

National level accredited laboratories

- **Food Safety Residue Laboratory:** ICAR-IIHR has broadened its scope by establishing a state-of-the-art Food Safety Referral Laboratory (FSRL), dedicated to certifying horticultural food products for safety parameters. Funded by the Indian Council of Agricultural Research, Government of India, during 2015–17, the laboratory was set up in response to increasingly stringent food safety standards, growing demand for fresh and processed horticultural produce, and the challenges posed by diminishing agricultural resources. With export potential expected to reach up to 10% of total production, meeting rigorous safety and quality norms is essential. The FSRL is mandated to provide analytical services for detecting food contaminants in horticultural samples and to build capacity through training of scientific and technical personnel. Its objectives include analyzing pesticide residues, heavy metals, microbial agents, mycotoxins, and quality parameters; standardizing rapid and accurate analytical methods; offering services to stakeholders. FSRL, the NABL-accredited laboratory is presently the Reference Laboratory of Food Safety and Standards Authority of India (FSSAI) for fruits and vegetables.
- **Regional Honey Testing Laboratory:** ICAR-IIHR has received financial support of ₹828 lakhs from the National Bee Board to establish a Regional Honey Testing Laboratory, recognizing honey as a high-value natural product with a strong emphasis on purity and authenticity. Given the increasing consumer demand and high production costs, there is an urgent need for advanced infrastructure to test honey for sugar adulteration, contaminants like pesticides and antibiotics, and other quality parameters using sophisticated techniques. The laboratory is equipped to analyze honey samples in accordance with FSSR-2011 (FSSAI) standards and is actively engaged in research to develop analytical methods for detecting contaminants and adulterants. It primarily serves honey producers across the southern Indian states of Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, and Telangana.
- **COE for Kamalam:** The Centre of Excellence for Kamalam Fruit, funded by MIDH for the period 2023–2025 with a total budget of ₹765.79 lakhs, is being implemented. The primary objectives of this project are, Establishment of a Centre of Excellence on Kamalam fruit; Development of high-performing varieties with improved yield. Standardization of production techniques; Integrated pest and disease management; Post-harvest handling and development of value-added products. Within the short span of its existence, the notable achievements of the project includes identification of high yielding varieties such as CHESH-D1, CHESH-D2, and CHESH-D3; 29 exotic and 65 secondary accessions were added to

Germplasm block, standardized the protocol for production of quality planting material using organics and AMC, standardized the nutrient requirement as N:P₂O₅:K₂O at 400:300:650 g/pillar/year for white pulp and 700:400:350 g/pillar/year for purple-red pulp dragon fruit. A training system using single reinforced concrete poles with cement rings was developed, which yielded up to 25% more fruit compared to the T-shaped trellis system. Off-season production techniques using LED bulbs (14–20 W; 1500 lumens) were introduced. Value addition technologies were standardized, including the production of dragon fruit powder using a tray drier and Arka Kamalam ready-to-serve (RTS) beverage.

- **CoE – Protected cultivation of Horticultural crops. :** The Centre has been established with a budget of 772.8 lakhs, from MIDH, Ministry of Agriculture & FW, Government of India through NHM-Karnataka. Main objective is to demonstrate the protected cultivation of horticultural crops and provide training to the growers and other stake holders beside supplying disease free quality vegetable seedlings to the farmers and adoptive research. In total 18 protected cultivation structures are constructed adding up built up area of 1.07hectares including several types of protected structures like polycarbonate greenhouse, fan and pad greenhouse, naturally ventilated polyhouse, insect proof net house and low tunnels. A state of the art automated machine assembly for plug type protray vegetable seedling production was also established.





- **All India Network Project - Biotech Crops: Creation of Transgenic Field-Testing Facility:** A National facility is being developed at ICAR-IIHR under the “All India Network Project - Biotech Crops” to facilitate the Biosafety research level I and II testing of the Biotech crops. The world class, state of the art facility is coming up at an area of 12 acres at IIHR. The facility would cater to the needs of the BRL trials of Biotech crops and accelerate deployment of Biotech crops in India.
- **Bio Safety Laboratory (Level-II):** BSL-II lab with biosafety level facilities are specialised research laboratories dealing with infectious agents and pathogens. Research involving infectious & genetically modified organisms require the protection of the laboratory personnel, environment, and the community. The biosafety levels provide protective measures and command the work practices appropriate to the research. Such a facility will significantly help the research community in ICAR to carry out high quality research without compromising with the safety measures