



Revised Circular

*National Conference on*  
**Digital Technologies for Transforming  
the Horticulture Sector**

**(28-30 January, 2025)**

**ICAR-IARI, Pusa Campus, New Delhi - 110 012**



**Jointly organised by:**



## Background

The Horticulture Sector is facing tremendous challenges with regards to productivity, sustainability, and quality from the rapidly growing population, changing climate, and severe shortfall of arable land and water resources. The horticulture production in the country is about 355.25 MT, with an area of 28.77 mha. The Indian Horticulture Sector contributes more than 30% to the agriculture Gross Value Added (GVA), making a very significant contribution to the Indian economy. The projected requirement of horticultural production is 520 MT by the year 2047 (Amrit-kal). Adoption of precision production, protection and improvement strategies are required to achieve this incremental requirement. Although significant investment and research advances have been made in horticultural crops, it is essential to adopt the modern and emerging tools associated with Digital intervention in production and management systems up to value chain. It is imperative to develop sensing, automation, and analytical tools for horticultural crops to meet future challenges. Integration of imaging and computing technologies is required to extract key features for improving the yield, quality, sustainability, and adaptability of major horticultural crops through a systematic approach. Bridging the digital divide and placing innovation and digital transformation at the core of horticulture is key to empowering farmers and all stakeholders enabling greater access to information, finance and markets. Digital technologies affect entire food systems and bring significant benefits through lower information, transaction, and surveillance costs. While

digital technologies can make a significant contribution to the achievement of the 2030 Agenda for

Sustainable Development by the United Nations, they also pose economic, social, and ethical challenges, in particular with regard to privacy and security and in terms of the impact they can have on business, employment and markets. The equity and efficiency of global Agri-Horti-food systems can greatly benefit from the digital technologies, and for that to happen, it requires a coordinated and inclusive promotion of innovative practices and a balanced policy framework to reduce risks and ensure that no one is left behind. Your active participation and support are crucial in this digital transformation journey in Horticulture.

## Objectives

The conference has been planned with the following objectives, strategies and action plan for future implementation.

- Share experiences, developments and visions in digital horticulture.
- Discuss the challenges in realizing the digital transformation of horticulture.
- Identify sustainable pathways to accelerate digital horticulture transformation through traceability

## Technical Sessions

The conference will be conducted in the following Technical Sessions:

**Digital Innovations for Horticultural Crop Improvement:** Use of phenomics and image-based phenotyping; IPR issues of Horticulture crop Varieties and Farmers right; phenotyping for abiotic and biotic stresses, Genomics, Bigdata, Machine learning; Predictive analytics for horticulture pest, disease; Crop modeling and forewarning.

Session-1



Session-11

### Smart Monitoring for Precision Horticulture:

Use of GPS, sensors, and data analytics, etc. in input use; Precision data recording and applications; Sensors and IoT in Plant Protection; Crop zoning; soil health mapping; Biosensors; monitoring large agricultural areas for crop health assessment; aiding in precision farming and disaster management; prediction and loss evaluation, input requirement; yield prediction; Monitoring of environmental parameters; crop parameters; Climate change impact, high volume seedling production.

Session-111

### Mechanization, Robotics and Automation for hand-free orchards:

Grafting, Transplanting, Pruning, Weeding, Spraying, Planting and Irrigation; Fruit picking; Harvesting; Grading; Post-harvest quality & Food safety management; Storage and inventory management.

Session-110

### Precision Post Harvest Management and Processing Technologies:

ML in maturity and harvesting; storage and transport; supply chain management; food safety and traceability.

Session-110

### ICT for Blockchain, traceability, Market intelligence and Export:

Decision making and risk mitigation; Adoption and accessibility; simplifying business operations; peer-to-peer network for data verification and sharing; connectivity and reliability in the virtual market; secure technological solutions; decision support systems; market prices and best practices; knowledge dissemination; market intelligence; online trading; direct marketing; forewarning and alternative strategies.

Session-111

### Digital Innovations in Horticultural Education and Extension Services:

Skill orientation; Human Resource Development; IoT and ICT requirements for rural crop clusters; Connecting rural areas on the high-speed network; Sambhav and SOHAM; Decision Support System; Kisan

Sarathi, iSARATHI, SanmatiAI etc. and other digital platforms; Govt. and PPP interventions in different areas to boost Horticulture sector



## Participants

The conference is open to all those interested in Horticulture R&D and related sectors, e.g. representatives from both public and private sectors, central and state government ministries, scientists, development workers and students from agricultural institutes and universities, state horticulture departments, representatives from international agencies, farmers' associations, agri-input associations (like Seeds, Fertilizers, Plant Protection chemicals), NGOs, etc. The deliberation of the Congress shall be in English.



## Presentations

The conference will include Plenary and Lead (through invitation only) presentations, Oral presentations, and Poster Presentations. Experts from different parts of India and abroad with specialization in specific sub-themes will be invited.

**Plenary and Lead Papers:** Lead Papers on specific topics related to each session will be invited from the Senior personnel, R&D institutions/ SAUs, etc., and will be based on suggestions received. The extended abstracts (about 2 pages) of these papers are required to be submitted





within three weeks of the request, while the full-length papers will be required to be submitted by 15th September, 2024 for publication in the Proceedings to be released during the Inaugural Session. The expert is expected to review the global status and suggest future priorities for India in his/her talk.

**Oral Presentations:** Both members and non-members of IAHS within India and abroad shall be considered for oral presentation subject to the relevance of the title and contents from the presentation.

**Poster Papers:** Researchers/Students are invited to submit Abstracts (a maximum of two senior registered authors) relating to the broad theme areas of the conference. These abstracts will be peer-reviewed and presented as Poster Papers during the two or four-day event. Only abstract / (s) of the registered authors will be published (Max. two).

The abstract should be prepared in MS Word, not exceeding 250 words. It must contain a clear title,



name and affiliation of the authors. The name of the presenting author should be underlined, and an E-mail should be given at the end. There should not be any sub-headings, figures, tables or references in the abstract. The abstract may be submitted through email and/or by post, along with a soft copy. The detailed specifications for preparing the poster paper (Digital format) will be mailed to the authors whose abstracts have been accepted for presentation.

The abstract may please be emailed to:

## *Important Dates*

<b>Last date for receiving Abstract(s)</b>	<b>: 31.12.2024</b>
<b>Last date for sending Acceptance Letter</b>	<b>: 05.01.2025</b>
<b>Last date for sending Registration fee</b>	<b>: 05.01.2025</b>

## *Registration Fees*

Details of Registration Fee for various categories of participants are as under:

<b>Category</b>	<b>On time (₹)</b>
<b>Non-members of IAHS/ Corporate Sector</b>	<b>8000/-</b>
<b>IAHS members/ State Hort. Staff/KVK</b>	<b>7500/-</b>
<b>Foreign delegates</b>	<b>SAARC countries (US\$ 150) others US\$ 200 or € 150</b>



## Organising Committee

### Patron

**Dr Himanshu Pathak**

Secretary, DARE & DG, ICAR, New Delhi

### Chairman

**Dr K.L. Chadha**

President, Indian Academy of Horticulture Sciences (IAHS), New Delhi

### Co-Chairmen

**Dr S.K. Singh**

DDG (Hort. Sci.), ICAR, and Vice President, IAHS, New Delhi

**Dr D.R. Singh**

Vice Chancellor, BAU, Sabour and Vice President, IAHS, New Delhi

### Organizing Secretary

**Dr V.B. Patel**

ADG (F&PC), ICAR, Secretary, IAHS, New Delhi

### Convenors

**Dr Rabi N. Sahoo**

Principal Scientist, ICAR-IARI, New Delhi

**Dr Jai Prakash**

Principal Scientist, ICAR-IARI and Treasurer, IAHS, New Delhi

**Dr Ram Asrey**

Professor, ICAR-IARI and Editor-in-Chief, IAHS, New Delhi

**Dr Shyam Sundar Dey**

Principal Scientist, ICAR-IARI and Joint Secretary, IAHS,  
New Delhi



### Secretariat

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