisan Webcasting and Natural Farming Training

ICAR-CPCRI, Kasaragod

conducted a training on 'Natural Farming' on 19 November 2025, joining hands with the South India Natural Farming Summit – 2025 inaugurated by the Hon'ble PM at Coimbatore. Around 557 farmers comprising 340 male and 210 female and 7 other stakeholders attended the inaugural session presided over by Dr. B. Augustine Jerard, Director-In-Charge and Project Coordinator (Plantation Crops).

Following the inauguration and subsequent training classes by the natural farming experts, the live webcasting of the release of the 21st instalment of the Prime Minister's Kisan Samman Nidhi (PM-KISAN), at regional stations and centers was held. A hands-on training on natural farming was conducted by ICAR-KVK, Kasaragod

Inaugural session of the PM kisan samman nidhi programme

Practical demonstration on compost preparation.

SCSP-TSP

Capacity building programme of tribal farmers under TSP at ICAR-CPCRI, Research Centre, Mohitnagar

A capacity building programme on 'Scientific arecanut cultivation' cum field demonstration cum input distribution was organized on 8 December 2025 at ICAR-CPCRI, Research Centre, Mohitnagar under Tribal Sub Plan. A total of 59 scheduled tribe farm family participated in this programme. Dr. K. Ponnusamy, The Head, Division of Social Science, ICAR-CPCRI, Kasaragod addressed the gathering and elaborated the concept and purpose of the scheme. Dr. Arun Kumar Sit, Scientist in Charge of the Centre discussed on cultivation aspects of arecanut. After the training programme, a field demonstration on arecanut based cropping system was also conducted among the community. A total of 1180 numbers of arecanut seedlings cv Mohitnagar @20 Nos. to each was distributed to the farmers.

Other Trainings

Six different training programmes are being offered for imparting systematic knowledge and skill to the interested and aspiring individuals in science-based plantation crops.

1. Training on prospects of business ventures in plantation crops was organized on 26 November 2025 with 25 participants.
2. A team of four officers from Andaman and Nicobar Administration, Directorate of Agriculture, HADDO, Sri Vijaya Puram participated for 5 days hands on training from 15-19 December 2025 at HQ, ICAR-CPCRI, Kasaragod.
3. Seven delegates from Odisha had facilitated to learn value addition in coconut from 08-11 December 2025 at HQ, ICAR-CPCRI, Kasaragod.
4. Three EDP training were organized for students of College of Agricultural Engineering, KAU, Tavanur, Malappuram district of Kerala 24 November 2025 to 02 December 2025, 04-12 December 2025 and 15 December 2025 to 23 December 2025. Total 50 students underwent the training on Value added products preparation in coconut.

RAWE students training

Seventeen B.Sc. (Hons.) students of College of Agriculture, KAU, Padannakkad, Kerala underwent 5 days RAWE research station training from 8-13 December 2025 at CPCRI, Kasaragod.

Off-campus trainings

Dr. K. Ponnusamy, Dr. Arun Kumar Sit and Dr. M Rajkumar organized training on good Horticulture practices in arecanut cultivation in Dasda block on 2 December 2025 with 100 participants and in Damcherra block on 3 December 2025 with 106 participants in North Tripura districts

UPCOMING EVENTS

Placrosym XXVI 'Future proofing plantation sector for wellbeing and welfare', Venue: ICAR-CPCRI, Kasaragod, 05-07 January 2026.

ICAR-KRISHI VIGYAN KENDRAS

ICAR-Krishi Vigyan Kendra, Kasaragod

Technology transfer on bottling of coconut water and entrepreneurship development

KVK, Kasaragod conducted training and demonstration programmes on bottling and value addition of coconut water to promote entrepreneurship. The programme benefited seven entrepreneurs from Kerala—one each from Kasaragod, Kozhikode, Malappuram, and Ernakulam districts, and two from Kannur district. In addition, the technology was shared with one entrepreneur group from Nellore district of Andhra Pradesh.Participants were also trained in the preparation of carbonated and non-carbonated coconut water beverages, with guidance on basic quality control, shelf-life enhancement, packaging, and small-scale commercial production.

Empowering entrepreneurship through coconut water bottling technology

RAWE programme

RAWE programmme was conducted for undergraduate agriculture students a 42-day program for 18 students of Guru Kashi University, Bathinda.

Hands-on training and technology transfer for modern agricultural entrepreneurship

Natural farming training under NMNF for more than 400 farmers

A series of one-day training programmes were conducted on 'Natural farming under the National Mission on Natural Farming (NMNF). The programmes aimed to promote sustainable, chemical-free farming practices among selected farmers from Kanhangad, Karadka, Manjeshwar, Kasaragod and Parappa blocks of Kasaragod district. A total of 435 farmers from 15 panchayats participated

Kisan diwas celebrations at SMART krishi bhavan, Puthige, Kasaragod

ICAR-Krishi Vigyan Kendra, Alappuzha

Training on 'Scientific banana cultivation'

As part of the KVK–NABARD project on 'Promotion of Value Chain in Banana', a training programme on 'Scientific Cultivation of Banana' was conducted at Chunakkara Panchayath on 15 October 2025, with emphasis on the integrated management of pests and diseases. Twenty partner farmers from the cluster attended the programme.

The project is being implemented in six panchayaths of Bharanikkavu Block, with planting carried out in a phased manner to ensure year-round availability of produce. In the first phase, 3,000 Njalipoovan banana tissue culture (TC) plantlets were planted by 75 farmers during June 2025. In the second phase, 3,000 Njalipoovan and 500 Poovan banana TC plantlets were planted in September 2025.

Training on 'Value added products from Jackfruit and Banana'

Training was conducted on 21 and 22 October 2025, attended by 13 participants from Thiruvananthapuram, Kollam, Pathanamthitta, Kottayam, Ernakulam, and Alappuzha districts. In addition to product preparation, the participants were oriented on various machineries, statutory registrations required for establishing a processing unit, and financial support available from different agencies.

An on-campus training programme on value-added products of jackfruit was conducted on 15 and 16 October 2025, followed by a one-day training on value-added products of mushroom on 17 October 2025 for 25 entrepreneurs from seven panchayaths of Oachira Block, under the ATMA inter-district visit and training programme. More than 25 value-added products of jackfruit and 10 products of mushroom were demonstrated to the participants at the Agro-Processing Training cum Incubation Centre (APTIC) of the KVK.

Hands-on training on banana cultivation and value addition at KVK

Training on 'skill upgradation on harvesting and plant protection in coconut'

A training on 'Skill upgradation on harvesting and plant protection in coconut' were planned for two batches of ten SC participants each during the year, utilizing the fund under SCSP. Training of the first batch commenced on 23 October 2025 and concluded on 12 November 2025, scheduling the sessions on five different days based on the convenience of the participants, as they were daily wage workers. Apart from the regular sessions on practicing coconut climbing using the machine, they were oriented on identifying different symptoms of pest and disease attacks on coconut, plant protection measures, harvesting techniques, and nutrient management. All the trainees were facilitated to join the Kera Suraksha Insurance Scheme of the Coconut Development Board. Coconut climbing machines and plant protection equipment were distributed to all trainees on successfully completing the programme.

Hands-on training on coconut harvesting and plant protection under the SCSP programme

Interactive session on OSFPC director board member and farmer shareholders

Interaction with the Director board members and shareholders of the Onattukara Spices Farmer Producer Company (OSFPC) promoted by this KVK was organized for augmenting the business activities. About 30 active shareholders participated in the discussions.

Training programme on agricultural technologies conducted at KVK

TECHNOLOGY COMMERCIALIZATION

During the period from October- December 2025, 19 technologies were commercialized and an amount of Rs. 8.44 lakhs- was collected as technology transfer fees.

NATIONAL / INTERNATIONAL LEVEL SEMINARS/ SYMPOSIA ATTENDED

Name and Designation	Title	Place and Date
Dr. V. Niral, Dr. Vinayaka Hegde, Dr. P. Subramanian, Dr. Murali Gopal, Dr. K. Ponnusamy, and Dr. M. K. Rajesh, Heads, Dr. Augustine Jerad B. (PC Palms), Dr. Ravi Bhat, Dr. Elain Apshara S., Principal Scientists, Dr. Nihad, K., Senior Scientist, Dr. Chaithra M, Scientist.	11th Indian Horticulture Congress and International Meet	University of Agricultural Sciences, GVKV Campus, Bengaluru 06-09 November 2025
Dr. K. Ponnusamy, Head, Social Sciences	7th National Conference of SVAHE (Society for Veterinary & Animal Husbandry Extension) on Integrating Extension Strategies to Boost Livestock and Farm Productivity	College of Veterinary Science and Animal Husbandry Mhow (NDVSU), Madhya Pradesh 13-15 October 2025
Dr. M.R. Manikantan, Pr. Scientist, and Dr. Hima John, Scientist	59th ISAE Annual Convention and International Symposium	ICAR-CIAE, Bhopal 10-12 November 2025
Dr. Anithakumari, P., Principal Scientist	2nd International Extension Education Congress 2025	Bhubaneswar, Odisha 24-26 November, 2025
Dr. K. Ponnusamy, Head Social Science	Kisan Sarathi 2.0	GKVK, Bangalore 6-7 November 2025
Dr. B. Augustine Jerard, Project Coordinator (Palms)	Centenary Day Celebration of CCRI and Conference on Coffee	CCRI, Balehonnur 20 December 2025

OTHER INFORMATION

Vigilance Awareness Week –Integrity Pledge

The ICAR–CPCRI, Kasaragod, has observed Vigilance Awareness Week from 27 October 2025 to 2 November 2025. To launch the programme, an Integrity Pledge was administered to the personnel on 27 October 2025 under the chairmanship of Dr. P. Subramanian, Director (I/c), ICAR–CPCRI.

Vande Mataram Programme

The Vande Mataram programme was organized on November 8, 2025, at ICAR-CPCRI as part of the nationwide '150 Years of Vande Mataram' commemoration, involving mass singing and awareness campaigns at headquarters and its regional centers.

Swachhta Rally

The swachhta rally was organized on 29 December 2025 with the participation of 50 farmers from Karnataka and entire institute scientists and staff.

Swachhta rally to promote cleanliness and community awareness at Kasaragod

PERSONALIA

APPOINTMENT

Name	Designation	Place	Date
Dr. M. Ajith	Scientist	CPCRI, Kasaragod	27.10.2025
Dr. Minnu Sasi	Scientist	CPCRI, Kasaragod	07.07.2025

PROMOTIONS

Name	From Designation	To Designation	Date
Shri V.K. Gopalakrishnan	Technical Officer(CE)	Senior Technical Officer (CE)	13.09.2024
Shri N. Dinesh Kumar	Senior Technician	Technical Assistant	14.12.2024

TRANSFER

Name of the staff	From (Place)	To (Place)	w.e.f.
Shri Ajith Kumar R., Senior Technician	ICAR- CPCRI, Kasaragod	ICAR- CTCRI, Thiruvanthapuram	15.10.2025
Dr. Suchithra M., Scientist	ICAR- CPCRI, Kasaragod	ICAR- IIOPR, Pedavegi	17.10.2025

RETIREMENT

Name	Designation	Place	Date
Shri V.K. Gopalakrishnan	Senior Technical Officer (CE)	CPCRI, Kasaragod	31.10.2025
Shri K. Somappa	Skilled Support Staff	ICAR- CPCRI, Regional Station, Vittal	31.10.2025
Shri M. Narayana Naik	Technical Officer	ICAR- CPCRI, Regional Station, Vittal	31.10.2025
Shri K. Venugopal	Assistant	ICAR- CPCRI, Regional Station, Kayamkulam	31.12.2025
Shri Krishna Kumar Mandal	Skilled Support Staff	ICAR- CPCRI, Research Centre, Mohitnagar	31.12.2025

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