



भारत  
अनुप  
ICAR

# ICAR-IIHR

## Newsletter

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### Director's Desk

The progressive journey of ICAR-IIHR continues with notable achievements in research, extension and postgraduate education. The first half of 2025 has been particularly eventful, with the Institute making significant strides in varietal development, technology dissemination, germplasm collection, and outreach programmes. During this period, one new variety of rose viz., 'Arka Veeraraghavan' - a vigorous red climber rose ideal for diverse landscapes, and an advanced breeding line (IIHR-PB-IPS-4) of pole bean were developed. Additionally, a new technology, the *Arka Soursop* RTS beverage, was recommended by the Institute Technology Management Committee (ITMC) for commercialisation.



On the research front, two interspecific hybrid progenies of guava were identified with combined resistance to wilt (*Fusarium* spp.) and nematodes. In pummelo, a promising progeny with reduced bitterness and a hybrid of seedless pummelo were also identified. Additionally, carbon sequestration in high-density guava plantations was studied using a power model.

The National Horticulture Fair (NHF-2025) was organised on a grand scale and proved to be a resounding success, attracting about 52,000 visitors, including farmers from across the country and other horticulture stakeholders. The event was inaugurated on 27 February 2025 by Sushri Shobha Karandlaje, Hon'ble Minister of State for Labour & Employment and for Micro, Small & Medium Enterprises. The Valedictory function, held on 1 March 2025, was graced by Shri H. D. Kumaraswamy, Hon'ble Minister for Heavy Industries & Steel, Government of India.

Another major milestone was the Institute's active role in the Viksit Krishi Sankalp Abhiyan (VKSA-2025), held from 29 May to 12 June 2025. This prestigious Government of India campaign aimed to enhance farmers' preparedness for the *kharif* season and create awareness about the latest technologies in agriculture, horticulture, and livestock. Ninety scientists from the Institute participated, covering 30 districts of Karnataka. As part

of VKSA-2025, ICAR-IIHR had the privilege of hosting the Hon'ble Union Minister of Agriculture & Farmers' Welfare, Shri Shivraj Singh Chouhan Ji, on two occasions — first at CHES, Bhubaneswar, on 29 May, and later at ICAR-IIHR, Hesaraghatta on 8<sup>th</sup> June 2025. The Hon'ble Minister expressed appreciation for the Institute's progress, especially the scale and quality of planting material being produced and also in promoting high-value fruit crops such as avocado and dragon fruit, and offered valuable guidance for future initiatives to meet farmers' needs.

I am also glad that 14 students of IIHR-IARI hub were awarded Ph. D degree by the IARI, New Delhi. The Institute has excelled in sports too and was crowned the 'Overall Champion' of ICAR Zonal sports meet for the third consecutive year. I wish more laurels and feathers in the colourful cap of ICAR-IIHR in days to come.

(Dr. T. K. Behera)  
Director

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## 1. Research Highlights

### Fruit Crops

#### Crop Improvement

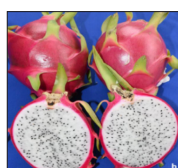
In pummelo, a promising progeny with less bitterness (HS 46/10) and a seedless pummelo hybrid (H 22/17) were identified. In dragon fruit, a promising seedless hybrid (a cross between 12-1 × 19-1) with pink pulp and reduced rind thickness (0.5 to 0.7 cm) with TSS of 9.8°B and 2.21% acidity was identified. The ascorbic acid content was 42.50 mg/100 ml juice and total flavonoid content of 3.81 mg catechin equivalent/100 g.



**Pummelo  
(H22/17)**



**A. Red  
CHESH-D1**



**B. White  
CHESH-W1**

In guava, two interspecific hybrid progenies were found to have combined resistance to wilt (*Fusarium* spp.) and nematodes (*Meloidogyne enterolobii* and *Meloidogyne incognita*). In custard apple, a Self fruitful progeny (31/11) similar to Arka Sahan was identified.



#### Carbon sequestration in high density guava orchards

In a high density guava orchard under different plant density and nutrient management, the C sequestration was estimated using allometric equation. The study showed that both plant population and nutrient management significantly affected the C sequestration by guava plants. Carbon sequestration increased with increase in plant population. Soil C is the largest pool of C followed by above ground biomass (AGB), below ground biomass (BGB), and litter  $\geq$  weed. The biomass alone (tree+weed+litter) in guava orchard sequestered 24.32 t C/ha accounting for 29.22% of the total C sequestered under 3 x 2.5 m spacing accommodating 1333 plants/ha and 52.37 t C/ha accounting for 45.67% of total C sequestration under 2 x 1.5 m spacing orchards accommodating 3333 plants/ha. Averaged across the different nutrient management strategies, the highest potential for C storage was observed to be 114.67 t/ha for guava orchard at 2 x 1.5 m spacing, 1.38-fold higher than in guava orchard at 3 x 2.5 m spacing.

#### Fruit bagging to manage fruit fly and fruit borer in mango

Effect of fruit bagging on infestation of fruit fly, *Bactrocera dorsalis* (Hendel) and fruit borer, *Citripestis eutraptera*

(Meyrick) was studied in three mango varieties viz., Alphonso, Banganapalli and Totapuri. Bagging with double layered paper bags provided 100% protection from fruit borer and 98-100% protection from fruit fly in different varieties. Bagging did not significantly affect quality parameters.



### Vegetable Crops

#### Soilless cultivation of sweet potato

Technology for soilless cultivation of sweet potato was standardized using Arka Fermented Cocopeat (AFC) as the substrate and Arka Sasya Poshak Ras as the nutrient solution. Each grow bag having six vine cuttings had given an average yield of 3.25 kg per bag, corresponding to a per-plant yield of around 550 g. These results clearly validate the efficiency of Arka Fermented Cocopeat (AFC) and Arka Sasya Poshak Ras in promoting vigorous root growth and tuber development under limited-space conditions, making it a promising solution for urban and peri-urban soilless farming systems.



#### Biostimulant effect of sea weed extract on French bean under salinity stress

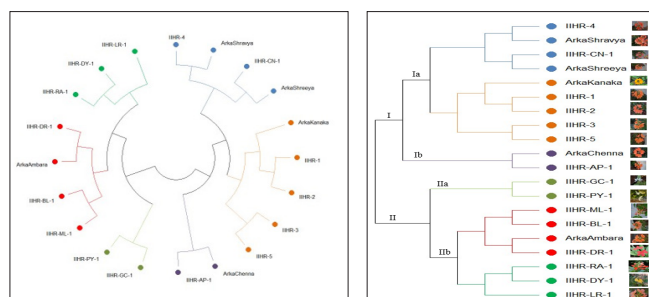
Pre-soaking French bean var. Arka Savidha seeds in 0.8% seaweed extracts + with cell culture of *Streptomyces roseofulvus* significantly enhanced pod weight (28.2 g/plant), number of pods (4.75/ plant) and growth parameter even at higher salinity level of 10.5 dS/m compared to control (water soaking). Higher enzyme activities of Super Oxide Dismutase (463.57 units/g FW) and Peroxidase (0.835 units/g

FW) were also recorded in the same pre-soaking treatment at 10.5 dS/m when compared to control (SOD 135.78 units/g FW and POD 0.278 units/g FW) indicating lower stress with biostimulant pre-soaking treatment.

## Flower and Medicinal Crops

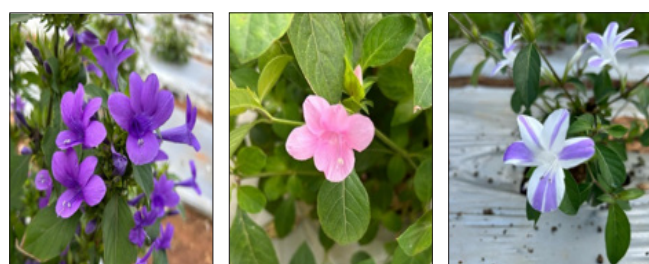
### Genetic diversity and population structure in *Crossandra* genotypes using SSR markers

Twenty *crossandra* genotypes were screened for amplification of 59 cross-species simple sequence repeat markers. A total of 102 polymorphic bands were produced by 29 primers, with an average of 3.52 bands per primer. Polymorphic information content values ranged from 0.008 to 0.994. Neighbor joining based cluster analysis revealed a dendrogram with clusters that coincided mostly for phenotypic traits, primarily flower colour, form, plant stature, peduncle colour, and inflorescence colour. Population structure analysis also revealed that the population was divided into two genetic groups. These findings strengthen efforts to conserve gene pool, aid in identification of distinct genetic lines, and facilitate their application in varietal improvement programmes.



### Evaluation of *Barleria* germplasm

Out of 29 genotypes conserved, four accessions viz., IIHR BC-H-05 (purple), IIHR BC-H-06 (pink), IIHR BC-V-02 (bicolour) and IIHR BC-V-03 (white) were found promising for loose flower purpose while IIHR BR-V-01 (red) was selected for ground cover / edging plant and IIHR BP-V-01 (yellow) for garden hedge plant.



IIHR BC-H-05

IIHR BC-H-04

IIHR BC-V-04



IIHR BC-V-03

IIHR BP-V-01

IIHR BR-V-01

### Level of improvement in nutritional security of women mushroom growers

Under the overall assessment of nutritional security, 77% of women mushroom growers were found to have a high nutritional security score, while 23% fell under the medium security category. Notably, none of the respondents were classified under the low nutritional security category, indicating a positive impact of mushroom cultivation on their household nutritional well-being. Tamil Nadu during Summer 2024.

### Adoption of Arka vegetable seed kit technology

The adoption of IIHR varieties has shown promising results in terms of yield and income generation. On an average, Arka Meghana (Chilli) with an average yield of 116.83 kg, gave an average net income of Rs15,188.71 from an area of 0.1 acre, while Arka Rakshak (Tomato) and 'Arka Harhitha' (chilli) generated an average net income of Rs. 13,716.06 and Rs. 24,015.48 respectively.




### On-Farm evaluation of okra hybrids

The on-farm testing of okra hybrids showed that the variety Arka Nikita (TO3) recorded the highest yield at 17.9 t/ha, significantly higher than CO-4 (TO2) (15.7 t/ha). Arka Nikita also produced longer fruits (15.8 cm) compared to CO-4 (12.1 cm), and its fruit weight was comparable to FP (10.5 g vs. 10.6 g).

### Enhancing livelihood security of small-holder farm women through horticultural interventions

Under DST-Vigyandhara-4305 externally funded project, enhancing livelihood security of small-holder farm women of Karnataka through horticultural interventions using pluralistic extension approaches significantly fostered improvement in nutritional security of farm women through the adoption of nutrition-sensitive kitchen gardens. Over 75% of the women beneficiaries adopted eight crops like Amaranthus, Palak, and French beans, enhancing household nutrition by providing fresh, homegrown produce. Additionally, mushroom cultivation training resulted in 12 women entrepreneur, generating additional income ranging from Rs 2,400 to 8,000 per cycle by cultivating mushrooms.

## 2. ITMC identified varieties and technologies

| S. No. | Variety/ Technology                                | Salient Features   | Picture   |
|--------|--|--|---|
| 1.     | Arka Veeraraghavan                                 | A vigorous red climber rose hybrid derived from the cross Carefree Beauty × Doris Tystema. Ideal for diverse landscapes with striking red blooms featuring a distinctive yellow basal spot. Has large flower size (10–12 cm), and high petal count (50–60). It also exhibits field tolerance to black spot disease and thrips.   |    |
| 2.     | IIHR-PB-IPS-4 (Advance breeding line of pole bean) | A high-yielding, disease-tolerant pole bean with indeterminate growth, flowering in 35–40 days and first harvest in 55–60 days. It produces smooth, stringless, oval-shaped pods (avg. length 16.59 cm; 20-pod weight 156.9 g) with a remarkable yield potential of 25–27 tonnes/hectare, outperforming commercial checks. Notably, it exhibits strong rust tolerance, showing no infection until 48 days (vs. 25–30% PDI in checks) and a low AUDPC (381 vs. 2300–2500), making it a resilient, high-productivity candidate for sustainable cultivation |    |
| 3.     | Arka Soursop - An RTS Beverage                     | Arka Soursop is an innovative solution that transforms the naturally fibrous, acidic, and strongly flavored soursop fruit into a palatable, shelf-stable drink. The technology effectively balances acidity and TSS to create a pleasant taste profile overcoming browning problem. It has six months of storage life at ambient conditions. Compliant with FSSAI Regulation 5.3.10, this ready-to-serve product offers consumer a convenient and nutritious way to enjoy soursop's benefits.  |  |

## 3. New initiatives

A Puppet Show titled ‘Arka Kranti’ was conceptualized and organized as an innovative extension methodology to create awareness among the farmers on modern horticultural technologies. The play integrated elements of traditional storytelling with contemporary agricultural themes. Six performances were held over the three days of the National Horticulture Fair and received an enthusiastic response from about 5,000 farmers and visitors.



## 4. News and Events

**ICAR-Indian Institute of Horticultural Research (IIHR), Bengaluru**

### National Horticulture Fair (NHF) – 2025

The ‘National Horticulture Fair – 2025’ was conducted by ICAR-Indian Institute of Horticultural Research (IIHR), in

collaboration with the Society for Promotion of Horticulture (SPH), BESST-HORT and ICAR-ATARI-Zone 11 from 27<sup>th</sup> February 2025 to 1<sup>st</sup> March 2025, with the theme “Horticulture for Viksit Bharath- Nutrition, Empowerment & Livelihood”. The fair showcased the latest advancements in horticulture and attracted a diverse group of farmers and stakeholders of horticulture from across the country. The event was inaugurated by the Chief Guest Sushri Shobha Karandlaje, Hon’ble Union Minister of State for MSME and Labour and Employment, Government of India. Other dignitaries who graced the event were Prof. Ramesh Chand, Member, NITI Aayog, Government of India, New Delhi, Shri C.B. Suresh Babu, Hon’ble Member of Legislative Assembly, Chikkanayakana halli Constituency, Dr. S. V. Suresha, Vice Chancellor, UAS, Bengaluru, Dr. Manjunath K. Naik, Former Vice Chancellor & Chairman, RAC, ICAR-IIHR and Dr. V. B. Patel, ADG (Fruits & Plantation Crops) Horticultural Science Division, ICAR, New Delhi.

The NHF-2025 focused on varieties and technologies to enhance nutrition and empower farmers. The institute

has displayed more than 232 varieties and technologies developed by ICAR-IIHR covering crop production, crop protection, post-harvest management, value addition, machinery and tools in horticultural crops. Other ICAR Institutes, State Agricultural and Horticultural Universities, State Departments of Horticulture, private firms and start ups actively participated and exhibited their products and technologies.

During the fair, a ‘Farmers’ consultancy’ was also held by the experts of the institute wherein farmers found solutions to their problems through one-to-one consultancy. The three-day fair witnessed over 52000 footfalls from 18 states across the country.

The valedictory session was graced by Shri H. D. Kumaraswamy, Honourable Minister of Heavy Industries & Steel, Government of India as the Chief Guest. Dr. Manjunath C.N., Honourable Member of Parliament, Bengaluru Rural Constituency, Dr. Major Singh, Member, Agricultural Scientists Recruitment Board, New Delhi and Sri. Y. S. Patil, IAS, Commissioner of Agriculture, Government of Karnataka and Dr. Praveen Malik, CEO, Agri Innovative, New Delhi were the guests of Honour for the valedictory program. The event was a grand success under the leadership of Dr. Tusar Kanti Behera, Director, ICAR-IIHR who was also the Chairman, Organizing Committee, NHF 2025 ably supported by Dr. S. Shankara Hebbar, Organizing Secretary and all the staff members of the institute who worked under different committees constituted for the event.

IIHR nursery and appreciated the scale and quality of propagation and its role in ensuring access to certified, resilient varieties for diverse agro-climatic regions. Further, he visited BESST-HORT, the business incubation centre on the ICAR-IIHR campus.

During his interaction with over 500 farmers, scientists, and officials at the institute, Shri Chouhan underlined that **Viksit Krishi Sankalp Abhiyan** is deeply aligned with the Hon’ble Prime Minister’s vision of a developed India by 2047. As part of this campaign, the Lab to Land initiative has been launched, involving over 16,000 scientists working with farmers across the country to provide field-level scientific advice, problem-solving, and continuous engagement. Shri Chouhan reaffirmed the campaign’s motto of “One Nation, One Agriculture, One Team” and stressed that this integrated approach will ensure that Indian agriculture becomes resilient, profitable, and future-ready. He called for stronger coordination between research institutions, and farming communities to ensure that agriculture continues to thrive as a pillar of national development. During the programme, the Minister felicitated seven progressive farmers from Karnataka. On this occasion, Hon’ble Minister also laid the foundation of Biosafety Level 2 (BLS-2) Laboratory at ICAR-IIHR, Bengaluru.



### Visit of Shri Shivraj Singh Chouhan ji, Honourable Minister of Agriculture and Farmers welfare

Union Minister for Agriculture and Farmers Welfare and Rural Development, Government of India, Shri Shivraj Singh Chouhan Ji, visited the ICAR-Indian Institute of Horticultural Research (ICAR-IIHR), Bengaluru on 8 June 2025 as part of the Viksit Krishi Sankalp Abhiyan (VKSA). The Hon’ble Minister visited the ICAR-



The event was graced by the presence of several other dignitaries, including Dr. K. Sudhakar, Member of Parliament from Chikkaballapur; Shri S.R. Vishwanath, MLA from Yelahanka; Dr. Sanjay Kumar Singh, Deputy Director General (Horticultural Sciences), ICAR; Dr. Raghavendra Bhatta, Deputy Director General (Animal Sciences), ICAR; Dr. Venkata Subramaniam, Director of ICAR-ATARI; and Dr. Tusar Kanti Behera, Director, ICAR-IIHR, Bengaluru.



## Visit of Jharkhand Minister of Agriculture Smt. Shilpi Neha Tirkey to ICAR-IIHR

A delegation led by Smt. Shilpi Neha Tirkey, Hon'ble Minister for Agriculture, Government of Jharkhand visited IIHR on 24<sup>th</sup> January 2025 to discuss possible areas of collaboration for upliftment of farming community of Jharkhand state. At the outset, Dr. Tusar Kanti Behera, Director, ICAR-IIHR welcomed the delegation and highlighted the achievements of IIHR in the field of horticultural research, extension and education. The Hon'ble Minister applauded the efforts made by IIHR in improving the economic status and livelihood of farmers of the country as well as Jharkhand state. The delegates visited various facilities like Centre of Excellence in High Tech horticulture, Nursery unit, Food Safety Referral lab including Honey testing facility, Mushroom unit and BEST-HORT facility.



## Training on “Soil, Plant and Water Analysis for Nutrient Recommendations in Horticultural Crops”

ICAR-Indian Institute of Horticultural Research, Bengaluru, organised a five day ICAR Sponsored HRM Training on “Soil, Plant and Water Analysis For Nutrient Recommendations in Horticultural Crops” for Scientific and Technical staff of ICAR institutes, different SAUs and NGOs from 06<sup>th</sup> to 10<sup>th</sup> January, 2025. A total of 24 trainees attended the programme. Dr. T.R. Rupa, Principal Scientist (Soil Science) was the Course Director and Dr. S. Ramachandran, Senior Scientist (Soil Science) and Dr. Yukti Verma, Scientist (Soil Science) were the Course Coordinators of the training programme.



## Winter School on ‘Harnessing Untapped Floriculture Potential for Farmers Empowerment and Entrepreneurial Development’

ICAR-IIHR, Bengaluru, organized an ICAR Sponsored Winter School on “Harnessing Untapped Floriculture

Potential for Farmers Empowerment and Entrepreneurial Development” from 28<sup>th</sup> January to 17<sup>th</sup> February, 2025. The Winter School served as a significant platform for knowledge exchange, capacity building, and fostering innovative approaches to floricultural research and development with 20 Scientists / Asst. Professors from 13 states.



## XII Group Discussion of ICAR-AICRP on Fruits Held at BAU, Sabour (11<sup>th</sup> to 14<sup>th</sup> February 2025)

The XII Group Discussion of the ICAR-All India Coordinated Research Project (AICRP) on Fruits was conducted from 11<sup>th</sup> to 14<sup>th</sup> February 2025, at Bihar Agricultural University (BAU), Sabour, Bihar. The event was presided over by Dr. D.R. Singh, Vice-Chancellor, BAU, Sabour, and attended by esteemed dignitaries, including Dr. Prakash Patil, Project Coordinator (Fruits), and directors from various ICAR institutes: Dr. R. Selvarajan (ICAR-NRCB), Dr. Dilip Ghosh (ICAR-CCRI), Dr. Bikash Das (ICAR-NRCL), and Dr. T. Damodaran (ICAR-CISH). Special ICAR invitees, Dr. V.A. Parthasarathy and Dr. Subash Chander, were also present.



## Training on “Hi-Tech Farming Techniques

Training on “Hi-Tech Farming Techniques (Vertical Farming, Hydroponics, Aeroponics, Aquaponics) in Horticultural Crops” was jointly organized by BESST-HORT and COE-PC, ICAR-IIHR, Bengaluru on 28<sup>th</sup> February 2025. Training included practical exposure to hi-tech farming techniques like hydroponics and vertical farming followed by hands on method demonstrations and extensive practical sessions.



## Entrepreneurship development training programme on “Hi-tech farming techniques”

An Entrepreneurship Development programme (EDP) on ‘Hi-tech farming techniques (Vertical farming and Hydroponics) in Horticultural Crops’ was organised jointly by Agri Business Incubation (ABI) unit and COE-PC, ICAR-IIHR, Bengaluru on 6<sup>th</sup> March 2025. Sessions provided an overview of various hydroponics and vertical farming systems used in horticultural crops. Topics such as nutrient and substrate management, as well as pest and disease management in these systems were covered. Technical sessions were led by Dr. Safeena S.A., Dr. D. Kalaivanan, Dr. Sandeep Kumar G.M., Dr. N.R. Prasanna Kumar, and Dr. Shilpa Shree K.G., who offered detailed insights into the subject matter.



## ICAR-IIHR, bagged ‘Overall Championship’ consecutively third time in ICAR-Zonal Sports Tournament



The sports contingent of ICAR-Indian Institute of Horticultural Research, Bengaluru has participated in ICAR-Zonal Sports Tournament conducted by ICAR-Sugarcane Breeding Institute (SBI) at Coimbatore from 8-11 April 2025. The sixty-one-member contingent of ICAR-IIHR comprising twelve women and forty-nine men participated in both individual and team events and exhibited excellent performance. ICAR-IIHR bagged the ‘Overall championship of the ICAR-Zonal Sports Tournament- consecutively for the third time.

## Celebration of World Intellectual Property Day

ICAR-IIHR celebrated the World Intellectual Property Day on 22<sup>nd</sup> May 2025 in hybrid mode. Dr. K. Srinivas, Principal Scientist, ICAR-NAARM, Hyderabad delivered an online talk on the topic, “IP and sustainable development goals: Building our common future with innovation and creativity”. The Director, ICAR-IIHR in his presidential remarks highlighted various technologies and their role in addressing challenges related to intellectual property (IP) technologies. Key topics included breeder’ and farmers’ rights, the protection of their plant varieties, ownership of technological innovations, licensing procedures, patenting and the commercialization of patents, as well as the processes involved in filing patents and making claims.



## World Environment Day

On the occasion of World Environment Day 2025, ICAR-Indian Institute of Horticultural Research (ICAR-IIHR), Bengaluru organized a tree plantation drive on its campus to promote environmental awareness and responsibility. The plantation activity was led by Dr. Tusar Kanti Behera, Director, ICAR-IIHR. Speaking on the occasion, Dr. Behera emphasized the importance of nurturing nature, stating, “All of us must enjoy nature by nourishing it—not at the cost of it.” In alignment with the day’s spirit, the “ICAR-IIHR Biodiversity Campaign – IIHR BiodiVerse” was also launched.



## International Yoga Day at ICAR-IIHR, Bengaluru

The 11<sup>th</sup> International Yoga Day (IYD) was celebrated at ICAR-IIHR, Bengaluru, on 21 June 2025 with great fervor and participation. The theme for this year's celebration was “Yoga for One Earth, One Health”. Mr. Nagaraj Rajaram Gaonkar, Principal Yoga Teacher at Patanjali Yoga Trust, Haridwar was the Chief guest. In his address, Mr. Gaonkar highlighted that yoga, which originated in ancient India, is a harmonious blend of physical, mental, and spiritual practices. He emphasized yoga as a powerful tool for achieving unity of body and mind and shared practical lifestyle tips for improving overall health. Mr. Gaonkar also demonstrated the standard International Yoga Day Protocol, guiding the participants through various asanas. Dr. Tusar Kanti Behera, Director, ICAR-IIHR, spoke about the importance of incorporating yoga into daily routines to maintain calmness, energy, and manage stress effectively. The event witnessed enthusiastic participation from over 120 individuals, including scientists, staff members, and students from ICAR-IIHR, who greatly benefited from the sessions.



## Central Horticultural Experiment Station (CHES), Chettalli

### 79<sup>th</sup> Foundation Day of ICAR-IIHR-CHES, Chettalli

The 79<sup>th</sup> Foundation Day of ICAR-IIHR-CHES, Chettalli was celebrated on 3 February 2025. The event highlighted the center's advancements in horticultural research, particularly in citrus (Coorg mandarin) and underutilized fruit crops like avocado, mangosteen and rambutan.



## Hindi Workshop organized at CHES (ICAR-IIHR), Chettalli on 21 March and 11 June, 2025



### Swachhata Special Campaign organized

Swachhata special awareness camps and cleanliness drives have been arranged in every month of this period (January-June, 2025) at ICAR-IIHR-CHES, Chettalli



## Central Horticultural Experiment Station (CHES), Bhubaneswar

### Seminar on Rooftop Gardening and Urban Horticulture at ICAR-IIHR, CHES, Bhubaneswar

A two-day seminar on “Rooftop Gardening and Urban Horticulture” was conducted at ICAR-IIHR-CHES, Bhubaneswar, on February 22–23, 2025, under the State Plan Innovative Project sponsored by the Government of Odisha. As part of the event, Dr. D. Kalaivanan delivered a talk on soilless cultivation and cocopeat, highlighting their practical applications for growing vegetables, flower, and medicinal herbs in urban spaces such as rooftops, terraces, vertical gardens, and polyhouses. A hands-on demonstration on the production of Arka Fermented Cocopeat and composting of kitchen waste was also organized, emphasizing sustainable practices for urban horticulture.



## World Environment Day celebration at CHES, Bhubaneswar

Central Horticultural Experiment Station (CHES-Bhubaneswar) of ICAR-IIHR, organized a series of

impactful events with the theme "Ending Plastic Pollution." The event took place at Deauli Pokhari Village, Alasi Sasan Gram Panchayat, Khurda District, Odisha, where over 65 participants gathered to take part in various activities focused on environmental sustainability and good agricultural practices (GAP). The event included a plantation drive, where mango seedlings of the Amrapali variety were distributed to farmers, encouraging the growth of sustainable and profitable horticulture crops.



### Regional Mango Diversity Show on 29-30 May 2025

Honourable Union Minister for Agriculture and Farmers Welfare, Shri Shivraj Singh Chouhan ji inaugurated Regional Mango Diversity Show at Central Horticultural Experiment Station, Bhubaneswar on 29<sup>th</sup> May 2025 in the august presence of Sri Kanak Vardhan Singh Deo, Hon'ble Deputy Chief Minister, Minister for Agriculture & Farmers' Empowerment, Govt. of Odisha; Dr. M. L. Jat, Hon'ble Secretary, DARE and Director General, Indian Council of Agricultural Research.; Sri Babu Singh, Hon'ble MLA, Ekamra Bhubaneswar; Dr Arabinda Kumar Padhee, Principal Secretary, Agriculture and Farmers Empowerment, Govt of Odisha; Dr S.K. Singh, Deputy Director General (Horticulture), ICAR, Dr. Rajbir Singh, Deputy Director General (Agricultural Extension), Dr Joykrushna Jena, DDG (Fisheries Science) and many other dignitaries.



### Training cum exposure visit for tribal farmers of Odisha under MIDH

A Training cum exposure visit for tribal farmers of Odisha was organized from 20 to 24 January 2025 under MIDH at CHES, Bhubaneswar. The programme was inaugurated by Prof. T. K. Behera, Director, ICAR-IIHR, Bengaluru. During the event, ICAR-IIHR had put up stall to show case the horticulture technologies suitable for the Eastern region of India and conducted capacity building programmes on all the five days. More than 250 farmers participated.



### National Conference on 'Seed Chain Management in the Eastern and North Eastern Hill Regions: Challenges and Opportunities'

A National Conference on 'Seed Chain Management in the Eastern and North Eastern Hill Regions: Challenges and Opportunities' was held at CHES, ICAR-IIHR, Bhubaneswar, Odisha on 21<sup>st</sup> and 22<sup>nd</sup> January, 2025 in collaboration with the Society for Promotion of Horticulture (SPH) and ICAR-National Institute of Seed Science and Technology, Mau, Uttar Pradesh. The National Conference was inaugurated on 21<sup>st</sup> January, 2025 by Sri Kanak Vardhan Singh Deo, Hon'ble Deputy Chief Minister of Odisha, and Minister of Agriculture and Farmers' Empowerment, Energy in the august presence of Dr. Shobhana Kumar Pattanayak, Former Secretary, Department of Agric. Coop. & Farmers' Welfare, Govt. of India, Prof. Pravat Kumar Roul, Vice-Chancellor, OUAT, Bhubaneswar, Dr. P. L. Patil, Vice Chancellor, UAS, Dharwad, Dr. Sanjay Kumar Singh, DDG (Hort. Sci.), ICAR, Dr. Sudhakar Pandey, ADG (Flower, Vegetables, Spices & Medicinal Plants), ICAR, Dr. D. K. Yadava, ADG (Seeds) and Prof. Tusar Kanti Behera, Director, ICAR-IIHR, Bengaluru. A total of 160 registered delegates including eminent scientists, research scholars, students, and more than 200 farmers participated in the conference.



### 5. Human Resource Development

#### A. Training courses organized

- Division of Fruit Crops organized a PPV&FRA funded workshop on 'Linking biodiversity for livelihood security through protection of farmers varieties in fruit crops' at ICAR-IIHR Experimental Farm, Hirehalli, Tumakuru on 15<sup>th</sup> June, 2025 for 600 farmers/stakeholders.

- Training on “Statistical methods for research data analysis using R” on 17 to 20 June 2025.
- ICAR Sponsored Winter School on Harnessing Untapped Floriculture Potential for Farmers Empowerment and Entrepreneurial Development 28 January - 17 February 2025.
- Training on “Hi-Tech Farming Techniques (Vertical Farming, Hydroponics, Aeroponics, Aquaponics) in Horticultural Crops” jointly organized by BESST-HORT and COE-PC, ICAR-IIHR on 28<sup>th</sup> February 2025.
- Entrepreneurship Development Training Programme on “Hi-tech farming techniques (Vertical farming and Hydroponics) in Horticultural Crops” on 06<sup>th</sup> March, 2025 jointly organized by ABI and COE-PC, ICAR-IIHR, Bengaluru.
- Training programme on “Scientific Cultivation of Avocado” for 100 farmers of Wayanad FPC on 06/02/2025 at Sultan Bathery, Wayanad. Organized two days training programme on “Scientific cultivation of avocado” to 30 farmers of Kerala at CHES (ICAR-IIHR), Chettalli during 4 - 5 March 2025.
- Capacity Building Programme on Crop Diversification and Input Distribution to the 100 SC Farmers of Kodagu under SCSP at CHES (ICAR-IIHR), Chettalli on 19 March 2025.
- HBI Placement trainings to 12 B.Sc. (Hons.) Horticulture final year students of CoH, Koppal, UHS, Bagalkot during 13 - 29 March 2025
- Training programme on “Scientific cultivation of exotic fruit crops” to five Kerala and Tamil Nadu participants during 5 - 6 May 2025.
- Training Programme on “Rejuvenation of Coorg Mandarin cum Input Distribution” under RKVY project organized at ICAR-IIHR-CHES, Chettalli on 23 May 2025.
- Organized HBI Placement trainings to 9 B.Sc. (Hons.) Horticulture final year students of CoH, UHS, Bagalkot during 9 - 29 June 2025

## B. Specialized trainings attended by staff of ICAR-IIHR

- Dr. Safeena S.A attended a special awareness meeting convened by ADG (HRM), ICAR for presentation of summary content of Domain specific courses for uploading on iGOT platform under Mission Karma yogi, Govt. of India on March 25, 2025
- Dr. Safeena S.A participated in DUS interaction meeting with Dr. T. Mohapatra, Chairperson, Protection of Plant Varieties and Farmers Rights Authority (PPVFRA), New Delhi and Dr. D. K. Agarwal, Registrar General, PPVFRA and Chairman of PPVFRA on 15<sup>th</sup> June 2025 at ICAR IIHR Experimental Farm, Hirehalli, Tumkur.
- Dr. Basavaprabhu L Patil, Principal Scientist and Head, Division of Basic Sciences, participated in the three months overseas training programme on “Advancements in Base Editing Reagent Delivery in Plants”, at International Maize and Wheat Improvement Centre (CIMMYT), Mexico City, Mexico, from 31 March to 30 June 2025.
- Dr. T. R. Usha Rani, Senior Scientist, Division of Basic Sciences participated in the overseas training programme on RNP- Mediated multiplexed Genome Editing using Protoplast Culture, at the Swedish University of Agricultural Sciences (SLU), Alnarp, Sweden, from 18 April 2025 to 16 July 2025.
- Dr Karunakaran attended MDP training programme on Intellectual Property Valuation and Technology Management organized by NAARM, Hyderabad on 3 - 7 March 2025.

## 6. Post Graduate Education

### Freshers' Day

Freshers day was celebrated by Ph. D students to welcome the newly joined batch of students on 16<sup>th</sup> June 2025.



## (A). Following Students of IARI-IIHR hub were awarded doctoral degrees by IARI, New Delhi

| Sl. No | Student Name and Roll No | Discipline              | Guide                  | Thesis Title  |
|--------|--------------------------|-------------------------|------------------------|---|
| 1      | Ms. Bindu (11591)        | Post Harvest Technology | Dr. D. V. Sudhakar Rao | Standardization of storage temperature and pre-treatments for extension of storage life of muskmelon                                |
| 2      | Mr. Harish T (11594)     | Post Harvest Technology | Dr. C.K. Narayana      | Studies on production of Kamalam/Dragon fruit ( <i>Hylocereus polyrhizus</i> ) powder using tray drier and its value added products |

|    |                               |   |                      |  |
|----|-------------------------------|---|----------------------|--|
| 3  | Ms. Chandini (11857)          | Post Harvest Technology                 | Dr.D.V. Sudhakar Rao | Storage life extension of custard apple fruits using physical and chemical treatments  |
| 4  | Mr. Narayana Swamy G (11919)  | Vegetable Science                       | Dr. T. H. Singh      | Genetic and molecular analyses for root knot nematode resistance in Brinjal ( <i>Solanum melongena</i> L.)                                       |
| 5  | Mr. Koushik Saha (11133)      | Vegetable Science                       | Dr. K. Madhavi Reddy | Genetic and Molecular analysis for Pungency related traits in <i>Capsicum</i> species  |
| 6  | Ms. Roshini (11625)           | Vegetable Science                       | Dr. K. Madhavi Reddy | Incorporation of multiple virus resistance in chilli ( <i>Capsicum annum</i> L.)   |
| 7  | Ms. Meghana. D (11933)        | Vegetable Science                       | Dr. K. Madhavi Reddy | Exploring antioxidant vitamins and pigments diversity in chilli accessions through metabolomic and genomic approach                              |
| 8  | Ms. Sulochana K.H. (12192)    | Vegetable Science                       | Dr. T. H. Singh      | Molecular and biochemical basis of resistance to phomopsis fruit rot in eggplant ( <i>Solanum melongena</i> L.)                                  |
| 9  | Ms. Sinchana Jain N R (11788) | Fruit Science                           | Dr. M. Sankaran      | Studies on inheritance of peel and pulp color in mango ( <i>Mangifera indica</i> L.)   |
| 10 | Mr. Ajay Kumar (11932)        | Fruit Science                           | Dr. C. Vasugi        | Exploitation of <i>Psidium cattleianum</i> wild species for biotic stress tolerance in guava   |
| 11 | Ms. Chandana S (11778)        | Floriculture and Landscape Architecture | Dr. Sujatha A Nair   | Standardization of Dendrobium orchid production under vertical farming structures and post harvest handling protocol                             |
| 12 | Ms. Labdhi Dedhia (11777)     | Floriculture and Landscape Architecture | Dr. Tejaswini        | Assessment of genetic diversity for carotenoid content and screening for resistance to <i>Alternaria</i> spp. in marigold ( <i>Tagetis</i> spp.) |
| 13 | Ms. Chetna Jyoti (11504)      | Floriculture and Landscape Architecture | Dr. Rajiv Kumar      | Studies on seed production on China aster [ <i>Callistephus chinensis</i> (L.) Nees.]  |
| 14 | Ms. Poojitha (11929)          | Floriculture and Landscape Architecture | Dr. T. Usha Bharati  | Evaluation of tuberosc lines for yield, quality and resistance to leaf blight disease ( <i>Alternaria polianthi</i> )                            |

## 7. Transfer of Technology

### Training Programs Organized

#### On-Campus Trainings

|                             | Title of the Programme   | Date               | No. of participants |
|-----------------------------|--|--------------------|---------------------|
| <b>ICAR-IIHR, Bengaluru</b> |  |                    |                     |
| 1.                          | ICAR Sponsored HRM Training on Soil, Plant and Water Analysis for Nutrient Recommendations in Horticultural Crops  | 6-10 January 2025  | 24                  |
| 2.                          | Training programme on 'Improved Mushroom Production Technologies' for the farmers from Bengaluru Rural and Chikkaballapura district under DST funded project | 9-10 January 2025  | 20                  |
| 3.                          | Entrepreneurial training program on Mushroom cultivation   | 9-10 January 2025  | 20                  |
| 4.                          | Training program on "Improved Horticulture Technologies" for the farmers of Balangir, Odisha   | 14-19 January 2025 | 24                  |

|   |                                |    |
|---|--------------------------------|----|
| 5. Entrepreneurial training program on Mushroom spawn production  | 22-24 January 2025             | 16 |
| 6. Production technology of fruit crops   | 23 January 2025                | 35 |
| 7. On campus training on ICAR-IIHR Technologies for farmers of Silvepura, Karnataka   | 25 January 2025                | 20 |
| 8. Entrepreneurial training program on mushroom cultivation   | 27-31 January 2025             | 20 |
| 9. Training Programme conducted for farmers of Bikkanahalli, Karnataka  | 28 January 2025                | 20 |
| 10. Training Programme conducted for farmers of Salem, Tamil Nadu   | 28 January 2025                | 20 |
| 11. ICAR Sponsored Winter School on 'Harnessing Untapped Floriculture Potential for Farmers Empowerment and Entrepreneurial Development'        | 28 January to 17 February 2025 | 20 |
| 12. Hands on training on 'Operation and usage of spray drier for the production of spray dried Aonla powder' organised by BESST-HORT, ICAR-IIHR | 31 January 2025                | 8  |
| 13. Training Programme conducted for the farmers of Tiruvannamalai, Tamil Nadu  | 02 February 2025               | 20 |
| 14. Training Programme conducted for the farmers of Maharashtra   | 05 February 2025               | 28 |
| 15. Training Programme conducted for Farmers of Tamil Nadu  | 11 February 2025               | 31 |
| 16. Training programme on 'in guava production technologies' for farmers of Himachal Pradesh  | 26 February 2025               | 40 |
| 17. Soilless Culture/Cocoponics for Terrace, Rooftop, and Vertical Gardening  | 27 February to 01 March 2025   | 78 |
| 18. Packaging and storage of fresh fruits and vegetables organised by BESST HORT, ICAR-IIHR   | 28 February 2025               | 14 |
| 19. Training on "Hi-Tech Farming Techniques (Vertical Farming, Hydroponics, Aeroponics, Aquaponics) in Horticultural Crops"                     | 28 February 2025               | 45 |
| 20. Training Programme conducted on pruning, and Canopy management in Mango for Tamil Nadu farmers  | 01 March 2025                  | 25 |
| 21. Entrepreneurship Development Training Programme on "Hi-tech farming techniques (Vertical farming and Hydroponics) in Horticultural Crops"   | 05 March 2025                  | 29 |
| 22. Training programme cum exposure visit organized by ICAR-IIHR for farmers of Maharashtra   | 12 March 2025                  | 32 |
| 23. Training cum Exposure Visit on Subtropical Fruits Cultivation to Officer, Office of the Horticulturist, Govt. of Arunachal Pradesh          | 16-17 March 2025               | 8  |
| 24. Training Programme conducted on Cocom and Garcinia crops for PES Agricultural students  | 17 March 2025                  | 40 |
| 25. Production and Processing and Value added products of <i>Garcinia</i> spp.  | 17 March 2025                  | 20 |

|  |                   |    |
|--|-------------------|----|
| 26. Training Programme conducted for farmers of Sivagangai, Tamil Nadu   | 21 March 2025     | 23 |
| 27. Training Programme conducted for farmers of Chengalpattu, Tamil Nadu on ICAR-IIHR Technologies   | 24 March 2025     | 46 |
| 28. ATMA-Intertate Exposure-visit for the farmers of Tamil Nadu  | 25 March 2025     | 20 |
| 29. On campus training on ICAR-IIHR technologies for farmers of Pachhamalai, Tamil Nadu  | 25 March 2025     | 39 |
| 30. On campus training on ICAR-IIHR technologies   | 25 March 2025     | 40 |
| 31. Good Agricultural Practices for mango production   | 25 March 2025     | 40 |
| 32. Soil and Leaf Analysis for Nutrient Recommendations in Horticultural Crops   | 25 –27 March 2025 | 07 |
| 33. Training cum Exposure Visit on Dragon Fruit and Tomato Cultivation to Officer, Office of The Project Director, District Rural Development Office, Lunglei, Mizoram | 28-29 March 2025  | 6  |
| 34. Training Programme on ICAR-IIHR Technologies conducted for Farmers of Perambalur, Tamil Nadu   | 29 March 2025     | 20 |
| 35. Training programme on “Advanced Horticulture Technologies” for the farmers of ATMA, Solapur, Maharashtra   | 07-09 April 2025  | 25 |
| 36. Training Programme on ICAR-IIHR Technologies conducted for Farmers of Tiruchirappalli (Trichy), Tamil Nadu   | 20 April 2025     | 40 |
| 37. Training Programme on ICAR-IIHR Technologies conducted for farmers of Dandigul, Tamil Nadu   | 20 April 2025     | 20 |
| 38. Training Programme on ICAR-IIHR Technologies conducted for Farmers of Namakkal, Tamil Nadu   | 21 April 2025     | 40 |
| 39. Microgreens Mastery: Techniques and Tips for Efficient Production  | 23 May 2025       | 74 |
| 40. Special Training Programme for senior officer of NABARD (GMs and CGMs) on 'Smart Farming- Digital Agriculture, Use of IoT and Agri Stack'                          | 28-30 May 2025    | 29 |
| 41. Training Programme on ICAR-IIHR Technologies conducted for Farmers of Vridhunagar, Tamil Nadu  | 03 June 2025      | 20 |
| 42. Cocoponics and Arka Fermented Cocopeat Production' for coir entrepreneur from Tamil Nadu, sponsored by TANCOIR, Government of Tamil Nadu                           | 04-05 June 2025   | 22 |
| 43. Training Programme on ICAR-IIHR Technologies conducted for Farmers of Pudukkottai of Tamil Nadu  | 04 June 2025      | 34 |
| 44. Exposure visit for farmers of Manapparai, Tamil Nadu on Integrated farming system  | 09 June 2025      | 40 |
| 45. Exposure-visit for farmers of Uppiliyapuram, Tamil Nadu on Micro-irrigation  | 09 June 2025      | 40 |
| 46. Hands on training on the “Production of Green Chilli, Curry leaves and Moringa Powder”   | 09 June 2025      | 13 |
| 47. Training cum Exposure visit (ATMA) for farmers of Thottiyam and Musiri , Tamil Nadu on Micro-irrigation  | 10 June 2025      | 40 |
| 48. Training cum Exposure visit for farmers of Kovilpatti, Tamil Nadu on Micro-irrigation  | 11 June 2025      | 20 |

|  |                  |     |
|--|------------------|-----|
| 49. Exposure-visit for farmers of Kayathar, Tamil Nadu on Post-harvest technologies  | 11 June 2025     | 20  |
| 50. Special Training Programme for the officer of NABARD (DDMs) on 'Smart Farming- Digital Agriculture, Use of IoT and Agri Stack'                                   | 11-13 June 2025  | 26  |
| 51. Entrepreneurial training program on Mushroom spawn production  | 14-16 June 2025  | 21  |
| 52. Training cum Exposure-visit for farmers of Vaiyampatti and Madurai East, Tamil Nadu on ICAR-IIHR Technologies  | 17 June 2025     | 44  |
| 53. Exposure-visit for farmers of Kammapuram and Sriperumbudur, Tamil Nadu on ICAR-IIHR Technologies   | 17 June 2025     | 40  |
| 54. Statistical methods for research data analysis using R   | 17-20 June 2025  | 11  |
| 55. Entrepreneurial training program on mushroom cultivation   | 19-23 June 2025  | 24  |
| 56. Exposure-visit for farmers of Srivaikuntam, Tamil Nadu on ICAR-IIHR Technologies   | 20 June 2025     | 40  |
| 57. Training cum Exposure visit on Best Practices and post-harvest processing of Non-paddy crops under CDP-MLIP Scheme for Athmallik farmers, Angul district, Odisha | 24 June 2025     | 27  |
| 58. Exposure-visit for farmers of Needamangalam Block, Thiruvarur district, Tamil Nadu   | 25 June 2025     | 20  |
| 59. Training cum Exposure visit for farmers of Kolli Hills Block, Namakkal District, Tamil Nadu.   | 25 June 2025     | 20  |
| 60. Improved varieties of fruits and vegetables and IIHR technologies" for Scheduled Tribe (ST) farmers of Mysuru district under TSP Scheme                          | 28 June 2025     | 150 |
| <b>CHES, Chettali</b>  |                  |     |
| 1. Training programme on “Scientific cultivation of avocado” to farmers of Kerala at CHES (ICAR-IIHR), Chettali.   | 04-05 March 2025 | 30  |
| 2. Organized HBI Placement trainings to B.Sc. (Hons.) Horticulture final year students of CoH, Koppal, UHS, Bagalkot.  | 13-29 March 2025 | 12  |
| 3. Capacity Building Programme on Crop Diversification and Input Distribution to the SC Farmers of Kodagu under SCSP at CHES (ICAR-IIHR), Chettali.                  | 19 March 2025    | 100 |
| 4. Training programme of “Scientific cultivation of exotic fruit crops” to Kerala and Tamil Nadu   | 05-06 May 2025   | 5   |
| 5. Training Programme on “Rejuvenation of Coorg Mandarin cum Input Distribution” under RKVY project organized at ICAR-IIHR-CHES, Chettali.                           | 23 May 2025      | 150 |
| 6. Organized HBI Placement trainings to B.Sc. (Hons.) Horticulture final year students of CoH, UHS, Bagalkot.  | 09-29 June 2025  | 9   |
| <b>CHES, Bhubaneswar</b>   |                  |     |
| 1. Scientific raising of dragon fruit nursery  | 18 February 2025 | 30  |
| 2. Pineapple-based intercropping model for mango orchards  | 10 March 2025    | 40  |



**Releasing of training manuals based on R based programming codes**



**Training programme on 'Improved Mushroom Production Technologies' for the farmers from Bengaluru Rural and Chikkaballapura district under DST project**



**Entrepreneurial training program on Mushroom spawn production 22.01.2025 to 24.01.2025**



**Entrepreneurial training program on Mushroom cultivation 27.01.2025 to 31.01.2025**

➤ ICAR-IIHR-CHES, Chettalli organized a training programme on “Scientific Cultivation of Avocado” to 100 Farmers of Wayanad on 6<sup>th</sup> February, 2025 at Sultan Bathery, Wayanad District.



➤ Two Days Training Programme on “Scientific Cultivation of Avocado” organized to 30 Farmers of Kerala at CHES (ICAR-IIHR), Chettalli during 4<sup>th</sup>-5<sup>th</sup> March, 2025



➤ Capacity building programme on “Crop diversification and input distribution” to 100 SC Farmers of Kodagu under SCSP was organized at CHES (ICAR-IIHR), Chettalli on 19<sup>th</sup> March, 2025.



**Off-Campus Training Programmes**

| Training Topic  | Date            | No. of participants |
|---|-----------------|---------------------|
| <b>ICAR-IIHR, Bengaluru</b>   |                 |                     |
| 1. Training Programme Conducted for Kasaragod farmers   | 05 January 2025 | 40                  |
| 2. Training Programme Conducted for Puttur farmers  | 06 January 2025 | 40                  |
| 3. Off campus training programme on “Improved Horticulture Technologies of ICAR-IIHR” at Nayanahalli Village, Chikkaballapura | 08 January 2025 | 115                 |

|  |                  |     |
|--|------------------|-----|
| 4. Off campus training programme on “Improved Vegetable production Technologies” at Byrappanahalli Village, Chikkaballapura  | 16 January 2025  | 30  |
| 5. Training Programme for H.D Kote farmers   | 17 January 2025  | 300 |
| 6. Training Programme for Bhubaneswar farmers  | 20 January 2025  | 50  |
| 7. Off campus training programme on "Improved fruit production technologies" at Panasachowdanahalli Village, Chikkaballapura   | 23 January 2025  | 25  |
| 8. Off campus training programme on "Improved fruit production technologies" at Nayanahalli Village, Chikkaballapura   | 23 January 2025  | 20  |
| 9. Off campus training programme on "Improved fruit production technologies" at Ancharahalli Village, Bengaluru Rural  | 24 January 2025  | 25  |
| 10. Off campus training programme on "Improved fruit production technologies" at Bettenahalli Village, Bengaluru Rural   | 24 January 2025  | 20  |
| 11. Training programme for farmers conducted at Jorahat, Assam   | 07 February 2025 | 50  |
| 12. Training programme for farmers conducted at Vilupuram, Tamil Nadu  | 11 February 2025 | 50  |
| 13. Dragon fruit Field Day on Dragon Fruit Production Technique organized by ICAR-IIHR and KEFA, at Hagari Bommanahalli, Harihara district                             | 11 February 2025 | 250 |
| 14. Training programme for farmers conducted at Raighar, Chhattisgarh  | 17 February 2025 | 70  |
| 15. Training programme for farmers conducted at Chennai, Tamil Nadu  | 18 February 2025 | 40  |
| 16. Training programme for farmers conducted at Pachhamailai, Tamil Nadu   | 19 February 2025 | 25  |
| 17. Off campus Training on ICAR-IIHR Technologies  | 25 February 2025 | 20  |
| 18. Training programme conducted at Krishna Giri, Dharmapuri, Tiruvannamalai, Salem and Crimacha (50 Farmers at each place) in Tamil Nadu                              | 27 February 2025 | 250 |
| 19. Training programme conducted at Namakkal, Madhurai (50 farmers at each place), Thiruvannamalai, Karumandurai, Pachaimalai (20 farmers at each place) in Tamil Nadu | 28 February 2025 | 160 |
| 20. Training programme conducted at for farmers at Pondicherry   | 01 March 2025    | 50  |
| 21. Training programme conducted to farmers at Pailpalyam, Tamil Nadu  | 20 March 2025    | 50  |
| 22. Training Programme conducted to farmers at Yercaud   | 22 March 2025    | 60  |
| 23. Off campus training on ICAR-IIHR Technologies  | 25 March 2025    | 40  |
| 24. Training Programme conducted at Madakeri   | 29 March 2025    | 50  |
| 25. Capacity Building Training programme for Chittoor farmers, Andhra Pradesh  | 23 April 2025    | 20  |
| 26. Field day on papaya production was organized at Mugadalabetta, Pavagada, Tumkur Dist. Karnataka  | 09 May 2025      | 100 |
| 27. Conducted a Capacity Building Training Programme for Odisha farmers  | 30 May 2025      | 120 |
| <b>CHES, Chettalli</b>   |                  |     |
| 1. Organized Training programme on “Scientific Cultivation of Avocado” to farmers of Wayanad FPC at Sultan Bathery, Wayanad.   | 06 February 2025 | 100 |



Pictures depicting off-campus training programmes

## Field Demonstrations

### On-Farm Trials

| ICAR-IIHR, Bengaluru  |  |
|---|--|
| Description of the trial  | Location (one trial at each location)  |
| Demonstration of vegetable, fruit, medicinal plants & soil health management                        | Puttur, Karnataka<br>H.D Kote, Karnataka<br>Kasaragod, Kerala<br>Jorhat, Assam<br>Raigarh, Chhattisgarh<br>Chennai, Tamil Nadu<br>Villupuram, Tamil Nadu<br>Pachhamailai, Tamil Nadu |
| Demonstration of canopy management  | Chittoor, Andhra Pradesh   |
| CHES, Bhubaneswar   |  |
| Demonstration of kitchen garden   | Bhubaneswar, Odisha  |
| CHES, Chettalli   |  |
| Demonstration of girdling technique in off-season litchi to the farmers (31 March and 1 April 2025) | Virajpet, Karnataka<br>Sakleshpura, Karnataka  |

### Front-Line Demonstrations

| Topic                              | No. of FLDs organized |
|------------------------------------|-----------------------|
| Arka Onion Seeder                  | 1                     |
| Arka Microbial Consortium (AMC)    | 1                     |
| Arka Vegetable Special (AVS)       | 1                     |
| Arka Neem Soap                     | 6                     |
| Arka Pongamia Soap                 | 6                     |
| Arka Mango Special                 | 1                     |
| Fruit (Mango and Sapota) Harvester | 1                     |
| RTF (Ready-to-Fruit) mushroom bags | 20                    |

### Exhibitions

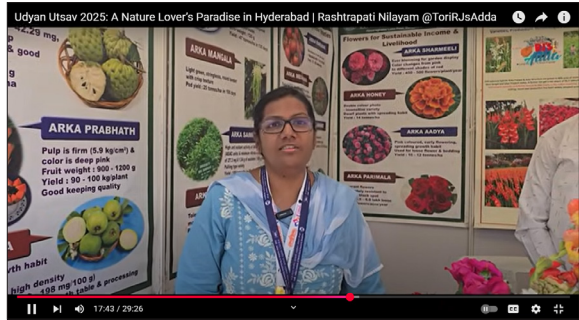
| Event and Location  | Venue and Date   |
|---|--|
| ICAR-IIHR, Bengaluru  |  |
| 1. Farm Machinery Technology and Demonstration (FMTD) Mela, V.C. Farm, Mandya.  | V.C. Farm, Mandya on 22 February 2025.                       |
| 2. Participated and coordinated Exhibition of Institute Stall during "Udyan Utsav" - The 12-day Flower and Horticulture Festival  | Rashtrapati Nilayam, Bolarum, Hyderabad 2 to 13 January 2025 |
| 3. Coordinated the exhibition arrangement of posters/live specimens of varieties and technologies etc in Flower and Medicinal Crops Divisional Stall during National Horticulture Fair 2025 | ICAR-IIHR, Bengaluru<br>February 27 - March 1 2025           |

|  |   |
|--|---|
| <b>CHES, Chettali</b>  |   |
| 1. Exhibition of Coorg Mandarin inputs, planting materials, pest and diseases on the occasion of Training Programme on “Rejuvenation of Coorg Mandarin cum Input Distribution” under RKVY project. | ICAR-IIHR-CHES, Chettali on 23 May 2025                 |
| 2. Exhibition of avocado germplasm diversity and recipes on the occasion of “Avocado diversity fair, field day and stakeholder meet”.  | 2 June 2025 at ICAR-IIHR-CHES, Chettali                 |
| <b>CHES- Bhubaneswar</b>   |   |
| 1. Krushi Odisha-2025, Baramunda, Bhubaneswar  | 3-5, January 2025                                       |
| 2. Annual Flower Show 2025, Botanic Garden, Ekamra Kanan, Bhubaneswar  | 07-11 January 2025                                      |
| 3. Kisan Mela cum Exhibition on Scientific Aquaculture, ICAR-CIFA, Bhubaneswar   | 29 January 2025   |
| 4. 5G Enabled Climate Smart Agriculture: Transforming Agri-Ecosystems for Sustainability and Resilience, ICAR-CRRI, Cuttack  | 27 February to 1 March 2025                             |
| 5. OUAT Farmers Fair-2025, OUAT, Bhubaneswar   | 18-19 February 2025                                     |
| 6. Seminar on Rooftop gardening and Urban Horticulture, CHES, Bhubaneswar  | 23-24 February 2025                                     |
| 7. National Horticultural Fair-2025, ICAR-IIHR, Bengaluru  | 27 <sup>th</sup> February to 1 <sup>st</sup> March 2025 |
| 8. Global Conference on ‘Innovations to Impact: Gender Transformative Approach for Sustainable Agri-food System, ICAR-CIWA, Bhubaneswar  | 8-10 March 2025   |
| 9. 3 <sup>rd</sup> Utkal Krishi Mela 2025, at CUTM, Parlakhemundi, Gajapati  | 7-8 April 2025  |
| 10. National Seminar on Extension Education Strategies for Digital Agriculture, OUAT, Bhubaneswar  | 20-22, June 2025  |

**Media Coverage (Radio, TV programs, Newspaper articles etc)**



Dr. Safeena S.A briefed about ICAR-IIHR technologies on 8.01.2025 for Telugu One TV during 15 days Flower and Horticulture Festival –“Udyan Utsav at Rashtrapati Nilayam, Hyderabad (Udyan Utsav 2025: A Nature Lover’s Paradise in Hyderabad | Rashtrapati Nilayam @ToriRJsAdda) (<https://www.youtube.com/watch?v=qTLljwkuL4>)



Dr. Safeena S.A briefed about ICAR-IIHR technologies on 8.01.2025 for Raj News (Telugu) during Flower and Horticulture Festival “Udyan Utsav at Rashtrapati Nilayam, Hyderabad (రాష్ట్రపతి భవన్ లో ఉద్యాన ఉత్సవ కార్యక్రమం Rashtrapati Nilayam | Hyderabad | Udyan Utsav) (<https://www.youtube.com/watch?v=9u9fHXBM2cY>)



**Media Coverage of Field Day conducted at Panasachoudanahalli on 20.02.2025**



### Media Coverage for Puppet show – Arka Kranti during NHF-2025

Arka Kranti Puppet Show can be viewed on YouTube in Official channel of ICAR-IIHR through the following link:

<https://www.youtube.com/watch?v=UK8ltCR0t4&t=288s>



### Media Coverage of Field Day conducted at Ancharahalli on 05.03.2025



### Media coverage of International Women's Day Celebration


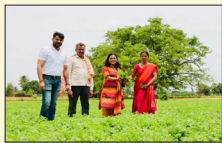


### Media Coverage of Field Day conducted at Nayanahalli on 18.06.2025

### Media Coverage of Field Day conducted at Byrappanahalli on 19.06.2025

### Field Days/ Success stories

| Details  | Picture/video link |
|--|--------------------|
| 1. Field Day on Ridge Gourd var. Arka Prasan at Panasachowdanahalli Village, Chikkaballapura District on 20.02.2025 under DST-Vigyandhara-4305 Project |                    |
| 2. Field Day on Cucumber var. Arka Veera at Ancharahalli Village, Bengaluru Rural District on 05.03.2025 under DST-Vigyandhara-4305 Project            |                    |

|   |   |
|---|---|
| 3. Field Day on Marigold var. Arka Bhanu at Nayanahalli Village, Chikkaballapura District on 18.06.2025 under DST-Vigyandhara-4305 Project    |                              |
| 4. Field Day on Coriander var. Arka Isha at Byrappanahalli Village, Chikkaballapura District on 19.06.2025 under DST-Vigyandhara-4305 Project |                              |
| 5. Success Story of Ridge Gourd var. Arka Prasan at Panasachowdanahalli Village, Chikkaballapura District                                     | <a href="https://youtu.be/Zi8noesyIh4?si=Cc6Nj-x7SCn3IHds">https://youtu.be/Zi8noesyIh4?si=Cc6Nj-x7SCn3IHds</a> |
| 6. Success Story of Cucumber var. Arka Veera at Ancharahalli Village, Bengaluru Rural District  | <a href="https://youtu.be/_fut1949GXs?si=fixS_Jkhvs0wnJX9">https://youtu.be/_fut1949GXs?si=fixS_Jkhvs0wnJX9</a> |
| 7. Success Story of Coriander var. Arka Isha at Ancharahalli Village, Bengaluru Rural District  | <a href="https://youtu.be/3kSgmVV1Ins?si=bEMBMLCGrRCtyFZR">https://youtu.be/3kSgmVV1Ins?si=bEMBMLCGrRCtyFZR</a> |

## 8. Awards and Recognitions

### Awards

- Best Oral Presentation Award at the Second International Conference on Biological Control: Biocontrol Contributions to One Health, organized by NBAIR, Bengaluru, held from February 25–28, 2025, for the paper titled “Evaluation of Bio-Intensive Pest and Disease Management Modules in Small Cardamom”, authored by Sudhakar, S., Kaurav, A.K., Kalaivanan, D., and Singh, B
- Best Oral Presentation Award for the paper titled “Optimizing Growth, Yield and Energy Generation : The Impact of Agrivoltaics on Marigold Cultivation in Inter-Row and Inter-Panel Spaces”, authored by Meghana K., Smitha G. R., Sujatha A. N., Naveen Kumar P., Kalaivanan D., and Prathibha M. D., and presented at the Global Conference on Smart Horticulture for Prosperity and Nutritional Security (GCSH-2025), held from February 12–14, 2025, at the University of Horticultural Sciences, Bagalkot, Karnataka, India
- Dr Gobinda Ch Acharya awarded Distinguished scientist Award- by Society for Agricultural Research & Management during 7th International Conference on Agriculture for Food Security & Nutrition (Agri Vision-2025) during January 17-19, 2025 at Odisha University of Agriculture & Technology (OUAT), Bhubaneswar, Odisha.
- Dr. G. Karunakaran elected as General Secretary for Society for Promotion of Horticulture in ICAR-IIHR, Hesaraghatta, Bengaluru.
- Dr. S. Sujatha served as Member of Committee for selection of Dr. G S Randhawa Best Thesis Award 2023-24 constituted by Executive Committee of Society for Promotion of Horticulture, selected best thesis in different categories.
- Dr. Safeena S.A. was nominated by Secretary DARE & DG, ICAR as the Team Leader for curating online course on ‘Hydroponics in Agriculture’ for uploading on iGOT (Integrated Government Online Training) Karmayogi Platform - a comprehensive digital learning platform launched by GoI.
- Dr. Safeena S.A. delivered Invited talk during ICAR sponsored winter school on “Building Climate Resilience and Sustainability through Agro- Eco Tourism”, on 21<sup>st</sup> February, 2025, organized by ICAR-Central Coastal Agricultural Research Institute, Goa
- Dr. T.R. Rupa, delivered a Lead Lecture on ‘Soil carbon management in fruit production system’ in the National Seminar on “Resource Use Efficiency for Sustainable Fruit Production in Subtropics” organized during March 7-8, 2025 at ICAR-CISH, Lucknow (virtual mode).
- Dr. T.R. Rupa, Served as a member of the Editorial Board of the Journal of the Indian Society of Soil Science, New Delhi.

### Recognitions

- Dr. P. Venkata Rami Reddy conferred with Fellow of National Academy of Biological Sciences (NABS), Chennai
- Dr. G. Karunakaran inducted as Member of Royal Society of Biology, London
- Dr. Kalaivanan, D received Certificate of Appreciation for serving as a Keynote Speaker at the 2nd National Horticulture Conference on “Regenerative Horticulture: Accelerating Sustainable Horticulture Production”, held on 20–21 March 2025 at the Department of Horticulture, Kalasalingam School of Agriculture and Horticulture, Kalasalingam

Academy of Research and Education (KARE), Krishnan Koil, Srivilliputtur, Tamil Nadu.

10. Dr. G. Senthil Kumaran served as External Expert member in the selection committee the post of Scientist-B at Central Silk Board, Bengaluru.
11. Dr. A. Carolin Rathinakumari served as External Expert member in the selection committee the post of Scientist-B at Central Silk Board, Bengaluru.
12. Dr. G. Senthil Kumaran served as Expert Member of the Selection Committee for teaching posts in the cadre of Assistant Professor of Agricultural Engineering of University of Agricultural Sciences, GKVK, Bengaluru.
13. Dr. A. Carolin Rathinakumari served as Expert Member of the Selection Committee for teaching posts in the cadre of Assistant Professor of Agricultural Engineering of University of Agricultural Sciences, GKVK, Bengaluru.
14. Dr. G. Senthil Kumaran served External Expert in the Selection Committee for promotion of teachers under CAS- 2016 scheduled in University of Agricultural Sciences, GKVK, Bengaluru.
15. Dr. A. Carolin Rathinakumari served External Expert in the Selection Committee for promotion of teachers under CAS- 2016 scheduled in University of Agricultural Sciences, GKVK, Bengaluru.
16. Dr. T.R. Rupa, served as an external examiner for conducting the course qualifying viva-voce of two Ph.D. students in the Dept. of Soil Science, Post-Graduate Institute, Mahatma Phule Krishi Vidhyapeeth, Rahuri, Maharashtra on 29<sup>th</sup> April, 2025.
17. Dr. T.R. Rupa, served as Member of the Assessment Committee for CSB Scientists under Modified FCS at Central Silk Board, CSB Complex, BTM Layout, Bengaluru on 02<sup>nd</sup> June, 2025.
18. Dr. T.R. Rupa, served as Member of the Selection Committee for recruitment of Scientist – B (Pre-Cocoon Sector) in the discipline of Soil Science under Direct Recruitment of Central Silk Board, Bengaluru on 17<sup>th</sup> June, 2025.

## Lead/Invited Talks

1. Dr. D. Kalaivanan delivered an invited lecture on 'Cocoponics: A Futuristic Soilless Vegetable Production System' on 10 January 2025 at Rashtrapati Nilayam, Bolaram, Hyderabad.
2. Dr Gobinda Ch Acharya- lead speaker at the National Workshop/Seminar on "Innovations in Regenerative

Agriculture for Higher Production and Profitability", organized as part of the Regional Agricultural Fair 2024-25 by ICAR-Central Rice Research Institute (CRRRI), Cuttack on 28<sup>th</sup> February 2025 and delivered a lecture on "Status and Future Scope of Horticulture crops in Eastern India"

3. Dr Gobinda Ch Acharya- lead presenter on "forgotten and underutilized horticultural crops for nutrition & health" on 7/3/2025 during national seminar on "resource management for climate resilient sustainable food production system" organized by OUAT during 6-7 March, 2025
4. Dr Gobinda Ch Acharya- Co-Chair during the technical session on "gender-responsive agricultural production in crop and horticultural sector" during the Global Conference 'Innovations to Impact: Gender Transformative Approach for Sustainable Agri-food System (IIGASA-2025) being organized by ICAR-CIWA in collaboration with WFP (World Food Programme), UN WOMEN, NDDDB during 8-10 March 2025
5. Dr Gobinda Ch Acharya- Chaired a poster session during the Global Conference 'Innovations to Impact: Gender Transformative Approach for Sustainable Agri-food System (IIGASA-2025) being organized by ICAR-CIWA in collaboration with WFP (World Food Programme), UN WOMEN, NDDDB during 8-10 March 2025
6. Dr Gobinda Ch Acharya- Nominated as an expert for the Third party evaluation and Impact Assessment of "Onion Value Chain improvements in Odisha-Phase 2" Project, funded by RKVY, implemented by World Vegetable Centre and Directorate of Horticulture, Government of Odisha
7. Dr Gobinda Ch Acharya- member of the Technical Sub-committee for finalization of HYV/hybrid varieties for vegetables and other crops for supplying under OIIPCRA project being implemented by Director of Agriculture and Food Production, Govt of Odisha

## 9. Patents & Commercialization of Technologies

During the period, a total of 49 licenses were issued for 34 technologies involving 37 licensees generating a revenue of Rs 95,61,160. The major technologies licensed during the period include ICAR-IIHR biopesticide technologies viz, "*T. harzianum*-1% W.P", "*T. viride*-1.5% W.P", "*P. fluorescens*-1% W.P", Arka Microbial Consortium, Micronutrient specials, avocado varieties Arka Supreme and Arka Coorg Ravi, marigold hybrids Arka Shubha and Arka Bhanu, Arka Automatic protray dibbler cum step seeder for vegetable nursery and Arka Red Kamalam (Dragon) Fruit Powder.

**List of technology licences done during the period, January – June 2025**

| Licences details  | Technology licensed                                 | Revenue (Rs.) (Incl. of tax) | Date of license agreement exchange |
|---|---|------------------------------|------------------------------------|
| <b>Seed and Planting Materials</b>  |   |                              |                                    |
| M/s. H. M. Gardens, D. No.2171, Thal Street, Karumandurai, C. K. Malai Vadakkunadu, P. N. Palayam Taluk, Salem District-636138, Tamil Nadu.<br>Mobile: 9894684507, Email: hmgardan7@gmail.com                 | Arka Supreme and Arka Coorg Ravi, avocado varieties | 88,500                       | 6 January 2025                     |
| Senior Scientist and Head, ICAR JSS Krishi Vigyan Kendra Suttur-571129, Nanjangud Taluk, Mysuru, Karnataka<br>Email: kvk.Mysuru@icar.gov.in, jsskvk@gmail.com;<br>Phone: 9591195573, 7893900859               | Arka Supreme avocado                                | 29500                        | 6 January 2025                     |
| M/s. SS Agro Tech., Nilagiri, Balasore, odisha-756 040, India.<br>E-mail: ssagrotech756040@gmail.com<br>Mobile:9853782544   | Arka Kalyan, Onion                                  | 3,54,000                     | 16 January 2025                    |
| M/s. Sangam Milk Producer Company Ltd.,Sangam Diary, Vadlamudi, Sangam Jagarlamundi, Chebrolu (M), Guntur District, Andhra Pradesh-522 213<br>E-,mail: satyanarayana.a@sangamdairy.com; : +91-900182282       | chilli 'IHR 4390 & IHR 4391' and 'IHR 4615'         | 7,08,000                     | 6 January 2025                     |
| M/s. Mayura Farms,# 83,11th A Cross Road Yelahanka New Town, Bengaluru 560064<br>Phone: +91 9845171449; Email: jjgiri@yahoo.com   | Rose Arka Savi                                      | 59, 000                      | 27 February 2025                   |
| M/s. Navsari Agricultural University, Director of Research & Dean PG Studies, Eru Char Rasta, Dandi Road, Navsari, Gujarat-396 450<br>Mob: 9913166480; E-mail: shivlalchawla@nau.in                           | Marigold hybrid Arka Bhanu                          | 4,72,000                     | 19 March 2025                      |
| M/s. Fertilizers Shop, Kollapur, Bislhalli, Tq-Byadgi, Di:Haveri, Karnataka-581106, India.<br>Mr. Shivaraj Shidenur, Email: shivarajshidenur@gmail.com<br>Mob: +91-9980388016; +91-8749073682                 | Marigold hybrid Arka Shubha                         | 4,72,000                     | 30 April 2025                      |
| M/s. Sri Vinayaka Nursery Ponnathmotte Village, CHES Post KushalnagarTq, Kodagu Dist. -571248<br>Mob:8088237918; Email: madesh502@gmail.com; Vijayvasist157@gmail.com)  | Avocado varieties Arka Coorg Ravi and Arka Supreme  | 88,500                       | 23 May 2025                        |
| M/s. Chully Farm, 114 F, Vattakkunnal building, Vallikkadavu, Maloth, Kasaragod, Kerala-671534, Phone: 8197815243, E-mail: info@chullyfarm.com, binoypc@gmail.com   | Arka Supreme, Avocado variety                       | 25,900                       | 23 May 2025                        |
| M/s. PV Ventures, Door 1, Ground Floor, Pragna Uptown Apartments,Doddathoguru, Electronic City, Phase -I, Bengaluru-560100, Mobile: 9072124371<br>Email: venu@pvventures.in Mr. Venugopal A, Managing partner | Arka Prabhavi (C. asiatica herb )                   | 35,400                       | 5 June 2025                        |
| Ms. Rashmi Bhanuprakash<br>1st Block, 5th Cross Ummamaheshwari layout, Kaikeri Vill & Post, Gonikoppal, Karnataka- 571213<br>Phone: 8762549313, 6362477850.<br>Email: rashnanjappa@gmail.com                  | Avocado varieties Arka Coorg Ravi and Arka Supreme  | 88,500                       | 21 June 2025                       |

| <b>Farm Implements and Machinery</b>   |   |          |                  |
|--|---|----------|------------------|
| M/s. Destech Agro Solutions LLP , Q 805, River Residency, Pune, Maharashtra, 411062<br>Mobile: 9004400181; Email: destechagrosolutions@gmail.com   | Arka Automatic protray dibbler cum step seeder for vegetable nursery  | 59,000   | 6 January 2025   |
| Ranjeeta's Agri Foods Health and Hygiene Pvt. Ltd., Bhubaneswar-751010 Odisha.<br>Phone: 9437035065, Email: govindaswain@gmail.com   | Solar Power Integrated Outdoor Mushroom Growing Unit  | 29,500   | 27 February 2025 |
| M/s. Avallark Services LLP Vallarkodath House, Muttar, Eloor-683501, Kerala, India.<br>Mrs. Farzana Bijur, E-mail : info@avallark.com<br>Phone No : 9980091185, 9995753039   | Arka Vertical Farming Model   | 35,400   | 18 June 2025     |
| <b>Plant Health Management</b>   |   |          |                  |
| M/s. DRK Agro Products, Bengaluru Urban, Karnataka-562123 India.<br>E-mail: navicubem@gmail.com; Mob: +91-97385 52602  | Arka Microbial Consortium (Solid + liquid formulation)  | 5,90,000 | 27 January 2025  |
| M/s. Pavaman Agri ventures, 2nd Floor, Kapil Kavuri Hub, Nanakramguda, Hyderabad, Telangana, 500032, India<br>E-mail: unnikrishnan.ramapurath@pavaman.in;<br>Mobile: 9747336718  | Arka Microbial Consortium” and “Arka Mango Special”)  | 9,44,000 | 5 February 2025  |
| M/s. Indo Agritech Private Limited<br>Indore (M.P.) 453551<br>E-mail: indoagritech@gmail.com, indoagritechpvtltd@gmail.com<br>Mob.- +91 87704-80898, +91 99267-33674<br>website :https://www.indoagritech.in                 | 1. Fruit fly trapping technology in cucurbit crops for North Eastern region, 2. Fruit fly trapping technology in orchard crops for North Eastern region | 99,120   | 4 April 2025     |
| M/s. Siddaganga Oil & Bio Industries LLP., PB No. 133,OPP Fire Station, NH-4, Tumkur - 572103, Karnataka,<br>Mobile: 9008088888; Email: soe@siddioil.com   | Arka Vegetable Special  | 4,74,360 | 4April 2025      |
| M/s. AIRR Organics and Biofertilizers Private Limited, 87-21, Bengaluru Urban, Karnataka-560044<br>Email: anilkumar.varnam@gmail.com<br>Dr. Ruchi Sahu (Contact no: 9886165014)<br>Dr. Anil Kumar M (Contact no: 9686641471) | Arka Citrus special   | 2,36,000 | 16 April 2025    |
| ICAR-Krishi Vigyan Kendra, Hirehalli, Tumakuru,<br>Dr. E-mail: kvk.tumakuru2@icar.gov.in, iihrkvk@gmail.com<br>Phone: 8277252099   | Arka Microbial Consortium (Solid+Liquid)  | 5,00,000 | 4 April 2025     |
| M/s. Jeevasudha Greentech Private Limited. Flat No. 321, Vrindavan Gardens, Hebbal-Kempapura, Bengaluru -560024.<br>Mr.Rajendra G. Mavinkurve, Director,<br>Mobile no 8088054254; Email: rajendragm@yahoo.com                | Arka Microbial Consortium (Solid+Liquid)  | 5,90,000 | 16 May 2025      |
| M/s. DRK Agro Products Pvt. Ltd., Ground floor, Muniyanapalya, Bengaluru Urban, Karnataka-562123 India.<br>E-mail: navicubem@gmail.com<br>Mobile: 9738552602   | Arka Mango Special  | 3,59,900 | 30 May 2025      |
| M/s. Biocentre, Department of Horticulture, Bannerghatta Main Road, Post Box No. 7648, Hulimavu, Bengaluru, Karnataka-560 076, India. E-mail: sadh.pn@gmail.com<br>Mobile: 9620348777; +91-9035465025                        | Arka Microbial Consortium (Solid+Liquid)  | 5,90,000 | 6 June 2025      |
| <b>Post Harvest Technologies</b>   |   |          |                  |
| M/s. ICAR-Krishi Vigyan Kendra<br>V.C.Farm, Mandya Dist., Karnataka- 571 405<br>Phone: 08232-277456 M: 9449864250;<br>Email: kvkmandya@gmail.com   | Arka Agarbathi and Dhoop  | 41,300   | 27 January 2025  |

|  |  |          |                  |
|--|--|----------|------------------|
| M/s. Adhen Agro Products Pvt. Ltd., Asher 1193, SMV Layout, 5th Block, Near Manganahalli Cross, Bengaluru Urban, Karnataka, PIN Code: 560110. Email: premalatha.eec@gmail.com, contactus@adhen.in; Phone: 8217517118 | Arka Minimally Processed Onion + Shelf life extension of minimally processed cabbage, fresh cut carrot, peeled garlic, coriander leaves, fresh cut cucumber, fresh cut capsicum, fresh cut French beans, fresh cut Radish (in a cluster)             | 88,500   | 27 February 2025 |
| M/s. Design Habitats Private Limited, Villa-20, Trident Galaxy, Kalinga Nagar, Bhubaneswar, Odisha-751003; Mr. Debeetswain, Director, Mobile: 9937239845, Email: debeetswain@gmail.com                               | Licensing of Arka Arka Red Kamalam (Dragon) Fruit Powder   | 64,900   | 13 March 2025    |
| M/s. Gold Dust Kitchen, No.: 6, Sampat Avenue, Bicholi Mardana, Indore 452016 Mr. Nilay Jain, Co-founder, Phone: 7880018189; Email: nilayj95@gmail.com   | Arka Ready-to-Eat (RTE) Jack Curry   | 1,23,900 | 23 April 2025    |
| Mrs. C. V. Shobha, No. 489, 4th Main, 'A' Block, Rajaji Nagar, Bengaluru -560055; Mobile: 9448315578   | Dried flower technology (single process, single crop & single product)   | 23,600   | 23 April 2025    |
| M/s. BESST-HORT, ICAR-IIHR, Hesaraghatta Lake Post, Bengaluru-560089. Phone: 7760883948, home: 9141704357 Email: bessthorth.iihr@icar.gov.in, bessthorth@gmail.com   | Licensing of<br>1. Arka mushroom chutney powder. (7 types)<br>2. Arka vitamin D enrichment technology in elm oyster mushroom<br>3. Squash in a cluster: Amla squash, Guava squash and Kokum squash<br>4. Osmotic dehydration technology In a cluster | 3,59,900 | 30 May 2025      |
| M/s. Retrocart Fresh Grocers India Private Limited, Vivekananda Nagar, Hoskote-562114, Bengaluru (Rural). Phone: 7676535359/9945352002; Email:retrocart.siva@gmail.com   | Arka RTC Tender Jack Anytime   | 1,23,900 | 18 June 2025     |
| Mr. R. Sadesh Kumar, Andikuzhi Village, Sendanadu Post, (Via) Thirunavallore, Ulunderpet Taluk, Kallakuichi Dist., Tamilnadu - 607204; Mobile: No. 9843018019 Email: saiganpat@gmail.com                             | Arka Mango Wash  | 31,860   | 18 June 2025     |
| <b>Biopesticides</b>   |  |          |                  |
| M/s. Godrej Agrovet Limited, Oil Palm Mill Chintampalli Village, Chintalapudi Mandal Eluru District-534 460, Andhra Pradesh, India Mobile: +91 73311 48699; Email: santosh.swamy@godrejagrovet.com                   | IIHR <i>Trichoderma viride</i> - 1.5% W.P. and IIHR - <i>Pseudomonas fluorescens</i> - 1% W.P.   | 5,90,000 | 25 February 2025 |
| M/s. Zytex Biotech Pvt. Ltd., Plot No. 23, 24 & 36, Savli Biotech Park, Village Manjusar, Taluka Savli, Dist Baroda, Gujarat-391 775, India. E-mail :techsupport@zytexas.com : +91-9769060934, +91-7227060500,       | IIHR <i>Pseudomonas fluorescens</i> -1% W.P  | 2,95,000 | 4 March 2025     |
| M/s. Pratap Texchem Private Limited, Pune-412 115 Maharashtra, India. Contact Head Office: +91 8446060391 info@pratapchem.com; Mobile: +91 9881198242; ajay.bhosale@pratapchem.com                                   | IIHR- <i>Pseudomonas fluorescens</i> -1% W.P and IIHR- <i>Trichoderma viride</i> -1.5% W.P.  | 594720   | 19 March 2025    |

|  |  |           |                 |
|--|--|-----------|-----------------|
| M/s. Coromandel International Ltd., Coromandel house, Secunderabad, Telangana-500003, India.<br>E-mail: ankur@coromandel.murugappa.com;<br>Mobile: 91 8904263829 | <i>Pochonia chlamydosporia</i> (=Verticillium chlamydosporium) - 1% W.P").       | 2,95,000  | 18 June 2025    |
| <b>Biotechnology</b>   |  |           |                 |
| M/s. TPR BIOTECH, Chithambaranar st, Karattadipalayam (Po), Lakkampatti, Erode (Dt) – 638453, Tamil Nadu.<br>Mobile: 9942622232; E-mail: malar.prp@gmail.com     | Embryogenic cell suspensions for mass multiplication of Banana (cv Elakki balle) | 59,000    | 27 January 2025 |
| <b>Total</b>   |  | 95,61,160 |                 |



Licensing of Arka Minimally Processed technology to M/s. Adhen Agro Products Pvt. Ltd., Bengaluru during National Horticulture Fair 2025



Licensing of Arka Prabhavi (C. asiatica herb) to M/s. PV Ventures, Bengaluru

## 10. Revenue generation

### Revenue generation from different units under ICAR-IIHR

| Unit   | Revenue (Rupees in Lakhs) |
|--|---------------------------|
| 1. ITMU (through technology licensing)   | 95.61                     |
| 2. ITMU (under Professional Service function including contract service, contract research, Field visits etc.) | 137.10                    |
| 3. Mushroom Lab (sale of spawn)  | 23.90                     |
| 4. ATIC  | 66.63                     |
| 5. RFS (Vegetable Seed Unit )  | 156.00                    |
| 6. RFS (Flower and Medicinal Crops Unit)   | 18.77                     |
| 7. RFS (Fruit crop Nurery)   | 92.88                     |
| 8. RFS on Leaf Analysis Services to Horticultural Crops Grower   | 6.01                      |
| 9. Irradiation of seeds and planting material using Gamma Irradiation Chamber                                  | 3.57                      |
| 10. Agricultural Engineering has generated revenue   | 1.18                      |
| 11. Organizing training programmes   | 4.76                      |
| <b>CHES, Chettalli</b>   |                           |
| 1. Farm produce  | 2.22                      |
| 2. Other   | 3.47                      |
| 3. Revolving Fund  | 3.03                      |

## 11. Distinguished Visitors

### ICAR-IIHR, Bengaluru

| Sl. No.                  | Visitor details   | Date of visit    | Picture   |
|--------------------------|---|------------------|---|
| 1.                       | Smt. Shilpi Neha Tirkey<br>Hon'ble Minister for Agriculture Government of Jharkhand                             | 24 January 2025  |    |
| 2.                       | Prof. (Dr.) Md. Sameeruddin Khan<br>Pro Vice Chancellor, Presidency University, Bengaluru                       | 22 May 2025      |   |
| 3.                       | Shri. Shivraj Singh Chouhan,<br>Hon'ble Union Minister for Agriculture and Farmers Welfare, Government of India | 8 June 2025      |    |
| 4.                       | Dr. K. Sudhakar<br>Hon'ble Member of Parliament, Chikkaballapur   | 8 June 2025      |    |
| 5.                       | Shri S.R. Vishwanath<br>Hon'ble MLA from Yelahanka  | 8 June 2025      |   |
| 6.                       | Dr. Raghavendra Bhatta<br>Deputy Director General (Animal Sciences), ICAR                                       | 8 June 2025      |   |
| 7.                       | Dr. Sanjay Kumar Singh,<br>Deputy Director General (Horticultural Sciences) ICAR                                | 8 June 2025      |   |
| 8.                       | Dr. Venkata Subramaniam<br>Director, of ICAR-ATARI, Bengaluru   | 8 June 2025      |   |
| <b>CHES, Bhubaneswar</b> |   |                  |   |
| 1.                       | Dr Bidyut C Deka<br>Hon'ble Vice-Chancellor, Assam Agricultural University, Jorhat, Assam                       | 24 February 2025 |  |
| 2.                       | Dr T. Janakiram<br>Former Vice-Chancellor, Dr YSR Horticultural University, Andhra Pradesh                      | 24 February 2025 |   |
| 3.                       | Shri. Ashrit Pattanaik<br>Hon'ble MLA, Pipili, Odisha   | 6 May 2025       |  |
| 4.                       | Prof. S. K. Singh<br>Deputy Director General (Hort. Sci.), ICAR, New Delhi                                      | 30 May 2025      |   |

## 12. Personnel

### SCIENTIST STAFF

#### 1. Promotions

- Dr. Preethi. P, Scientist (Fruit Science), Div of PHT & AE has been appointed to the post of Senior Scientist (Pay level 13A) w.e.f. 23.04.2025 through Direct Recruitment.
- Dr. Muralidhara B.M, Scientist (Fruit Science), CHES, Chettalli has been appointed to the post of Senior Scientist (Pay level 13A) w.e.f. 24.04.2025

through Direct Recruitment at IIHR, Bangalore and transferred to CHES, Chettalli on 29.04.2025.

#### 2. Transfers

- Dr. M.R. Rohini, Scientist (Spices, Plantation & Medicinal & Aromatic plants), stands relieved from the duties at this institute in the AN of 11.06.2025 to report to the post of Senior Scientist at ICAR-IIOPR (RS), Palode, Kerala in the pay level 13-A through Direct Recruitment.
- Dr. Shivakumar M, Sr. Scientist (Genetics & Plant Breeding) transferred from ICAR-NSRI, Indore and

reported for duty at IIHR Bengaluru on 16.06.2025 (FN) and posted to work in the Division of Fruit Crops.

- Dr. Shantanu Rakshit, Scientist (Agril. Extension) transferred from ICAR-NRC on Camel, Bikaner and reported for duty at IIHR-CHES-BBSR on 19.05.2025 (FN)
- Dr. Haritha Mohan.M, Scientist (Plant Pathology) transferred from ICAR-MGIFRI, Motihari, Bihar and reported for duty at IIHR-CHES-Chettalli on 23.06.2025 (FN)
- Dr. Ramavath Ramesh Babu, Scientist (Vegetable Science) has been transferred from IARI, Assam & reported at CHES-Chettalli on 30.06.2025 (FN).

### 3. Superannuation

- Dr. Tejaswini Prakash, Pr. Scientist, retired from Council Service on 30.04.2025.
- Dr. R. Asokan, Pr. Scientist, retired from Council Service on 31.05.2025.

### 4. Deputation

- Dr. M. Senthil Kumar has been appointed and confirmed as Director of Research in the services of the Central Coffee Research Institute, Chikkamagalur on 19.05.2022 and his lein period of two years which ends on 15.05.2025
- Dr. Harinder Singh Oberoi has been deputation w.e.f. 09.08.2023 to the post of Director, NIFTEM, Kundli for the period of five years.

### 5. In- charge Headship

- Dr. R. Senthil Kumar, Principal Scientist has taken over the charge of In charge Head, Div of Social Sciences & Training w.e.f 26.04.2025 for the period of 2 years.
- Dr. Muralidhara B.M, Senior Scientist nominated as I/c Head, CHES, Chettalli & I/c Head, KVK, Gonikoppal w.e.f 13.06.2025 for the period of 2 years.

## TECHNICAL STAFF

### 1. New entrants

- Shri Adesh Kumar reported for duty as Technical Trainee (T-1) w.e.f 07.02.2025, he is posted at Division of Fruit crops, ICAR-IIHR, Bengaluru.
- Shri Ramlakhan Meena reported for duty as Technical Trainee (T-1) w.e.f 12.02.2025, he is posted at Division of Vegetable crops, ICAR-IIHR, Bengaluru.
- Shri Avinash Kumar Ray, reported for duty as Technical Trainee (T-1) w.e.f 13.02.2025, he is posted at Division of Flower & Medicinal crops, ICAR-IIHR, Bengaluru.

- Shri Devashish Meena, reported for duty as Technical Trainee (T-1) w.e.f 18.02.2025, he is posted at Division of Vegetable crops, ICAR-IIHR, Bengaluru.
- Shri Vivek Kumar, reported for duty as Technical Trainee (T-1) w.e.f 29.05.2025, he is posted at Division of Vegetable crops, ICAR-IIHR, Bengaluru.

### 2. Promotions

- Dr. N.S. Nagegowda, Asst. Chief Technical Officer (T-7/8) has been promoted to higher grade of Chief Technical Officer (T-9) Cat-III in Pay Matrix level-12 w.e.f. 16.08.2024.
- Shri Jayashankar, Asst. Chief Technical Officer (T-7/8) has been promoted to higher grade of Chief Technical Officer (T-9) Cat-III in Pay Matrix level-12 w.e.f. 22.05.2024.
- Shri Thippeswamy.S, Chief Technical Officer (T-9) has been granted one advance increment in the same level (ie Chief Technical Officer (T-9)) Cat-III in Pay Matrix level-12 w.e.f. 03.11.2023.
- Shri Chandra Kumar.C, Senior Technical Officer (T-6) has been promoted to higher grade of Asst. Chief Technical Officer (T-7/8) Cat-III in Pay Matrix level-11 w.e.f. 28.06.2019.
- Shri Singray Majhi, Senior Technical Officer (T-6) has been promoted to higher grade of Asst. Chief Technical Officer (T-7/8) Cat-III in Pay Matrix level-11 w.e.f. 30.04.2024.
- Shri P. Dayananda, Senior Technical Officer (T-6) has been promoted to higher grade of Asst. Chief Technical Officer (T-7/8) Cat-III in Pay Matrix level-11 w.e.f. 15.05.2024.
- Shri Narendra.S, Senior Technical Officer (T-6) has been promoted to higher grade of Asst. Chief Technical Officer (T-7/8) Cat-III in Pay Matrix level-11 w.e.f. 15.05.2024.
- Smt. Jyoti Appu Naik, Technical Officer (T-5) has been promoted to higher grade of Senior Technical Officer (T-6) Cat-III in Pay Matrix level-10 w.e.f. 01.01.2022.

### 3. Transfers

- Shri. Amal Johny, Senior Technician (Lab), Div. of Basic Sciences relieved from his duties at ICAR-IIHR, Bengaluru w.e.f 31.01.2025 (AN) on request transfer to join ICAR-CIFT, Cochin.

### 4. Retirement/Superannuation

- Shri. Ratan Kumar Jha, Technician (T-1), Div. of Flower & Medicinal Crops **relieved** from his duties at ICAR-IIHR, Bengaluru w.e.f. 03.01.2025 (AN) on personal grounds.



- Shri. B.N. Siddaraju, Technical Officer (Lab), Div. of Basic Sciences, ICAR-IIHR, Bengaluru **retired** from Council's service w.e.f 31.01.2025 (AN).
- Dr. Mandakranta Bhattacharya, Chief Technical Officer (Lab), ICAR-IIHR, Bengaluru **retired** from Council's service w.e.f 28.02.2025 (AN).
- Shri. Amit Maurya, Technician (T-1), ICAR-IIHR Farm Facility – Hirehalli **relieved** from his duties at ICAR-IIHR, Bengaluru w.e.f. 29.04.2025 (AN) upon selection to the post of ASO, CSS, New Delhi.
- Shri Mallikarjun NNiddaguti, Technician(T-1), ICAR-IIHR Farm Facility – Hirehalli **relieved** from his duties at ICAR-IIHR, Bengaluru w.e.f. 08.05.2025 (AN) upon selection to the post of Inspector (Central Tax), MOF.
- Shri. Balakrishna.L, Senior Technical Officer (Lab), Div. of Basic Sciences, ICAR-IIHR, Bengaluru **retired** from Council's service w.e.f 31.05.2025 (AN).
- Shri. Nagaraja E Kodekal, Technical Officer (Workshop), Farm Management Unit, ICAR-IIHR, Bengaluru **retired** from Council's service w.e.f 30.06.2025 (AN).

## Demise

- Shri Sanjeev M. Kengare, Senior Technician, ICAR-IIHR Farm Facility – Hirehalli **passed away** untimely on 22.04.2025.

## ADMINISTRATIVE AND SSS STAFF

### 1. New entrants

- Mr. Napender, Assistant (DR) has reported for duty at ICAR-IIHR, Bengaluru on FN of 24.02.2025
- Shri. Ajayan. P, Private Secretary joined ICAR-IIHR on transfer from ICAR-Sugarcane Breeding Institute, Coimbatore to ICAR-IIHR, Bengaluru & reported to duty on 08.11.2024.
- Mr. Aman Shukla, Administrative Officer reported for duty at ICAR-IIHR Bengaluru on 21.04.2025 (FN) and relieved his duties from ICAR-NAARM, Hyderabad

### 2. Promotions

- Shri. Viswanathan. T, AO has been promoted to the post of SAO w.e.f. 01.01.2025

### 3. Transfers

- Smt. Sai Monica Lakshmi, Lower Division Clerk, has been transferred to ICAR-ATARI, Zone-XI, Hebbal, Bengaluru & relieved of her duties at ICAR-IIHR, Bengaluru on AN of 09.01.2025.
- Shri. V.R. Vinay, Assistant, has been transferred to ICAR-IVRI, Regional Station, Hebbal, Bengaluru and relieved of his duties at ICAR-IIHR, Bengaluru on FN of 31.01.2025 to the post of Assistant Administrative officer on Deputation basis.
- Shri. P. Senthil Kumar, Assistant Administrative Officer, has been transferred to ICAR-ATARI, Zone-XI, Hebbal, Bengaluru & relieved of his duties at ICAR-IIHR, CHES, Chettalli, Kodagu on FN of 02.06.2025 to the post of Assistant Administrative officer on Deputation basis.

### 4. Superannuation

- Shri. V. Raghuraman, Senior Administrative officer, ICAR-IIHR, Bengaluru retired from Council's service on superannuation on the AN of 30.04.2025.
- Shri. Giri. M.V, Private Secretary, ICAR-IIHR, Bangalore retired from Council's/IIHR service on superannuation on the AN of 31.05.2025.
- Shri. Hanumantharayappa, Multi Tasking Staff. ICAR-IIHR, Bangalore retired from Council's/IIHR service on superannuation on the AN of 31.05.2025.

### 5. Clearance of probationary period and confirmation

- Smt. Mubeen Taj, Personal Assistant w.e.f. 01.07.2023
- Smt. Sheela. S, Personal Assistant w.e.f. 14.06.2024
- Smt. Veda Kurnalli, Personal Assistant w.e.f. 01.09.2022

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