

July - December 2025

Spices News

Newsletter of ICAR-Indian Institute of Spices Research



Golden Jubilee Celebration

The Golden Jubilee celebrations of ICAR-Indian Institute of Spices Research culminated with the Foundation Day ceremony held on 1 July 2025. Dr. B. Ashok, IAS, Agricultural Production Commissioner and Vice Chancellor of Kerala Agricultural University, attended as the Chief Guest, while Dr. Sanjay Kumar Singh, DDG (Horticultural Science), ICAR, presided over the function. Dr. R. Dinesh, Director, ICAR - ISR welcomed the

gathering and highlighted the institute's achievements and key initiatives during the Golden Jubilee year. The ceremony was attended by distinguished dignitaries from ICAR, universities, research institutions, and the spice sector. As part of the celebrations, the institute honoured its retired and serving staff in recognition of their invaluable contributions to ICAR-ISR's remarkable 50-year journey.

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Inauguration of Advanced Biocontrol Laboratory

Dr. B. Ashok, IAS, Agricultural Production Commissioner, Govt. of Kerala and Vice Chancellor of Kerala Agricultural University inaugurated the Advanced Biocontrol Laboratory of ICAR -



Indian Institute of Spices Research during the Golden Jubilee Celebrations.

Low-cost polytunnel technique for improving sprouting and growth of black pepper rooted cuttings Tropical Hill Zones

Contributors: Akshitha HJ, Shivalakumar MS, Kandannan K and Ankegowda SJ

A low-cost polytunnel structure was developed inside a polyhouse nursery using locally available materials (200 cm × 80–100 cm × 60 cm, covered with 300-gauge white polythene).

Sprouting and survival were consistently higher in black pepper cuttings raised under the low-cost polytunnel, with sprouting ranging from 56.33–89.00% and survival from 75.00–97.00%, compared to 40.50–76.33% sprouting

and 51.00–84.67% survival under outside conditions.

Early sprouting under polytunnel conditions resulted in a higher survival percentage of black pepper cuttings.

The low-cost polytunnel technique proved to be effective for producing healthy, vigorous planting material, particularly under cooler climatic conditions of tropical hilly zones.



Plant growth in polytunnel and outside condition

Development of a lateral flow immunoassay (LFIA) for rapid detection of piper yellow mottle and cucumber mosaic viruses in black pepper

Contributors: Dr. A Ishwara Bhat

Piper yellow mottle virus (PYMoV) and cucumber mosaic virus (CMV) are major viral pathogens causing stunt disease in black pepper and related Piper species. As no chemical control is available, early and accurate detection is essential to prevent virus spread through vegetative propagation. Existing PCR-based assays are effective but often time-consuming, expensive, and reliant on specialized equipment. This study reports the development of a simple, rapid, and cost-effective lateral flow immunoassay (LFIA) for on-site detection of PYMoV and CMV

immunoassay (LFIA) for on-site detection of PYMoV and CMV infecting black pepper. Polyclonal antiserum was produced by immunizing rabbits with in vitro expressed coat proteins of both viruses, and its specificity was confirmed by western blotting. Purified immunoglobulin G (IgG) was used to prepare gold nanoparticle (GNP)-IgG conjugates. LFIA strips were assembled by optimizing sample pads, conjugate release pads, nitrocellulose membranes (10 µm pore size), test lines (0.75 mg/ml anti-PYMoV and anti-CMV IgG),

control line (1 mg/ml goat anti-rabbit IgG), and absorbent pads. The optimized LRA accurately detected PYMoV and CMV in virus-infected black pepper plants. The limits of detection for anti-PYMoV and anti-CMV LFIA were 100 ng and 50 ng of their respective homologous antigens. The assays were further validated using field samples from multiple black pepper varieties and other Piper species, including P. betle and P. longum. This LFIA offers a practical tool for rapid, on-site diagnosis to support the management of viral diseases in black pepper cultivation.

Integrated DUS characterization of black pepper using morphological, biochemical, and SSR markers

Contributors: Dr. MS Shivalakumar, Dr. NC Sunitha, Dr. HJ Akshitha, Dr. KV Saji and Dr. Sankumar B

An integrated DUS characterization was undertaken in black pepper (Piper nigrum L.) to distinguish pipeline candidate varieties from released reference varieties using complementary morphological, biochemical, and molecular approaches. The investigation involved four candidate varieties (HP 1411, HP 2173, HP 780, and OPKM) and three widely cultivated reference varieties (Panniyur-1, IISR Thevam and Sreekkara). Morphological evaluation revealed

consistent and stable differences in vine growth habit, leaf shape and base configuration, spike length, berry size, and yield-related traits, enabling effective preliminary differentiation among genotypes. Biochemical profiling of piperine, oleoresin, and essential oil content further strengthened varietal distinctness by capturing quality-based variation of commercial importance. These phenotypic and biochemical observations were supported by SSR marker analysis,

which confirmed genetic differentiation, assessed homozygous loci ratio for uniformity, and resolved relationships among genotypes through cluster analysis. Overall, the integrated approach provided robust evidence for distinctness, uniformity, and stability, strengthening varietal identification, protection, and deployment in black pepper breeding and commercialization programs.

20+ Farmer Trainings

1000+ Participants

Workshop on Good Agricultural Practices (GAP) in Spices



A two-day workshop on Good Agricultural Practices (GAP) was conducted in Tinsukia district, Assam, from 08-09 July 2025, with the objective of providing handholding support and capacity building for women farmers in the district.

The programme was organized in collaboration with the Assam State Rural Livelihoods Mission (ASRLM), Xotphul Mahila Krishak Producer Company Ltd., and the Foundation for Development of Rural Value Chains (FDRVC).

Promoting nutritional security in tribal households

To augment the nutritional security of tribal households, ICAR-IISR procured 1,000 vegetable seed kits from ICAR-IISR and distributed them to tribal hamlets across Kozhikode, Kannur, and Wayanad districts of Kerala. The distribution was carried out in collaboration with institutional partners, including the Community Agrobiodiversity Centre - M.S. Swaminathan Research Foundation

(MSSRF), Wayanad Social Service Society (WSSS), and other non-governmental organizations. As part of the initiative, a Farmer-Scientist Interaction, field disease diagnostic visit, and training on vegetable cultivation were organized at Cheeyambam tribal hamlet on 14 November 2025 in conjunction with the seed kit distribution programme. Critical bio-inputs were also distributed to support the successful cultivation of vegetables by the beneficiary farmers.



Training for officials from Andaman & Nicobar administration



A five-day Training cum Exposure Visit on Advances in Spice Crop Technologies was organized at ICAR-Indian Institute of Spices Research,

from July 21-25, for officials from the Directorate of Agriculture, Andaman & Nicobar Administration and progressive farmers from the islands. The program covered recent advancements in varietal development, soil and nutrient management, integrated pest and disease management, processing and quality assurance, along with exposure visits to spice farms, research facilities, and agri-enterprises. The training aimed to equip participants with region-specific spice cultivation technologies and strengthen the spice sector in the Andaman region.

Distribution of agricultural implements under SCSP Scheme



As part of the SCSP scheme, agricultural implements, grow bags, and vegetable seeds were distributed to farmers of the 5th ward of Maruthonkara Grama Panchayat, Kozhikode, on 8th August. Nearly 40 farmers participated in the program. Dr. Lijo Thomas and Dr. Sajesh V K, Mr. Rakesh M Raghavan, and Grama Panchayat Member Smt. Bindu Oorara addressed the gathering.

Capacity Building Programme on Sustainable Ginger & Turmeric Cultivation



A three-day training programme on "Capacity Building for Sustainable Ginger and Turmeric Cultivation" from 9 - 11 September 2025, under the Pan India Action Research Project on Improvement of Spice Value Chains.

Twenty participants representing NGOs from 8 different states took part in the programme. The training combined lectures and practical sessions, covering scientific production practices, plant protection, post-harvest handling, and value addition.

Awareness session on Microgreens

An awareness session on Microgreens on 16 September 2025. The session, led by Mrs. Anushree from M/s Infant Leaves, Calicut, gave participants an overview of the nutritional value, types, and cultivation methods of microgreens. A live sale and tasting of fresh microgreens was also arranged, giving participants the chance to experience the flavor and freshness of microgreens firsthand.

Training on GWAS in Spice Crops



The Crop Improvement & Biotechnology Division organized a two-day training programme on "GWAS in Spice Crops" during 19 - 20 November 2025. Dr. Sheeja T E, Head of the Division, opened the session and introduced the theme. Dr. Kalyani Barbadikar, Senior Scientist (Biotechnology) from ICAR - Indian Institute of Rice Research, Hyderabad, led the sessions as the resource person. Around 30 participants attended the training.

ITMU

17 Licenses issued

10 lakh Revenue

2 Patents Granted

5 Copyright Applications

2 Trademark Applications

2 PPV & FRA registration

- 17 technology licenses were executed during the reporting period, generating ₹10 lakh in revenue through commercialization of ICAR-IISR technologies.
- The institute strengthened its innovation portfolio by filing one patent, five copyright applications, two trademark applications, and two plant variety registrations, while securing two patent grants.
- A Memorandum of Agreement (MoA) was signed with Synthite Industries Pvt. Ltd. to promote technology transfer, turmeric post-harvest processing, and scientific cultivation support.
- Technical consultancy was extended to leading plantation companies, including TATA Coffee and New Ambadi Estates, covering yield estimation, crop management, and disease advisory across Kerala, Karnataka, and Tamil Nadu.
- The institute facilitated collaborative contract research with major agri-input industries, including IFFCO, Allegro Sciences, Bayer Crop Science, and Corteva Agriscience, for evaluating agrochemicals in spice crops.



Signing of MoU with GEMS Arts and Science College, Ramapuram, Malappuram on 06 August to foster academic collaboration. The MoU exchange was presided over by Dr. R Dinesh, Director, ICAR-IISR, and Dr. B G Unni, Director, Academic and Research, GEMS Arts and Science College.



Execution of license agreement with startups/farmers for IISR technologies.



Patent granted for the invention titled "A Novel Liquid Process for Mass Multiplication of Pochonia Chlamydosporia." This innovative technology significantly improves the large-scale multiplication of *P. chlamydosporia*, a beneficial fungus widely used for the biocontrol of plant-parasitic nematodes.

Official Language Implementation

The institute promoted the implementation of the Official Language Policy during July-December 2025 through committee meetings, capacity-building programmes, publications, and awareness activities. Two meetings of the Official Language Implementation Committee were held to review progress and recommend measures for strengthening the use of Hindi in official work. The institute also published the Hindi magazine Masalon Ki Mehak-2025, submitted quarterly and annual Official Language reports to ICAR and the Department of Official Language, and participated in the 74th Town Official Language Implementation Committee meeting at Kozhikode.

Hindi Workshops and Hindi Week

Two Hindi workshops were organized for officers and staff to enhance their proficiency in Hindi language, covering topics such as common language errors, official drafting, and implementation of the Official Language Policy. Hindi Week was celebrated from 16-22 September 2025 with lectures, competitions, and awareness programmes, including poetry writing, note and draft writing, extempore speech, video creation, commentary, and other literary events. A total of 142 participants actively took part in the various competitions, and winners, along with this officials who demonstrated exemplary use of Hindi in official work, were felicitated during the valedictory function.

Regional Centre Activities

ICAR-IISR RS, Appangala held two meetings of the Official Language Implementation Committee and two Hindi workshops were organized to strengthen the use of Hindi in official communication. Hindi Week was observed through workshops and competitions, and the station participated in programmes organized by the Town Official Language Implementation Committee, Madikeri. During the period, Mr. Sachin K. P. secured the first prize in the Hindi Paragraph Writing Competition, and the Regional Station received the Rajbhasha Shield 2024-25 (First Prize) in the Central Government Offices category for outstanding implementation of the Official Language Policy.

MAJOR EVENTS

Golden Jubilee Celebrations

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The event was graced by many including Dr. Sudhakar Pandey, ADG (Flowers, Vegetables, Spices & Medicinal and Aromatic Plants), ICAR; Prof. P. Raveendran, Vice Chancellor, University of Calicut; Dr. V. A. Parthasarathy and Dr. K. Nirmal Babu, former Directors of ICAR-IISR; Dr. Balachandra Hebbar, Director, ICAR-CPCRI; Dr. G. Byju, Director, ICAR-CTCRI; Dr. Manoj P. Samuel, Executive Director, CWRDM; Dr. Hamey Cheriyan, Director, DASD; and Mr. Ramkumar Menon, Chairman, World Spice Organization.



Postal Cover and MyStamp release

As part of the Golden Jubilee of the institute and recognizing 50 years of contributions to Indian agriculture and spices research, a Special Postal Cover & MyStamp was released for ICAR - Indian Institute of Spices Research by the India Post on 30th June, 2025.

The release was officiated by Mr. Ganesh Kumar V B, IPoS, Director, Postal Services, Northern Region, Kozhikode, and received by Dr. R. Dinesh, Director, ICAR-IISR.

Independence Day



The 79th Independence Day was celebrated at the institute by Dr. R. Dinesh, Director, hosting the flag.



150 years of 'Vande Mataram'



ICAR - Indian Institute of Spices Research, along with the ICAR-IISR Regional Station, Appangala; ICAR-IISR Experimental Farm, Peruvannamuzhi; and ICAR-IISR KVK, Peruvannamuzhi, joined the nationwide mass singing to mark 150 years of "Vande Mataram", on 7th November.



Meeting of ICAR - AICRP on Spices

The 36th Annual Group Meeting of the ICAR - All India Coordinated Research Project on Spices (AICRPS) was held at the ICAR - Research Complex for NEH Region, Umiam, Meghalaya, during 29-31 October 2025. The event brought together leading spice researchers and scientists from across India to deliberate on innovations, challenges, and strategies for strengthening the spice sector. The workshop was inaugurated by Dr. B. C. Deka, Hon'ble Vice Chancellor, Assam Agricultural University, and presided over by Dr. Sudhakar Pandey, ADG (Horticultural Sciences), ICAR. Dr. D. Prasath, Project Coordinator, ICAR-AICRP on Spices, presented an overview of the project's achievements under the previous year and the new initiatives undertaken under the project. Dr. R. Dinesh, Director, ICAR-IISR, Dr. Vinay Bharadwaj, Director, ICAR-NRCS, Dr. Samarendra Hazarika, Director, ICAR-RC NEH, Dr. Prakash Patil, Project Coordinator, AICRP on Fruits, and Dr. Augustine Gerard, Project Coordinator, AICRP on Palms also addressed the gathering. During the workshop, six new high-yielding spice varieties were recommended for release - three in Ajwain (HAJ-7, JA-19-1, and Ajmer Ajwain-24), one in Fennel (RF 231), and two in Ginger (V1E45 and IISR Navya).



Vigilance Awareness Week 2025

ICAR-IISR observed Vigilance Awareness Week 2025 from 28 October to 2 November 2025 with the theme "Vigilance: Our Shared Responsibility." The observance began with an Integrity Pledge administered to staff, students, and workers, reaffirming collective commitment to transparency and ethical conduct. A series of awareness programmes were conducted within the institute, including slogan writing, elocution, cartoon drawing, and quiz competitions, which saw enthusiastic participation from staff and students. A Vigilance Awareness Rally was also organized to spread the message of integrity among the public, during which PIDPI pamphlets were distributed in English, Malayalam, and Hindi. As part of outreach activities, ICAR-IISR conducted essay writing and painting competitions across several schools in Kozhikode, engaging over 100 students from Vedavyasa Vidyalayam.

Amrita Vidyalayam, JDT Islam, and Little Flower English Medium School. A special vigilance awareness lecture was delivered by Mr. O. Sasi, Legal Advisor, Vigilance and Anti-Corruption Bureau, Northern Range, Kozhikode, enriching participants with insights into the importance of vigilance in public life. The week concluded with a valedictory session and prize distribution, marking a meaningful and impactful observance aimed at promoting integrity at all levels.



Swachh Bharat Abhiyaan

As part of the Swachh Bharat Mission, ICAR-Indian Institute of Spices Research organized Swachhotsav, a nationwide cleanliness campaign under the theme "Swachhata Hi Seva", from 17 September to 2 October 2025. The institute also observed Swachhta Pakhwada from 16 to 31 December 2025 to reinforce the importance of cleanliness, environmental sustainability, and community participation. During Swachhta Pakhwada 2025, the institute organized a wide range of cleanliness, awareness, and outreach activities. These included Swachhta Pledge programmes for staff, students, farmers, and community members; systematic cleaning of campuses, laboratories, processing units, record rooms, staff quarters, and public spaces; tree plantation and greening initiatives; waste-to-wealth activities such as vermicomposting and banana fibre extraction; recycling of wastewater for irrigation; awareness classes, quizzes, drawing and waste-to-art competitions; plogging rallies, signature campaigns, farmer interactions on Kisan Diwas, and extensive digital outreach and media documentation to enhance public awareness and participation.



PERSONALIA

PhD Awarded

Dr. Saleena P

Topic : Application of vacuum impregnation technique for the Development of nutmeg rind and flavour infused papaya candy Cubes

Retirement

Dr. Rajeev P

Principal Scientist

Retired on: 31.12.25

Appointment

Dr. Pritam Ganguly

Senior Scientist

Joined on: 04.08.25

Dr. Madhu Tippannanavar

Scientist

17.10.25

Dr. Gayathri G N

Scientist

27.10.25