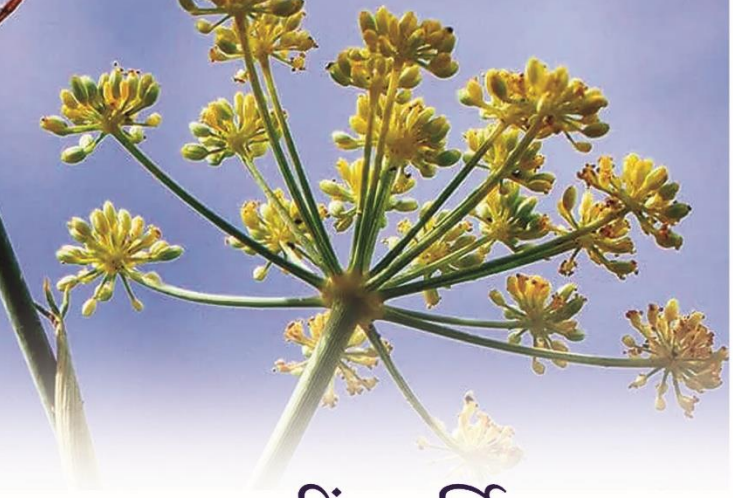
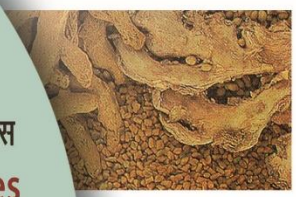
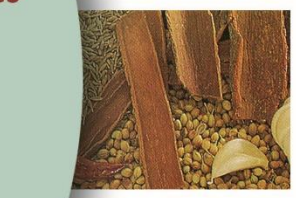


XXXVI वीं वार्षिक समूह बैठक का कार्यवृत्त

Proceedings of XXXVI Annual Group Meeting

भाकृअनुप
ICAR





भाकृअनुप-अखिल भारतीय समन्वित मसाला अनुसंधान परियोजना ए आई सी आर पी एस

ICAR-All India Coordinated Research Project on Spices

29-31 अक्टूबर 2025

भारतीय कृषि अनुसंधान परिषद, उत्तर पूर्वी पर्वतीय क्षेत्र अनुसंधान परिसर
उमियम, मेघालय

29-31 October - 2025

ICAR-Research Complex for NEH Region
Umiam, Meghalaya

भाकृअनुप-अखिल भारतीय समन्वित मसाला अनुसंधान परियोजना
ICAR- ALL INDIA COORDINATED RESEARCH PROJECT ON SPICES
भाकृअनुप-भारतीय मसाला फसल अनुसंधान संस्थान
ICAR-Indian Institute of Spices Research
कोषिक्कोड Kozhikode-673 012, केरल Kerala

PROCEEDINGS OF XXXVI ANNUAL GROUP MEETING

ICAR- All India Coordinated Research Project on Spices

29 – 31 October 2025

Venue: ICAR-Research Complex for NEH Region,
Umiam, Meghalaya

ICAR- ALL INDIA COORDINATED RESEARCH PROJECT ON SPICES
ICAR-Indian Institute of Spices Research
Kozhikode - 673 012, Kerala

2025

December 2025

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S.No.	Table of Content	Pages
1	Programme Schedule	4-7
2	Inaugural Session	8-10
3	Project Coordinators Report (2024-25)	11-16
4	Recommendations of XXXV Annual Group Meeting and Action Taken Report	17-22
5	Technical Sessions	
	Technical Session I: ICAR-AICRP on Spices Progress Report	23
	Technical Session II: Genetic Resources & Crop Improvement	24-34
	Technical Session III: Crop Management	35-42
	Technical Session IV: Crop Protection & Food safety	43-48
	Technical Session V: Varietal Identification	49-54
	Technical Session VI: Transfer of Technology	55-58
6	Plenary Session	59
7	Technical Programmes of Approved Projects	60-79
8	List of Participants	80-85
	Annexure I: Proposed monitoring committee visits (2025-26) Annexure II: Proposed monitoring committee visits (2026-27) Annexure III: Research programmes at a glance (Crop-wise)	

XXXVI Annual Group Meeting of ICAR-AICRP on Spices

Venue: ICAR Research Complex for NEH Region, Barapani, Meghalaya

Date: 29 October – 31 October 2025

Inaugural Session		15 October 2023 (09.30 AM – 11.00 AM)
09.30 AM – 09.35 AM	Welcome Address	**Dr. Samarendra Hazarika**, Director, ICAR-Research Complex for NEH Region, Umiam, Meghalaya
09.35 AM – 09.45 AM	Project Coordinator's Report	**Dr. D. Prasath**, Project Coordinator (Spices), ICAR–AICRP on Spices, Kozhikode, Kerala.
09.45 AM – 09.55 AM	Director's Remarks	**Dr. R. Dinesh**, Director, ICAR–IISR, Kozhikode, Kerala. **Dr. Vinay Bharadwaj**, Director, ICAR–NRCSS, Ajmer, Rajasthan
09.55 AM – 10.15 AM	Addresses by Guests of Honour	**Dr. G. Kadirvel**, Director, ICAR–ATARI Zone VI, Meghalaya **Padma Shri Trinity Saioo**, Progressive Farmer, Meghalaya
10.15 AM – 10.25 AM	Presentation of Best Centre Award & Release of Publications	
10.25 AM – 10.40 AM	Presidential Address	**Dr. Sudhakar Pandey**, ADG (Horticultural Sciences), ICAR, New Delhi
10.40 AM – 10.55 AM	Address by Chief Guest	**Dr. B.C. Deka**, Hon'ble Vice-Chancellor, Assam Agricultural University, Jorhat
10.55 AM – 11.00 AM	Vote of Thanks	**Dr. D. Prasath**, Project Coordinator (Spices), ICAR–AICRP on Spices, Kozhikode, Kerala.

Session I Action taken report/Performance evaluation 11.30 AM – 01.00 PM

Chair Dr. Sudhakar Pandey, ADG (FVS & MP), ICAR, New Delhi

Co-chairs Dr. K. Nirmal babu, Former Director, ICAR-IISR

Dr. Prakash Patil, Project Coordinator, AICRP Fruits, ICAR-IIHR, Bengaluru

Presentation of the progress report - Dr. D. Prasath, Project Coordinator, ICAR-AICRP on Spices, Kozhikode

Rapporteurs Dr. Maneesha R, ICAR-IISR, Kozhikode

Dr RS Meena, ICAR-NRCSS, Ajmer

Session II	Plant Genetic Resources & Crop Improvement	02.00 PM - 06.00 PM

Chairperson Dr. K. Nirmal babu, Former Director, ICAR-IISR
Co-Chairs Dr. Vinay Bhardwaj, Director, ICAR-NRCSS
Dr B Augustine Jerard, Project Coordinator, ICAR-AICRP (Plantation Crops)

Rapporteurs Dr. M.S. Shivakumar, ICAR-IISR, Appangala
Dr. Surabi S Chauhan, SDAU, Jagudan

Crop-wise presentations

Coriander	Dr. Shailesh Marker, SKNAU, Jobner
Cumin	Dr. Surabhi S Chauhan, SDAU, Jagudan
Fennel	Dr. R.S. Meena, ICAR-NRC-SS, Ajmer
Fenugreek	Dr. Preethi Verma, ARS, Kota
Ajwain	Dr. S. S. Meena, ICAR-NRC-SS, Ajmer
Nigella	Dr. S. S. Meena, ICAR-NRC-SS, Ajmer
Black Pepper	Dr. Vikram. H. C., KAU, Panniyur
Cardamom	Dr.NimishaMathews,KAU,Pampadumpara
Large Cardamom	Dr. Sasanka Sekhar Bora, ICRI, Gangtok
Ginger	Dr. Mukesh Sankar S, ICAR-IISR
Turmeric	Dr. B. Tanuja Priya, Dr.YSRHU, Guntur
Tree Spices	Dr. A. V. Bhuwad, Dr BSKKV, Dapoli
Saffron & Kalazeera	Dr. Sher Ahamad Dhar, SKUAST, Pampore

Continued 30.09.2025 (9.00 AM – 11.00 AM)

Formulation and discussion of new technical programmes

30 October 2025

Session III	Crop Management	11.30 AM – 01.30 PM

Chair Dr. Prakash Patil, Project Coordinator, AICRP Fruits, ICAR-IIHR, Bengaluru
Co-Chairs Dr. Vikram Prasad Pandey, Former Dean, College of Hort., ANDUAT, Ayodhya
Dr. V. Srinivasan, Head, Division of Crop Production, ICAR-IISR, Kozhikode

Rapporteurs Dr. R Sivaranjani, ICAR-IISR, Kozhikode
Dr. Reena Nair, JNKV, Jabalpur

Crop-wise presentations

Coriander	Dr. A. C. Shivran, SKNAU, Jobner
Cumin	Dr. Chetan Jangir, NRCSS, Ajmer
Fenugreek	Dr. Ravindra Singh, ICAR-NRC-SS, Ajmer
Black Pepper	Dr. G. Malathi, TNAU, Yercaud
Cardamom	Dr. Manoj Oommen, ICRI, Myladumpara
Large Cardamom	Dr. Amit Kumar, ICAR, Gangtok
Ginger	Dr. Sudheesh Kulkarni, UHS, Bagalkot, Sirsi
Turmeric	Dr. M. Mohanalakshmi, TNAU, Coimbatore
Tree Spices	Dr. A. V. Bhuwad, Dr BSKKV, Dapoli

Formulation and discussion of new technical programmes

Session IV	Plant Protection and Food Safety	02.30 PM – 6.00 PM

Chair Dr. S.J. Eapen, Former Director, ICAR-IISR, Kozhikode
Co-Chair Dr. A.I. Bhat, Head, Division of Crop Protection, ICAR-IISR, Kozhikode

Rapporteurs Dr. Anamika Debnath, UBKV, Pundibari
Dr. Aditi Sharma, YSPUHF, Solan

Crop-wise presentations

Cumin	Dr. N.R. Patel, SDAU, Jagudan
Fenugreek	Mr. G. L. Kumawat, SKNAU, Jobner
Nigella	Dr. A.K. Mishra, RCAU, Dholi
Seed spices	Dr. A.K. Mishra, RCAU, Dholi
Black Pepper	Dr. Sanju Balan, KAU, Panniyur
Cardamom	Dr. K. A. Saju, ICRI, Myladumpara
Ginger	Dr. Anamika Debnath, UBKV, Pundibari
Turmeric	Dr. B. Mahender, SKLTSHU, Kammarpally

Formulation and discussion of new technical programmes

31 October 2025

Session V	Varietal Identification Committee meeting	09.00 AM–12.00 PM

Chair Dr. Sudhakar Pandey, ADG (FVS & MP), ICAR, New Delhi

Members of the Committee Nominated by DDG
Member Secretary Dr. D. Prasath, Project Coordinator, ICAR - AICRP Spices, Kozhikode

Rapporteurs Dr. M.S. Shivakumar, ICAR-IISR, Appangala
Dr. Mukesh Sankar S, ICAR-IISR, Kozhikode

Discussion on new varietal testing guidelines – Dr. Shailesh Marker, Jobner

Field and Seed Standards of Cumin (Jagudan) – Dr. Surabhi S Chauhan, Jagudan

Session VI	Transfer of Technology	12.00 PM – 3.00 PM

Chair Dr Vikramaditya Pandey, Principal Scientist, ICAR-New Delhi
Co-Chair Dr Brajpal Singh, Head (TA&CB), ICAR-RC for NEHR, Umiam

Rapporteurs Dr. Akshitha H. J., ICAR-IISR, Appangala
Dr. Chetan Jangir, NRCSS, Ajmer

Presentations on new technologies

S.No.	Crop	Technology	Centre
1.	Black Pepper	Biological control of *Phytophthora* foot rot and nematodes in black pepper	ICAR-IISR
2.	Black Pepper	Effective Insecticide for controlling pollu beetle in black pepper	ICAR-IISR
3.	Cardamom	Biological control of *Phytophthora* foot rot and nematodes in cardamom	ICAR-IISR
4.	Ginger	Inter-cropping in ginger	Sirsi
5.	Ginger	Effective Insecticide for controlling shoot borers in ginger	ICAR-IISR
6.	Turmeric	Effective Insecticide for controlling shoot borers in turmeric	ICAR-IISR
7.	Coriander	Formulation of Growth Regulators in Coriander for Yield Enhancement	Guntur
8.	Fenugreek	Formulation of Growth Regulators in fenugreek for Yield Enhancement	ICAR-NRCSS
9.	Fenugreek	Management of powdery mildew	Jobner
10.	Cumin	Eco-friendly management of cumin blight	Jagudan
11.	Nigella	Management of root rot of nigella	Dholi

Presentations on NEH/TSP/SCSP Programmes

Project	Presenter Name
TSP Project	Dr. Chetti Bindhu (Chinthapalli)
SCSP Project	Dr. Simi Asharaf (Pampadumpara)
NEH Project	Dr. C. S. Maiti (Nagaland)

Plenary Session 04.00 PM – 05.00 PM

Chair Dr. Sudhakar Pandey, Asst. Director General (FVS&MP), ICAR, New Delhi
Co-Chairs Dr. Vinay Bhardwaj, Director, ICAR-NRCSS, Ajmer
Dr. R. Dinesh, Director, ICAR-IISR, Kozhikode
Dr. D. Prasath, Project Coordinator, ICAR - AICRP Spices, Kozhikode

Rapporteurs Dr. Lijo Thomas, ICAR-IISR, Kozhikode
Dr. Mukesh Sankar S, ICAR-IISR, Kozhikode

Presentation of Rapporteurs Reports and Recommendations

Vote of thanks: Dr. Veerendra Kumar Verma, Sr. Scientist-Horticulture, ICAR Research Complex for NEH Region, Umiam, Meghalaya & Organizing Secretary, XXXVI Annual Group Meeting of ICAR-AICRP Spices

National Anthem

INAUGURAL SESSION

The XXXVI Annual Group Meeting (AGM) of the Indian Council of Agricultural Research – All India Coordinated Research Project on Spices (ICAR–AICRPS) commenced on 29 October 2025 at the ICAR Research Complex for North Eastern Hill (NEH) Region, Umiam, Meghalaya, bringing together eminent scientists, academicians, policymakers, and representatives from various AICRPS centres across the country. The session began with a warm and graceful welcome to the dignitaries by Dr. Samarendra Hazarika, Director of the host institute, and set the stage for a vibrant and intellectually engaging programme. He highlighted the unique biodiversity richness of the NEH region, particularly in spices. He noted that the region is home to an exceptional genetic wealth, including 147 ginger, 180 turmeric, and 30 king chilli genotypes conserved at the institute. Emphasizing the remarkable achievements of the region, he pointed out that seven spice crops from the NEH have secured Geographical Indication (GI) status out of the 22 agricultural commodities recognized nationally. He stressed that this genetic and cultural diversity demands targeted scientific exploration to identify the "geo-link genes" responsible for the unique quality attributes of these crops. Addressing emerging climatic threats, Dr. Hazarika underscored the increasing risks posed by rising temperatures and rainfall deficits. He noted ongoing efforts toward the development of high-quality spice varieties suited to these challenges and highlighted the tremendous scope of tree spices—especially star anise, which holds significant potential in the NEH landscape.

Following the welcome address, Dr. D. Prasath, Project Coordinator, ICAR–AICRP on Spices, presented a comprehensive overview of the progress achieved during the past year. He reported that 67 research programmes were successfully executed across the network, supported by a robust germplasm conservation effort totalling 9,744 accessions, with 145 new additions during the year. Dr. Prasath informed the gathering that seven new varieties had been identified and fifteen varieties successfully facilitated for notification by the Central Varietal Release Committee (CVRC). The programme continues to deliver impactful technologies, with 196 sustainable technologies developed so far, including predictive models for cumin blight and impactful interventions such as the adoption of black pepper variety Panniyur 1 and fennel variety RF 125 in farmer fields. He also highlighted significant seed and planting material production achievements—5.5 lakh rooted pepper cuttings, over 11 tonnes of ginger and turmeric seed material, and 52 quintals of seed spices—substantially supporting farmers and state agencies. With 93 trainings conducted under TSP and SCSP programmes and a budget utilization of 964 lakhs achieving full absorption, Dr. Prasath affirmed the project's commitment to efficient and impactful implementation.

The inaugural session continued with the address of distinguished guests. Dr. R. Dinesh, Director, ICAR–Indian Institute of Spices Research (IISR), Kozhikode, delivered an insightful message as Guest of Honour. He stressed the importance of sustaining India's global leadership in spices and spoke extensively on the need to prepare for emerging climatic challenges, including the rise of new diseases such as *Pyricularia* in ginger. Advocating a holistic approach, he highlighted food safety and the rising concern of export rejections due to contaminants as key areas requiring urgent research attention. He lauded ICAR-AICRPS as one of the most vibrant and dynamic coordinated research networks in the country and urged greater integration with industry to ensure commercialization of technologies.

Dr. Vinay Bharadwaj, Director, ICAR–National Research Centre on Seed Spices (NRCSS), Ajmer, also addressed the gathering as Guest of Honour. He emphasized strengthening the entire value chain of spices to ensure that both production and post-harvest sectors remain resilient and competitive. Drawing parallels with the climate characterization models used in potato research, he called for similar predictive methodologies in spices, particularly in the context of climate change. He underlined the need to integrate quality attributes and market preferences during varietal development and dissemination, and to embrace cutting-edge digital tools, artificial intelligence, mechanization, and automation to modernize spice cultivation. Emphasizing operational forecasting and smallholder-friendly technologies, he encouraged the community to move from "disruptive research" to "predictive research."

The Guest of Honour, Dr. G. Kadirvel, Director, ATARI Zone VI, brought attention to the paradoxical situation wherein India, despite being the world's largest producer and exporter of spices, continues to import substantial quantities. He urged the NEH region to focus on spice crops where it has relative agro-ecological advantages, such as large cardamom in Arunachal Pradesh, Manipur, and Sikkim. He highlighted pressing issues including compensation for the removal of virus-infected plants, management of diseases like chirke and furkey, and the need to improve propagation and supply chain systems to meet industry standards of uniformity and volume. Dr. Kadirvel also emphasized the potential for expanding cultivation of star anise, bay leaf, cinnamon, long pepper, hing, and vanilla in the region. He called for building robust organic and natural farming systems and urged improved convergence among stakeholders to strengthen spice supply chains.

The inaugural session also featured recognition of distinguished contributors to the spice sector. Padma Shri awardee Mrs. Trinity Saioo, known for her pivotal role in promoting the cultivation of the famed Lakadong turmeric, was honoured, emphasizing the role of progressive farmers in strengthening the spice economy. The ICAR-AICRPS Best Centre Award was conferred upon the Agricultural Research Station, Mandore, under the Agricultural University, Jodhpur, acknowledging its exemplary contributions in research, development, and dissemination. Important recognitions included the awarding of variety certificates for ginger variety SAS Kevu, turmeric variety IISR Surya, mango ginger variety IISR Amrit, fennel variety Gujarat Fennel-13, and cumin variety Jodhpur Jeera-1 (MCU-105). Technologies related to leaf blight control in cardamom and seed priming were also acknowledged, highlighting the programme's commitment to innovation. The session also marked the release of 24 new publications, covering recent research highlights, best practices, and advisory notes aimed at strengthening the spice sector. These publications are expected to serve as valuable resources for researchers, policymakers, extension personnel, and farmers.

Dr. Sudhakar Pandey, Assistant Director General (FVS & MP), ICAR, presided over the inaugural session and delivered a presidential address that inspired the entire research community. He stated that the vision for the spices sector must align with changing realities and national aspirations. Stressing India's global leadership in spices, he encouraged researchers to widen the spice cultivation base, expand the country's global footprint, and focus on developing climate-resilient, high-quality varieties. He called for the development of hybrid varieties, exploration of year-round cultivation systems for leafy coriander, creation of robust online data management platforms, standard operating procedures for trait screening, and clear guidelines for varietal identification. Outlining challenges such as frequent staff transfers, vacant positions, and the need to remain competitive in global markets, Dr. Pandey reminded the community of international competition—China and Nigeria in ginger, Russia in coriander, Iran in saffron, Vietnam in black pepper, and Guatemala in cardamom. Food

safety, microbial contamination, and pesticide residues were highlighted as major challenges leading to rising export rejections, particularly from Europe. He called for fast-track breeding programmes and improved traceability systems and suggested focusing on import substitution crops such as asafoetida, cinnamon, black pepper, and clove. He proposed establishing a National Spice Innovation Hub and enhancing industry–academia linkages to strengthen research delivery.

The Chief Guest of the inaugural session, Dr. B.C. Deka, Hon'ble Vice-Chancellor of Assam Agricultural University, Jorhat, delivered an inspiring keynote address. He commended ICAR-AICRPS for its exemplary service to the spice sector and emphasized the importance of understanding genotype × environment interactions, illustrated through the example of Lakadong turmeric, known for its consistent curcumin content. Dr. Deka urged the community to prioritize financial prudence, noting that limited resources require focusing expertise on areas of relative strength. He stressed the importance of teamwork, efficient planning, and integrating natural farming in NEH landscapes. Emphasizing spices as high-value crops capable of generating significant livelihood opportunities, he advocated for institutional support to farmer producer organizations (FPOs), cooperatives, start-ups, and other commercial ventures. He reminded researchers that scientific advancements must translate into tangible income gains for farmers and underscored entrepreneurship as the key to creating a vibrant spice economy.

The inaugural session concluded with a gracious vote of thanks proposed by Dr. D. Prasath, who acknowledged the distinguished presence of all dignitaries, scientists, administrators, supporting staff, and participating centres. He reiterated the commitment of ICAR-AICRPS to advancing research, strengthening farmer livelihoods, and contributing to India's continued leadership in the global spice sector. With an atmosphere of renewed commitment and scientific enthusiasm, the XXXVI Annual Group Meeting proceeded to its technical sessions, marking yet another milestone in the collaborative journey of spice research in India.

Project Coordinators report (2024-25)

The ICAR-AICRP on Spices is the largest spice research network in India, comprising 40 centers dedicated to 18 spice crops. Since its inception, the ICAR-AICRP on Spices has made significant contributions by developing 194 high-yielding varieties with desirable agronomic traits, along with 196 technologies aimed at enhancing production and productivity. Additionally, it has implemented management strategies to combat pests and pathogens, substantially reducing crop losses. The XXXVI group meeting will serve as a platform for researchers to share their findings, ideas, and experiences in spice research. After three days of discussions, the meeting will identify high-yielding spice varieties and sustainable technologies suitable for various spice-growing regions in India.

In 2024-25, 67 research programs were conducted, including 39 focused on genetic resources and crop improvement, 17 on crop management, and 11 on crop protection. The major thrust areas of the AICRPS are as follows:

1. Modern varieties, productivity, sustainability
2. Globally accepted farming practices
3. Promoting biodiversity-friendly production
4. Quality declared planting material
5. Socio-economic relevance

The key achievements of the AICRPS during the year are as follows:

1. Modern varieties, productivity, sustainability

- During the year, a remarkable living catalogue of genetic diversity comprising 9744 collections of spice crops are conserved under ICAR-AICRPS. The details of the collection and characterization of germplasm accessions undertaken during the year are presented below:

Crop	No. of Centres maintaining germplasm	Total germplasm maintained (2024-25)	Germplasm added in 2024-25	Germplasm characterized during 2024/25	No. of accessions with IC Numbers	Target Collection for 2025-26
Black pepper	5	454	43	87	9	5
Cardamom	2	197	3	100	106	5
Large cardamom	1	61	2	9	5	2
Ginger	7	463	2			5
Turmeric	10	1812	19		552	6
Cinnamon	2	23				
Clove	2	26				
Nutmeg	3	69				5
Coriander	13	2097	29	1085	187	10
Cumin	5	741		719		5
Fennel	6	1181	19	726	6	10
Fenugreek	8	1680	23	868		5
Nigella	4	126			31	
Ajwain	7	505			91	
Saffron	1	211				2
Kalazeera	1	98	5			2
Total	77	9744	145	3594	987	62

- Two catalogues - one on DUS characteristics of coriander and another on cardamom have been prepared during the year.
- In 2024-25, the ICAR-AICRP on Spices identified seven varieties that are well-suited to Indian growing conditions, demonstrating good productivity and desirable quality characteristics.

Crop	**Variety**	**Centre**	**Salient Features**
Coriander	Karan Dhaniya-1 (RCr 565/ UD-565)	Jobner	High yielding with an average seed yield of 1482 kg ha^{-1}. mean volatile yield was 5.73 1 ha^{-1}. Resistant to stem gall and moderately resistant to powdery mildew, matures in 110-120 days and suitable under irrigated normal sown conditions. Identified for release to Rajasthan, Gujarat and other coriander growing areas.
Cumin	Jodhpur Jeera 1 (MCU-105)	Mandor	High yielding potential with an average seed yield of 566 kg ha^{-1}, It possesses a high essential oil content (4.34%), characterized by a high number of branches and umbels. Demonstrates moderate resistance to wilt, blight, and aphid under natural conditions. Identified for release to Rajasthan
Cumin	CAZRI Cumin 1 (CZC 135)	CAZRI, Jodhpur	High yielding potential with an average seed yield of 522 kg ha^{-1}, superior performance in multiple trials, high seed number per umbel, and higher essential oil content (4.25%), demonstrating tolerance to *Fusarium* wilt. Identified for release to Rajasthan.
Fennel	Gujarat Fennel 13 (JF 2018-03)	SDAU, Jagudan	High yielding potential with av. seed yield of 1814 kg ha^{-1}, compact umbel with a greater number of umbels per plant, bold seed (6.52 g) & high volatile oil (2.87 %), and moderately resistant to *Ramularia* blight. Identified for release to Gujarat, Rajasthan, Haryana, Bihar & Uttar Pradesh.
Fenugreek	Karan Methi-1/ RMt-259 (UM 259)	Jobner	High yielding variety with an average seed yield of 1742 kg/ha. Early maturity of 121 days. Suitable for irrigated normal sown conditions in sandy loam to heavy loamy soils with proper drainage. Moderately resistant to powdery mildew and downy mildew diseases, ensuring better crop protection. Identified for release to fenugreek growing regions of India.
Ginger	SAS-KEVÜ (Bold Nadia)	Nagaland	Bold variety with a high yield potential of 17.21 t ha^{-1}, moderate oil content of 1.4%, and low fiber content of 4.04%. It exhibits high dry recovery at 21.95%, soft texture, and bold rhizome size. Variety matures in 270-280 days, suitable for its uses as vegetable purpose. Variety has been identified for release to North- Eastern states and Hilly areas of Andhra Pradesh.
Turmeric	IISR Surya (Acc 849)	ICAR-IISR	High yield (av. fresh yield 29 t ha^{-1}, potential yield 41 t ha^{-1}) with 5.8 t ha^{-1} dry yield. Light yellow colour rhizome with curcumin content of 2-3%. Unique flavour with, significantly high minor volatile compounds zingiberene (21.07%), ß-sesquiphellandrene (14.13%), 1,8-cineole (3.42%) and α humelene (6.30%). Best suitable for powdering industry. Identified for release to Kerala, Telangana, Odisha, Madhya Pradesh and Arunachal Pradesh.

- The AICRP on Spices also facilitated the notification of 16 varieties during the 32nd meeting of the Central Sub Committee on Seed Standards and Variety Release (CSCSS&VR) for horticultural crops.
- One Coordinated Variety Trials (CVTs) on ajwain concluded during the year. The data underwent pooled analysis, including stability analysis (GGE biplot) and multi-trait genotype-ideotype distance index (MGIDI). Results have been shared with participating centers for presentations and the preparation of varietal release proposals, resulting in two proposals for varietal identification.
- A new trial initiated regarding the identification of location specific genotypes in turmeric developed through seedling progenies as well as somaclones (TUR/CI/1.2)
- Jagudan centre identified a promising source of male sterility in fennel. These lines were under detailed studies and will be transferred to elite lines through backcrossing.
- Sanand centre has developed a successful *Foeniculum vulgare* x *Anethum graveolens* crosses. The progenies are under evaluation.

These novel and improved crop varieties may usher in a newfound agricultural diversity heralding improved yields that fill farmers' coffers while promoting the local adaptation and innovative cultivation.

2. Globally accepted farming practices

- In total, over 196 crop-specific technologies have been developed for soil and plant health management in various spice crops.
- A new technology was identified by ICAR-AICRPS during the year. The details are as follows:

Crop	Technology	Technology Statement
Large Cardamom	Leaf mould mulch application for sustainable productivity and soil health in large cardamom	Application of leaf mould mulch @ 10 t ha^{-1} enhances dry capsule yield by 41.5%, improves benefit-cost ratio by 56.5%, increases soil moisture content by ~38%, and boosts soil health indicators, including pH (13%), soil organic carbon (SOC, 11.1%), available macronutrients (~21.9%), soil microbial biomass carbon (SMBC, 29%), and acid phosphatase activity (Acid-P, 24.2%), providing a sustainable solution for large cardamom cultivation in the Indian Himalayan region.

- A trial on the "Effect of Arbuscular Mycorrhizal Fungi on growth and yield of black pepper" has been initiated.
- The field experiments on the effects of growth regulators on the yield and quality of coriander and fenugreek have been completed, and the results will be presented as technologies during the technology transfer session
- Evaluation of various ginger-based intercropping systems for enhanced yield and income was completed during the year, and the results will be presented as region-specific technologies.

With these innovations in place, our tillers of the land possess the potential to augment their crop yields, curtail the cost on inputs, and diversify the sources of agricultural income from spice-based systems.

3. Promoting biodiversity-friendly production

- During the year, ICAR-AICRPS developed five new technologies aimed at the integrated management of pests and diseases in spice crops. The details are as

follows:

Crop	Technology	Technology Statement
Small Cardamom	Management of leaf blight (*Colletotrichum gloeosporioides*) with foliar application of azole group of fungicides	Two rounds of foliar spray during pre-monsoon (June) and post-monsoon (September) using Hexaconazole (2 ml L^{-1}) or Tebuconazole (1 ml L^{-1}) significantly reduce leaf blight incidence by up to 35% above the recommended package of practices, enhance dry yield by up to 18% (339 g $clump^{-1}$), and improve the benefit-cost ratio (2.35) under Karnataka and Kerala conditions. This integrated management practice ensures residue-free small cardamom production, sustainable crop protection, and improved farmer profitability with no phytotoxicity risks observed
Small Cardamom	Management of Rhizome rot (*P. vexans, R. solanii, F. oxysporum*) with spraying and drenching of azole group of fungicides	Pre- and post-monsoon spraying and drenching of Tebuconazole (1 mL L^{-1}) or Metalaxyl + Mancozeb (1.25 g L^{-1}) significantly reduce rhizome rot incidence by up to 30%, enhance yield by 51% (up to 569 kg/ha), and improve the benefit-cost ratio (3.34) in Karnataka.
		Pre and post monsoon spraying and drenching fenamidone + mancozeb@2g L^{-1} has reduced the disease incidence in Kerala conditions for managing rhizome rot in region. The technology has shown an effective reduction in disease incidence (PDI=40.83%) and has resulted in increased yield (45.1%.), particularly in Myladumpara (446.22 kg ha^{-1}).
Ginger	Priming of seed rhizomes with Trichoprime @ 5% prior to storage to improve vigour, enhance sprouting and protect seed rhizomes from fungal pathogens during storage	Priming of ginger seed rhizomes with Trichoprime @ 5% prior to storage enhances bud vigour, improves sprouting, and protects rhizomes from fungal pathogens, resulting in a 7.52% yield increase compared to chemical treatments. This technology ensures uniform tiller emergence, protects the emerging crop from rhizome rot disease, and offers a benefit-cost ratio of 2.29, making it a promising solution for ginger cultivation
Turmeric	Priming of seed rhizomes with Trichoprime @ 5% prior to storage to improve vigour, enhance sprouting and protect seed rhizomes from fungal pathogens during storage	Technology of priming turmeric seed rhizomes with Trichoprime @ 5% prior to storage is recommended for improving the vigour of rhizome buds, enhancing sprouting, and protecting seed rhizomes from fungal pathogens during storage, resulting in a yield increase of 5.51% compared to chemical treatment, and ensuring uniform tiller emergence while preventing the growth of storage rot pathogens.

- A new multilocational experiment with five centres (Ajmer, Mandor, Jagudan, Jobner, Sanand) on the assessment of cumin blight (*Alternaria burnsii*) for developing a weather-based prediction model has been initiated.

- The technology for eco-friendly management of cumin blight has been developed specifically for the states of Gujarat (Jagudan) and Rajasthan (Jobner and Mandor).

Thus, orchestrating a symphony of progress which hold promise for future generations, securing their agricultural heritage and the legacy of ecological resilience, nurturing a network of interconnected lives that endures beyond our time.

4. Quality declared planting materials

- During the year, the quality planting materials produced by the various ICAR-AICRPS centers are given below.

Black pepper (lakh cuttings)	5.5
Small cardamom (units)	1500
Large cardamom (units)	1500
Ginger & turmeric (seed rhizomes, t)	11
Tree spices (units)	5300
Seed spices (Quintals)	52

Under NEH a "Model Large cardamom Nursery Village" programme successfully implemented in Sikkim (ICRI, Gangtok).

5. Socio-economic relevance

- As an initiative of ICAR-AICRPS, the impact assessment of two spice varieties developed under AICRP on Spices has been undertaken and documented.
  Panniyur-1 (black pepper)
  Total area occupied by Panniyur 1: 58.7 %
  Relative yield advantage of Panniyur 1 over other varieties: 35.6 %
  Estimated increase in the national average yield: 57.5 kg/ha
  Value of output from this variety: ₹2,633 crore/year (at 2024–25 wholesale prices)
  RF-125 (fennel)
  RF-125 accounted for nearly 15% of the Rajasthan's fennel output
  Improved the national average fennel yield by 13.2 kg/ha, highlighting its role in strengthening productivity
  Contributed a total output of 40,425 t of fennel, translating into a value of ₹64,603 lakhs, with an average annual contribution of about ₹6,460 lakhs.
- Twenty-two successful FPOs involved in value chain of spices evolved from ICAR-AICRPS initiatives were documented and released as success stories. The success stories of collaboration between ICAR-AICRP on Spices centers and FPOs, highlighting how research-driven interventions and community action are transforming spice farming in India.
- During 2024-25, ICAR-AICRP Spices centers conducted 93 hands-on training programs aimed at empowering farmers to double their income.
- ICAR-AICRPS technologies have reached remote and inaccessible tribal areas in Andhra Pradesh, Odisha, Chhattisgarh, and six northeastern states through the implementation of SCSP (5 centers), NEH (7 centers), and TSP programs (7 centers).
- These programs were designed to provide essential inputs, including seeds, planting materials, fertilizers, training, and front-line demonstrations (FLDs) to beneficiaries, including rural youth, to encourage their involvement in spice-based farming or processing enterprises. As a result, these initiatives have led to positive transformations, promoted inclusive development, and reduced disparities among marginalized tribal and backward communities.

Monitoring

- AICRPS activities were monitored by the Project Coordinator through ten visits to various AICRP centers and 26 online meetings to review and assess progress.
- The Seeds Spices Monitoring Committee, led by the Director of ICAR-NRCSS, visited nine Seed Spices centers and submitted their report.

QRT

- The Quinquennial Review Team (QRT) established by ICAR reviewed the research programs of the ICAR Indian Institute of Spices Research and the AICRP on Spices for the years 2018-2023.
- The review took place in four phases across Kozhikode, Jobner, Guntur, and Medziphema to assess the activities of AICRPS centers, and the findings and recommendations were submitted to ICAR on 05 August 2024.

Budget and staff position

- The staff composition in the ICAR-AICRPS includes 32 scientific, 15 technical, and 3 lab assistants.
- The ICAR-AICRP on Spices has a total budget of ₹964.50 lakhs, with a utilization rate of 100%.
- A total income of ₹6.98 lakhs was generated through various ICAR-AICRP Spices centers

Recommendations of XXXV Annual Group Meeting and Action taken report

Sl. No	Recommendation	Action	Action taken report
ACTION TAKEN REPORT/PERFORMANCE EVALUATION			
1.	An online data management system must be developed to streamline research processes, improve data accessibility and analysis, and facilitate faster decision-making	PC	An online data management system is being developed in collaboration with ICT, ICAR-NAARM, Hyderabad, to streamline research processes, enhance data accessibility, and support faster decision-making. A functional platform is created for trial data submission and is currently hosted on the ICAR-NAARM server for pilot use.
2.	A regular centre in the North East may be identified for taking up trials	PC	A regular centre for the North East (Medziphema, SAS, Nagaland University) has been proposed in the new EFC document (2026–2031) for the identification of technologies and varieties specific to the NEHR. The QRT has also recommended upgrading this voluntary centre to a regular centre, given the strategic importance of spices for the NEHR.
3.	A letter may be sent from the PC unit to the centers whose performance is not up to mark to inform the same	PC	The PC has written letters to the Vice Chancellors/Director of Research of the four centres whose performance has been found to be below expectations for seeking necessary improvement.
Genetic resources and crop improvement			
4.	It is recommended that the data analysis on stability analysis and Multi-trait Genotype-Ideotype Distance Index should be published in high rated journals.	PC All concerned Centres	(1) A research publication on MGIDI in turmeric (CVT trials) is communicated to Frontiers in Plant Sciences (Aug 2025) which is under review. (2) Preparation of a research paper on the stability analysis (GxE interaction) of coriander genotypes is currently underway. (3) A total of 83 research articles were published during the year by ICAR-AICRPS centres, of which 37% have an NAAS impact factor above 7.0.

5	Review the progress of the genetic resources and crop improvement trials at pampadumpara	Pamapadumpara	The PC has visited the centre during July 2025 and reviewed the AICRPS trials. Most of the experiments are being maintained as per the directions provided. It has been decided that all the cardamom and black pepper centres will submit the experimental status of the trials in a half early basis (May and December) to the PC cell.
6.	The large cardamom CVT trial under CAU, Pasighat is at Anjaw district (KVK) of Arunachal Pradesh. Conducting a trial remotely from Pasighat may not be easy and hence the centre is recommended for discontinuation. At the same time, explore the possibility to conduct the experiment at Kalimpong, Darjeeling under UBKV with supervision from ICRI, Gangtok.	ICRI, Gangtok	The CVT on large cardamom at KVK, Anjaw has been discontinued. Consequently, as per the proceedings of the XXXV Annual Group Meeting held in 2024, an alternative site was identified at RRS, UBKV, Kalimpong, West Bengal. The CVT on large cardamom has been initiated under the supervision of the ICRI-Gangtok (Spices Board). Planting has been completed, and soil samples have been collected for physico-chemical analysis.
7.	Crop wise SOPs (standard operating procedures) clearly indicating selection indices for promoting genotypes for IET and CVT, and crop wise standards for varietal identification have to be developed. PC (AICRPS) may formulate a committee to develop SOPs.	PC All concerned Centres	During the year, several committees were constituted, to develop Standard Operating Procedures (SOPs) for ICAR-AICRPS. Completed: (a) Screening techniques for major diseases, insect pests and nematodes infecting major spices (2024) (b) Screening techniques for major diseases, insect pests and nematodes infecting seed spices (2025) (c) The draft guidelines on 'CVT coriander' have been prepared for consideration and discussion in the Annual Group Meeting (AGM). In progress (d) SOPs for quality analysis in spices (e) SOPs in data analysis and data management
8.	Pest and disease screening methodologies for seed spices has to be brought out immediately. PC may form a	PC	The multi-institutional committee was constituted to formulate a detailed guidelines for the pest and disease screening methodologies for seed

	committee to develop these guidelines involving AICRP centres.		spices. The guidelines 'Screening techniques for major diseases, insect pests and nematodes infecting seed spices' has been prepared and submitted to PC. The soft copy of the same is available in www.aicrps.res.in and all the centres are requested to follow them for recording the observations.
9.	Trait specific evaluation of regional genetic resources and development of pre-breeding materials should be undertaken on a priority basis.	All concerned Centres	The germplasms of major spices and seed spices available at various ICAR-AICRPS center are being evaluated, characterized and maintained. Trait specific evaluation is being done. (1) A new trial initiated regarding the identification of location specific genotypes in turmeric developed through seedling progenies as well as somaclones (TUR/CI/1.2). This is to target turmeric genotypes for different shades of natural colours. (2) A trial on unique germplasm in nutmeg is progressing to identify trait specific entries (TSP/CI/1.1) (target trait: monoecious lines) (3) A promising source of male sterility in fennel has been identified at the Jagudan centre. The lines are currently under detailed investigation and will be introgressed into elite lines through backcrossing. (4) Sanand centre has developed a successful *Foeniculum vulgare* x *Anethum graveolens* crosses and the progenies are under evaluation.
Crop management			
10.	New trials should be proposed for black pepper as well as other crops, considering the latest technological needs.	All concerned Centres	A new management trial in black pepper is initiated during 2025-26 using AMF (PEP/CM/3.4). A label claim experimental trial is ongoing for recording the bio-efficacy data in various blue and green labelled molecules (PEP/CP/7.2). Also, a new CVT in black pepper is being constituted.
Crop Protection			
11.	In all the trials, the effect of fungicides/insecticides on	Cumin, coriander and cardamom	It is being studied in five (PEP/CP/7.2, GIN/CP/7.3, TUR/CP/7.1,

	natural enemies and pollinators to be recorded and quantified (Cumin, Coriander and Cardamom etc.).	AICRPS centres	TUR/CP/7.2, CAR/CP/2.1) label claim experiments. To date, the study suggests that the molecules are safe for natural enemies and pollinators. The concluded trials in cumin (aphids and blight; CUM/CP/7.1) and coriander (stem gall; COR/CP/7.1) also indicated the safety of these chemicals for natural enemies and pollinators.
12.	New pest and diseases in all the spice crops recorded if any during survey should be reported under relevant projects	Plant Pathologists of AICRPS	Newly observed pests and diseases in spices are duly documented by the respective centres and included in the ICAR-AICRPS annual report. The new pests and diseases recorded during the year: 1. Ginger-*Pyricularia* (ICAR-IISR) 2. Cardamom-Egyptian cotton leaf worm 3. Cardamom-Horntail snail 3. Cardamom-Malabar parakeet (KAU, Pampadumpara)
Varietal identification			
13.	All breeders of the varieties identified in the XXXV AICRPS should submit proposals for notification under the CVRC.	Jobner Mandor Jodhpur Jagudan Nagaland Calicut	Except, Jodhpur all the centres have submitted the proposals for notifications. During 2025 (S.O. 4000(E), 01 Sep 2025), ICAR-AICRPS facilitated notification of 16 varieties under CSCSN&RV. New proposals for notification: Release and Notification proposal of three varieties (Coriander RCr 565, *Karan Dhaniya-1*), fennel (RF 231) and Fenugreek RMt 259, *Karan Methi*-1) have been forwarded to CSCSN&RV, New Delhi through PC.
Transfer of Technology			
14.	The impact of AICRPS varieties, technologies, and training activities needs to be measured and assessed in the farmers' plots, including the extent of area coverage.	All concerned Centres	As an initiative of ICAR-AICRPS, the impact assessment of varieties and technologies has been taken up and documented. (a) GC-4 (2023) (b) Coriander varieties in Andhra Pradesh (2024) (c) Panniyur-1 (2025) • Total area occupied by Panniyur 1: 58.7 %

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• Relative yield advantage of Panniyur 1 over other varieties: 35.6 %
• Estimated increase in the national average yield: 57.5 kg/ha
• Value of output from this variety: ₹2,633 crore/year (at 2024–25 wholesale prices)
(d) RF-125 (2025)
• RF-125 accounted for nearly 15% of the Rajasthan's fennel output
• Improved the national average fennel yield by 13.2 kg/ha, highlighting its role in strengthening productivity
• Contributed a total output of 40,425 t of fennel, translating into a value of ₹64,603 lakhs, with an average annual contribution of about ₹6,460 lakhs
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<td>15.</td>
<td>Transfer of technologies through FLDs and print and visual media in local languages.</td>
<td>All concerned Centres</td>
<td>
The activities focusing on demonstration and training on recently released ToT were taken up at various ICAR-AICRPS centres during 2024-25.

<table>
<tr><td>On-field / Practical Trainings</td><td>65</td></tr>
<tr><td>Method Demonstrations / Field Days</td><td>5</td></tr>
<tr><td>Exposure Visits / Skill Development / Capacity Building</td><td>10</td></tr>
<tr><td>Awareness Programmes / Campaigns / Celebrations</td><td>10</td></tr>
<tr><td>Online / Virtual Trainings</td><td>8</td></tr>
<tr><td>Total</td><td>93</td></tr>
</table>

Frontline Demonstrations (FLDs) are being conducted through KVKs, and publications on various technologies have been developed and distributed to farmers as part of the technology transfer initiatives (Guntur).

Technologies have been transferred through FLDs in selected locations of Idukki and disseminated via print and visual media in local languages, as instructed (pampadumpara).
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			One video in Assamese language was developed on Bush Pepper Technology to promote the urban dwellers (Kahikuchi) More than 15 articles related to spices were published in Tamil Daily newspaper. FLD on organic farming in black pepper has been established in HRS and in a farmer's holding (Yercaud).
16.	Value chain development of spices should be given priority under NEH and other social sector programmes.	NEH, TSP and SC-SP implementing centres	Twenty-two successful FPOs involved in value chain of spices evolved from ICAR-AICRPS initiatives were documented and released as success stories. The success stories of collaboration between ICAR-AICRP on Spices centers and FPOs, highlighting how research-driven interventions and community action are transforming spice farming in India. Under NEH a "Model Large cardamom Nursery Village" programme successfully implemented in Sikkim (ICRI, Gangtok).

TECHNICAL SESSION: I

ACTION TAKEN REPORT/PERFORMANCE EVALUATION

Chairman: **Dr. Sudhakar Pandey**, ADG (FVS& MP), ICAR, New Delhi

Co-Chairpersons: **Dr. K. Nirmal Babu,** Former Director, ICAR-IISR, Kozhikode
Dr. Prakash Patil, Project Coordinator (AICRP on Fruits), ICAR-IIHR, Bengaluru

Rapporteurs: Dr. Maneesha SR, ICAR-IISR, Kozhikode
Dr. R.S. Meena, ICAR-NRCSS, Ajmer

1. Presentation of the report by Dr. D. Prasath, Project Coordinator (AICRP on Spices)
2. Presentation of 'Information system for All India Coordinated Research Projects' by Dr. A. Dhandapani, Principal Scientist (NAARM, Hyderabad)

Recommendations

- A set of robust guidelines including yield and other parameters may be developed for the release of new varieties.
- A special mission on spices may be proposed by the name 'Fragrant Bharath' or 'Sugandha Bharath and a core group may be identified for preparing a concept note and modalities.
- In the digital information system developed by Dr. A. Dandapani, ICAR-NAARM, Hyderabad the perennial spices data over the years may be included.

TECHNICAL SESSION: II

GENETIC RESOURCES AND CROP IMPROVEMENT

Chairman: **Dr. Nirmal Babu K,** Former Director, ICAR-IISR, Kozhikode

Co-Chairpersons: **Dr. Vinay Bhardwaj,** Director, ICAR-NRCSS, Ajmer
Dr. B. Augustine Jerard, Project Coordinator, ICAR-AICRP on Plantation Crops

Rapporteurs: Dr. M.S. Shivakumar, ICAR-IISR
Dr. Surabi S Chauhan, SDAU

General Recommendations

- Inclusion of new centres like Gudamalani, Barmer (Rajasthan) and CIARI (Port Blair) for seed and tree spices will strengthen the multi-location testing network and ensure more representative evaluation across diverse environments **[Action: AICRPS & NRCSS].**
- A comprehensive report on indoor cultivation of saffron, including technical feasibility and economic viability, should be prepared and submitted to the Project Coordinator (PC) Cell for further consideration and policy guidance **[Action: AICRPS, Pampore].**
- To estimate genetic gain in spices a new trial on decade-wise released varieties of spices (turmeric) and seed spices (Coriander) and other crops should be initiated to assess the performance trends, this process will assist in designing long-term crop improvement strategies **[Action: IISR & NRCSS].**
- A core germplasm group in coriander and fenugreek representing the entire collection constituted at NRCSS should be evaluated across multiple locations for yield, pest, and disease resistance to facilitate Genome-Wide Association Studies (GWAS) and identification of key marker–trait associations. The NRCSS may submit the suitable technical programme indicating number of accessions and locations to PC cell for finalization **[Action: NRCSS].**
- A new experiment has to be initiated for disease forecasting and IT-based modelling, with centres capturing and sharing images of disease **[Action: IISR].**
- An observation trial may be initiated at ICAR–CIARI on the suitability of improved leafy coriander varieties in the Andaman region, using coriander varieties from different centres. **[Action: CIARI].**

Crop Specific Project-wise Recommendations

Coriander

COR/CI/1.1: Germplasm collection, description, characterization, evaluation, conservation and screening against diseases (Coimbatore, Dholi, Guntur, Hisar, Jagudan, Jobner, Kumarganj, Raigarh)

- A uniform set of checks (national and zonal) should be followed for all IET and CVT evaluations

COR/CI/2.1: Coordinated varietal trial on coriander–2024- Series XII (Ajmer, Coimbatore, Dholi, Guntur, Hisar, Jabalpur, Jagudan, Jobner, Kumarganj, Navsari, Pantnagar, Kota, Raigarh, Kalyani, Sanand)

- A uniform set of checks (national and zonal) should be followed for all IET and CVT evaluations
- Centres may be regrouped based on agro-climatic zones for better representativeness of data.
- During the third year of the CVT (AVT-II), centres should send seed samples to NRCSS, Ajmer, for quality parameter analysis.

COR/CI/2.2: CVT on Leafy Coriander Series 2024 (Ajmer, Coimbatore, Dholi, Guntur, Hisar, Jobner, Kumarganj, Navsari, Pantnagar, Sanand)

- A uniform set of checks (national and zonal) should be followed for all IET and CVT evaluations
- The possibility of extracting essential oil from leaves in leafy coriander should be explored for additional value addition.

COR/CI/4.1: Quality evaluation in coriander (Jobner, Jagudan)

- Trial may be reoriented in such way to analyse and make the quality profile on unique accessions, promising genotypes, and released varieties with core centres being Ajmer, Jagudan and Jobner. For detailed profiling the sample should be sent to NRCSS, Ajmer.

Cumin

CUM/CI/1.1: Germplasm collection, characterization, evaluation, conservation and screening against diseases (Jagudan, Jobner, Mandor, Sanand)

- Mutation breeding in cumin should be intensified with the technical support of BARC. Dr. Sham Sunder Meena (NRCSS, Ajmer) will coordinate this activity.

CUM/CI/2.1: Coordinated varietal trial on cumin–2024 (Ajmer, Jagudan, Jobner, Mandore, Sanand)

- Nil.

Fennel

FNL/CI/1.1: Germplasm collection, characterization, evaluation, conservation and screening against diseases (Dholi, Hisar, Jagudan, Jobner, Kumarganj)

- Centres not maintaining germplasm should be removed from project to ensure research discipline.
- The unique dwarf germplasm in fennel should be evaluated in new or existing trials for its commercial potential.

FNL/CI/2.1: Coordinated varietal trial on fennel–2024 Series XII (Ajmer, Dholi, Hisar, Jabalpur, Jagudan, Jobner, Kumarganj, Pantnagar, Navsari)

- Zonal-wise grouping of centres for CVT evaluation should be done, and results should be presented zone-wise.
- Off-season facilities (polyhouses/satellite stations) should be explored to advance segregating generations and speed up breeding cycles.

Fenugreek

FGK/CI/1.1: Germplasm collection, characterization, evaluation, conservation and screening against diseases (Dholi, Guntur, Hisar, Jagudan, Jobner, Kumarganj, Raigarh)

- Understanding the role of dietary fibre content variation in fenugreek germplasm should be studied in detail for nutritional improvement.

FGK/CI/2.1: Coordinated varietal trial on fenugreek–2024 Series XII (Ajmer, Dholi, Hisar, Jabalpur, Jagudan, Jobner, Kumarganj, Navsari, Pantnagar, Kota, Raigarh)

- Nil.

Ajwain

AJN/CI/2.1: Coordinated varietal trial-2022 Series (Ajmer, Guntur, Hisar, Jagudan, Jobner, Kumarganj, Raigarh)

- Thymol content estimation from essential oil should be carried out at NRCSS, Ajmer, during the third year of CVT.
- Greater emphasis should be placed on variability for maturity duration and quality parameters.
- New and potential ajwain-growing areas should be explored for expanding cultivation and testing adaptability.

Nigella

NGL/CI/2.1: Coordinated varietal trial on Nigella – Series II 2024 (Ajmer, Hisar, Kumarganj, Pantnagar, Raigarh, Kota)

- Efforts should be made to identify variability for days to maturity in nigella germplasm.
- The number of evaluation locations and new introduction areas should be increased to promote crop diversification and adaptation.

Saffron

Project mode: Conservation, evaluation and utilization of exotic and indigenous saffron germplasm lines (Pampore)

- Identify saffron genotypes requiring less chilling for wider adaptability.
- Unique saffron germplasm should be registered with NBPGR, and data on characterization should be submitted to the PC Cell.
- Conduct multi-location trials within J&K and submit the compiled data to the PC Cell.
- Finalize and submit field and seed standards for the crop to the PC Cell.

Kalazeera

Project mode: Exploration, collection and conservation of kalazeera from high altitudes of northern Himalaya (Pampore)

- Include new CVT locations for kalazeera in Himachal Pradesh and the North Eastern region.
- Finalize and submit field and seed standards for the crop to the PC Cell.

Black Pepper

PEP/CI/1.1: Germplasm collection, characterization, evaluation and conservation (Ambalavayal, Dapoli, Panniyur, Pundibari, Sirsi, Yercaud)

- Prepare the catalogue of descriptors of germplasm accessions completed evaluation and bring out as publication

PEP/CI/3.7: CVT 2018 on black pepper - Series IX (Ambalavayal, Chintapalli, Dapoli, Kozhikode, Panniyur, Sirsi, Yercaud)

- Centres should monitor and minimize coefficient of variation (CV%) in yield and yield-attributing traits for better data consistency.

Small Cardamom

CAR/CI/1.1: Germplasm collection, characterization, evaluation, and conservation (Mudigere, Pampadumpara)

- Nil.

CAR/CI/3.9: CVT on hybrids of small cardamom-2018 – Series IX (Appangala, Mudigere, Myladumpara, Pampadumpara, Sakleshapura)

- Trial conducted at Appangala and Sakleshpur finished three year evaluation and have been concluded and centres go-ahead with final data analysis.
- The Mudigere centre will be discontinued, while Pampadumpara and Myladumpara will continue trial for two more years.

CAR/CI/2.1: CVT on Small Cardamom 2024 Series XII (Appangala, Mudigere, Myladumpara, Pampadumpara)

- Each participating centre shall submit a replication-wise (plant-wise) plant health status report mandatory to the PC Cell twice a year (April and September). These reports will enable the PC Cell to assess the need for replanting to take further action or reporting to the Director/VC, wherever required.

CAR/CI/4.4: Multi-location evaluation of thrips-tolerant cardamom lines (Appangala, Mudigere, Myladumpara, Pampadumpara, Sakleshapura)

- For the multi-location evaluation of thrips-tolerant cardamom lines, all trial centres are required to mandatorily record the focus traits, namely capsule-based thrips damage, and fresh and dry capsule yield per hectare, otherwise the data from centre will be treated as invalid.

CAR/CI/4.5: MLT on leaf blight tolerant lines of small cardamom 2018 Series (Appangala, Mudigere, Myladumpara, Pampadumpara, Sakleshapura)

- For the multi-location evaluation of leaf-blight-tolerant cardamom lines, all trial centres are required to mandatorily record the focus traits, namely leaf blight incidence (PDI), and fresh and dry capsule yield per hectare, otherwise the data from centre will be treated as invalid.

Large Cardamom

LCA/CI/1.1: Germplasm collection and evaluation of large cardamom (ICAR Regional Station, Gangtok, ICRI Regional Research Station, Gangtok)

- Nil.

LCA/CI/2.1: CVT on large cardamom (ICAR Regional Station, Gangtok, ICRI Regional Research Station, Gangtok, RRS, UBKV, Kalimpong)

- Nil.

Ginger

GIN/CI/1.1 Germplasm collection, characterization, evaluation and conservation (Barapani, Dholi, Kumarganj, Pottangi, Pundibari, Raigarh, Solan)

- Nil.

GIN/CI/2.6: CVT on bold ginger (Appangala, Kozhikode, Pottangi, Raigarh, Sikkim)

- Nil.

GIN/CI/2.7: CVT on high essential oil ginger genotypes (Appangala, Kozhikode, Nagaland, Pottangi, Umiam)

- Nil.

Turmeric

TUR/CI/1.2: Evaluation of Turmeric Somaclones and Seedling Progenies for Superior Agronomic Traits & Regional Adaptation-Series I (Coimbatore, Guntur)

- Somaclones should be compared with their mother plants to identify possible variations.

TUR/CI/2.11: CVT on black turmeric *Curcuma caesia* (Barapani, Coimbatore, Kozhikode, Kumarganj, Mizoram, Navsari, Pottangi, Pundibari)

- Centres unable to conduct quality testing should send samples to IISR.

Tree Spices

TSP/CI/1.1: Germplasm collection, characterization, evaluation and conservation of clove, nutmeg and cinnamon (Dapoli, Pechiparai)

- Nil.

TSP/CI/2.4: Coordinated Varietal Trial on farmer's varieties of nutmeg (Dapoli, Pechiparai, Thrissur)

- Nil.

TSP/CI/2.5: Coordinated Varietal Trial on Nutmeg- Series 2023 (Dapoli, Kozhikode, Pechiparai, Thrissur)

- Nil.

Project Mode Evaluation of nutmeg genotypes (Thrissur)

- Nil.

General Suggestions

All Crops Germplasm evaluation trials:

Prepare and publish a germplasm catalogue based on the descriptors of fully characterized and evaluated germplasm accessions

Large Cardamom

- ICRI-released varieties should be integrated into the DASD/State Department multiplication chains to ensure faster dissemination.
- Emphasis should be placed on multiplying and distributing disease-free planting material for large-scale adoption.

Ginger

- Screening should focus on rhizome rot, bacterial wilt, and major leaf diseases, as other agronomic data are already standardized.
- ICAR-IISR will organize an online training session on recording and scoring of disease data.
- To strengthen and standardize turmeric disease screening across centres, a committee comprising plant pathologists from Solan, Raigarh, Dholi, and ICAR–IISR shall be constituted. The committee will design a comprehensive sick-pot and field screening protocol for soft rot, bacterial wilt, and major foliar diseases, including guidelines for set-wise germplasm evaluation. The committee shall compile and submit a detailed screening protocol report to the PC Cell for implementation across the network

Turmeric

- Artificial inoculation techniques may be explored for screening against major diseases.
- The Sirsi centre will be included for screening turmeric genotypes for leaf blotch resistance.

Tree Spices

- The CIARI centre, Shri Vijaya Puram will be included in the tree spice germplasm project. The centre is request to submit a technical programme on new germplasm trial.
- CIARI will also participate in the new CVT trial of nutmeg and propose a CVT on cinnamon, expanding research coverage in island ecosystems.

New technical Programmes

A total of nine Crop Improvement technical programmes were presented during the 36th Annual Group Meeting, of which six were accepted for implementation in the forthcoming cropping season (some with modifications), and other three proposal was not recommended for inclusion in AICRPS multilocational trial, but advised the proposer institute to initiate the work as station trials. Summary of chairs recommendation is provided below.

Sl. No.	Project Title	Proposer	Accepted (Y/N)	Recommendations / Remarks	Reference to TP (only accepted)
1	Evaluation of Turmeric Somaclones and Seedling Progenies for Superior Agronomic Traits & Regional Adaptation 2025 Series II	Dr. Aarthi, ICAR-IISR	Yes	• Dry powder L* (Lab colour value) must be recorded. • Dried samples may be sent to ICAR–IISR for estimation.	TP: TUR/CI/1.3 (2025) p.57-60.
2	Understanding the genetic gain realized in national turmeric improvement programme	PC Cell	Yes, with modification	• Only the best three varieties from each decade should be selected for the trial	TP: TUR/CI/5.1 p.64

3	CVT on Green Seeded Fenugreek -Series 2025	PC Cell	Yes, with modification	• Centres must send seed samples to Director, ICAR–NRCSS, Ajmer for quality analysis.	TP: FGK/CI/2.3 p.61
4	CVT on Ajwain Series 2025	PC Cell	Yes	• Centres must send seed samples to Director, ICAR–NRCSS, Ajmer for quality analysis after IIIrd year of testing.	TP: AJN/CI/2.3 p.62
5	CVT on Kalazeera	Dr. S. Dar, Pampore	Yes	• Increase the replication from 4 to 5 to meet error deg.freedom threshold • ICAR–NRCSS, Badmer shall be included as a testing centre.	TP: KZ/CI/2.1 p.66
6	Constitution of new CVT – Black Pepper	Dr. M.S. Shivakumar, ICAR-IISR/PC Cell	Yes (pending finalization)	• An online meeting will be held to finalize the number of entries. • Potangi and CIARI, Shri Vijaya Puram will be included as testing locations. • Instead of 1000-berry weight, 100-berry weight must be recorded.	TP: PEP/CI/3.8 (2025) p.65
7	Germplasm collection, characterization, evaluation and conservation of turmeric in new gangetic alluvial plains of West Bengal	Dr. Anupam Pariari, Kalyani	No	• Trial may be conducted as a station trial only	Station trial – No TP reference
8	Initial Evaluation Trial (Evaluation of open pollinated seedlings of selected high yielding accessions of cardamom)	Dr. Nimisha Mathews	No	• Trial may be conducted as a station trial only	Station trial – No TP reference
9	Identification of Umbel Blight-Resistant Accessions in Wild Populations of Kalazeera from Jammu Kashmir Ladakh	Dr. S. Dar, Pampore	No	• Trial may be conducted as a station trial only	Station trial – No TP reference

SUMMARY OF THE TECHNICAL SESSION II

Project code	Title	Centres	Comments
Black pepper			
PEP/CI/1.1	Germplasm collection, characterization, evaluation and conservation	Ambalavayal, Dapoli, Panniyur, Pundibari, Sirsi, Yercaud	Continued
PEP/CI/3.7	CVT 2018 on black pepper - Series IX	Chintapalli, Dapoli, Kozhikode, Panniyur, Sirsi, Yercaud	Continued
Cardamom			
CAR/CI/1.1	Germplasm collection, characterization, evaluation, and conservation	Mudigere, Pampadumpara	Continued
CAR/CI/3.9	CVT on hybrids of small cardamom-2018 – Series IX	Appangala, Mudigere, Myladumpara, Pampadumpara, Sakleshapura	Concluded for Appangala, Mudigere & Sakleshpur. Myladumpara & Pampadumpara continue the trial
CAR/CI/2.1	CVT on Small Cardamom 2024 Series XII	Appangala, Mudigere, Myladumpara, Pampadumpara,	Continued
CAR/CI/4.4	Multilocation evaluation of thrips-tolerant cardamom lines	Appangala, Mudigere, Myladumpara, Pampadumpara, Sakleshapura	Continued with due focus on focus traits as per SOP
CAR/CI/4.5	MLT on leaf blight tolerant lines of small cardamom 2018	Appangala, Mudigere, Myladumpara, Pampadumpara, Sakleshapura	Continued with due focus on focus traits as per SOP
Large cardamom			
LCA/CI/1.1	Germplasm collection and evaluation of large cardamom	ICAR Regional Station, Gangtok, ICRI Regional Research Station, Gangtok	Continued
LCA/CI/2.1	CVT on large cardamom	ICAR Regional Station, Gangtok, ICRI Regional Research Station, Gangtok	Continued

Ginger			
GIN/CI/1.1	Germplasm collection, characterization, evaluation and conservation	Barapani, Dholi, Kumarganj, Pottangi, Pundibari, Raigarh, Solan	Continued
GIN/CI/2.6	CVT on bold ginger	Appangala, Kozhikode, Pottangi, Raigarh, Sikkim	Continued
GIN/CI/2.7	CVT on high essential oil ginger genotypes	Appangala, Kozhikode, Nagaland, Pottangi, Umiam	Continued
Turmeric			
TUR/CI/1.1	Germplasm collection, characterization, evaluation and conservation	Barapani, Coimbatore, Dholi, Guntur, Kammarpally, Kumarganj, Pasighat, Pottangi, Pundibari, Raigarh, Solan	Continued
TUR/CI/1.2	Evaluation of turmeric somaclones and seedling progenies for superior agronomic traits & regional adaptation Series-I	Coimbatore, Guntur	Continued till the end of 2025-26.
TUR/CI/2.11	CVT on black turmeric *Curcuma caesia*	Barapani, Coimbatore, Kozhikode, Kumarganj, Mizoram, Navsari, Pottangi, Pundibari	Continued till the end of 2026-27.
Tree spices			
TSP/CI/1.1	Germplasm collection, characterization, evaluation and conservation of clove, nutmeg and cinnamon	Dapoli, Pechiparai	Continued
TSP/CI/2.4	Coordinated Varietal Trial on farmers varieties of nutmeg	Dapoli, Pechiparai, Thrissur	Continued
TSP/CI/2.5	Coordinated Varietal Trial on nutmeg- series 2023	Dapoli, Kozhikode, Pechiparai, Thrissur	Continued
Project mode	Evaluation of nutmeg genotypes	Thrissur	Continued
Coriander			
COR/CI/1.1	Germplasm collection, description, characterization, evaluation, conservation and screening against diseases	Coimbatore, Dholi, Guntur, Hisar, Jagudan, Jobner, Kumarganj, Raigarh	Continued

COR/CI/2.1	Coordinated Varietal Trial on coriander 2024-Series XII	Ajmer, Coimbatore, Dholi, Guntur, Hisar, Jabalpur, Jagudan, Jobner, Kalyani, Kota, Kumarganj, Navsari, Pantnagar, Raigarh, Sanand	Continued
COR/CI/2.2	Coordinated Varietal Trial on Coriander (Leaf Purpose) 2024- Series XII (I year)	Ajmer, Coimbatore, Dholi, Guntur, Hisar, Jobner, Kumarganj, Navsari, Pantnagar, Raigarh, Sanand	Continued
COR/CI/4.1	Quality evaluation in coriander	Ajmer, Hisar, Jagudan, Jobner,	Reorient the working material and restart a fresh.
Cumin			
CUM/CI/1.1	Germplasm collection, characterization, evaluation, conservation and screening against diseases	Jagudan, Jobner, Mandor, Sanand	Continued
Fennel			
FNL/CI/1.1	Germplasm collection, characterization, evaluation, conservation and screening against diseases	Dholi, Hisar, Jagudan, Jobner, Kumarganj	Continued
FNL/CI/2.8	Coordinated varietal trial on fennel – 2024 Series XII	Ajmer, Dholi, Hisar, Jabalpur, Jagudan, Jobner, Kumarganj, Navsari, Pantnagar.	Continued
Fenugreek			
FGK/CI/1.1	Germplasm collection, characterization, evaluation, conservation and screening against diseases	Dholi, Guntur, Hisar, Jagudan, Jobner, Kumarganj, Raigarh	Continued
FGK/CI/2.5	Coordinated Varietal Trial of fenugreek 2024 – Series XII	Ajmer, Dholi, Hisar, Jabalpur, Jagudan, Jobner, Kota, Kumarganj, Navsari, Pantnagar, Raigarh	Continued
Ajwain			
AJN/CI/2.1	Coordinated Varietal Trial–2022 Series	Ajmer, Guntur, Hisar, Jagudan, Jobner, Kumarganj, Raigarh	Concluded

Nigella			
NGL/CI/2.1	CVT on Nigella – Series II 2024	Ajmer, Hisar, Kumarganj, Pantnagar, Raigarh, Kota	Continued
Saffron			
Project mode	Conservation, evaluation and utilization of exotic and indigenous saffron germplasm lines	Pampore	Continued
Kalazeera			
Project mode	Exploration, collection and conservation of kalazeera from high altitudes of northern Himalayas	Pampore	Continued

TECHNICAL SESSION: III

CROP MANAGEMENT

Chairman	:	**Dr. Prakash Patil,** Project Coordinator (Fruits), ICAR-IIHR
Co-Chairmen	:	**Dr. R. Srinivasan,** Head, Division of Crop Production and Post-Harvest Technology
	:	**Dr. Vikram Prasad Pandey,** Former Dean, College of Hort. ANDUAT, Ayodhya
Rapporteurs	:	Dr. Sivaranjani R, ICAR-IISR, Kozhikode
	:	Reena Nair, JNKVV, Jabalpur

General Recommendations

- Benchmark has to be fixed like treatment/s qualifies for recommendation only if it shows a minimum 15% yield increase over the benchmark (local check/standard practice) on pooled analysis or centre-wise. Among qualifying treatments, only one treatment—the one with highest yield and superior Benefit:Cost (B:C) ratio—will be included in the final consolidated recommendation. If no single treatment is uniformly superior across all centres *(i.e.,* different centres record different best treatments), centre-wise recommendations will be issued instead.

- Six technologies have been identified as suitable for release and recommendation. Centres must also ensure that the recommended technologies are supported by robust multi-location data demonstrating superiority over existing practices. Each centre should prepare complete technical bulletins, validation data, and Extension advisories for these technologies to facilitate rapid dissemination among stakeholders.

- In soil-related experiments where foliar applications are part of the treatments, the results must be complemented with corresponding soil nutrient analyses. Baseline soil nutrient status, post-treatment soil data, and nutrient uptake patterns should be included to provide a comprehensive understanding of treatment efficacy. This will ensure that conclusions drawn from foliar treatments are scientifically robust and supported by soil health indicators.

- AICRPS Centres are encouraged to develop and submit new technical proposals aimed at addressing emerging crop management challenges in ginger and turmeric. These proposals may focus on disease management, nutrient optimization, climate-resilient production practices, and integrated crop management strategies. The new trials should be designed to generate location-specific and scalable solutions relevant to farmers across different agro-climatic regions.

Crop Specific Project-wise Recommendations

Coriander

COR/CM/2.3: Crop specific micronutrient formulation for coriander (Ajmer, Coimbatore, Guntur, Hisar, Jagudan, Jobner)

- The soil micronutrient status should be recorded at all centres prior to conducting foliar spray treatments from the next cropping season.
- A committee may be constituted to check the raw yield data of different centres and uniform method of estimation can be used for calculating yield correctly to remove the discrepancies in low and high yield observed in different centres.
- In result table, one row should be added to include average yield (past five years) of that state.

COR/CM/5.1: Growth and yield of coriander as influenced by AMF (Arbuscular Mycorrhizal Fungi) (Ajmer, Coimbatore, Dholi, Guntur, Jabalpur, Kota)

- The results showed that AMF application did not help in the reduction of phosphorus requirement in most of the centers. The soil nutrient and fertility status especially initial status of P should be studied in detail and data should be included in the next year.
- As the trial is laid out in Factorial RBD, the interaction of the treatment should be studied and the benefit must be shown.
- The trial is recommended for continuation during 2025-26 (third year), except Ajmer centre. The concerned centres shall submit the trial results for compilation, which will be presented in the next workshop and the final recommendations will be formulated next year.
- After the completion of the trial, the results should be published in a good quality journal. Dr. AC Shivran should take the initiatives in publishing the results. **[Action: Dr. Tanuja/AC Shivran]**

COR/CM/6.1: Effect of growth regulators on yield and quality of coriander (Coimbatore, Guntur, Hisar, Jabalpur, Jobner, Kota, Raigarh)

- As the trial has been concluded with adequate data generated, it is recommended that the consolidated results be prepared and published in a good-quality scientific journal with Dr. Tanuja Priya taking the lead **[Action: Dr. Tanuja Priya]**
- Benchmark has to be fixed in case of yield increase - minimum 15% yield increase is needed for the treatment to be qualified for recommendation.
- In final recommendation, only one treatment which recorded maximum yield and higher BC ratio can be included. If there is no uniformity among centres, centre-wise recommendation can be given.

Cumin

CUM/CM/2.1: Standardization of plant density and sowing time for cumin genotype CZC 94 (Ajmer, Mandore, Jagudan, Jobner, Sanand)

- The multi-location evaluation showed that cumin entry, CZC 94 did not superior to the check variety GC 4 under late sowing and dense planting conditions in all locations; therefore, the trial is concluded.

CUM/CM/3.4: Crop specific micronutrient formulation for cumin (Ajmer, Mandore, Jagudan, Jobner, Sanand)

- The trial will be continued and standard format being followed in this project should be followed while presenting results.

Fenugreek

FGK/CM/5.1: Growth and yield of fenugreek as influenced by AMF (Arbuscular Mycorrhizal Fungi) (Dholi, Kota, Mandor, Jabalpur)

- The trial will be continued for one more year (2025–26), and the final recommendations will be formulated next year.

- The following information should be included in the final report: the extent of savings farmers can achieve through reduced phosphorus application and overall fertilizer savings resulting from adoption of the most effective treatment.
- Guntur Centre should ensure that the commercial AMF product used in the trial is made available in the states/zones where it performed well, to facilitate large-scale dissemination of the technology. **[Action: Dr. Tanuja Priya]**

FGK/CM/6.1: Effect of growth regulators on yield and quality of fenugreek (Ajmer, Dholi, Hisar, Jobner, Kota)

- The trial has been concluded, and the proposal of technology should be presented during transfer of technology session. Only one or two best-performing treatments should be recommended as the finalized technology.
- The yield recorded at the Ajmer Centre during 2022–23 was substantially lower than in the subsequent two years due to flooding and salt accumulation. Therefore, inferences on trial should be drawn based on the data from the two consistent years.
- As the Hisar and Dholi centres conducted this trial for only two years, the results from these centres should be compared. If the two-year data are consistent, the trial may be concluded for these locations.
- With the completion of the trial across centres (Ajmer, Dholi, Hisar, Jobner, and Kota), it is recommended that the compiled results be published in a reputed peer-reviewed journal, with coordination by Dr. Ravindra Singh with Dr. Tanuja Priya serving as the lead author. **[Action: Dr. Ravindra Singh]**

Black pepper

PEP/CM/3.4: Effect of AMF on growth and yield of black pepper (Dapoli, Kahikuchi, Kozhikode, Panniyur, Sirsi, Yercaud)

- Soil nutrient analysis at Sirsi and Kahikuchi should be completed. The baseline soil nutrient status prior to the imposition of treatments must also be assessed.

Cardamom

CAR/CM/5.5 – Effect of micronutrients on growth and yield of small cardamom (Appangala, Mudigere, Myladumpara, Pampadumpara, Sakleshpur)

- The trial will be continued for one more year (2025–26), and the final recommendation will be formulated next year.
- The Benefit–Cost (B:C) ratio should be incorporated while presenting the final results.
- The results table should include an additional row capturing the average yield (past five years) of the respective state as well as the national average. If the recorded yield is lower than the state average, the technology should not be considered for recommendation.
- If any reduction in yield is observed due to unfavourable weather conditions, a footnote may be added stating: “Yield variation attributed to weather vagaries.”

CAR/CM/5.6: Site-specific recommendations for varying yield targets of cardamom (Appangala, Mudigere, Myladumpara, Pampadumpara, Sakleshpur)

- The trial will be continued for one more year (2025–26). Considering the lower yield recorded in the previous year at Sakleshpur, the possibility of conducting two parallel trials at this location—one on micronutrient management and another on site-specific nutrient recommendations—may be explored. [Action: Dr. Harsha]

Large Cardamom

LCA/CM/2.1: Assessment of effect of polysulphate (dehdrite polyhalite) on yield and quality parameters of large cardamom (ICAR Gangtok, ICRI Gangtok)

- Nil. The trial will be continued.

Ginger

GIN/CM/4.1: Evaluation of different ginger-based intercropping systems for higher yield and income (Chintapalle, Dholi, ICAR Gangtok, Kanke, Kalyani, Mizoram, Nagaland, Pottangi, Pundibari, Sirsi, Solan)

- As the trial has been concluded, centre-specific technological recommendations for ginger-based intercropping may now be formulated based on the results. The respective centre-wise Package of Practices should be incorporated in the recommendations.
- The additional income generated through intercropping, in comparison with the traditional cultivation method, should be highlighted during the technology transfer session.
- The Land Equivalent Ratio (LER) should be included as a key performance indicator.
- A research paper based on this study should be prepared and submitted to a reputed peer-reviewed journal. [Action: Dr. Sudheesh Kulkarni]

GIN/CM/5.1: Evaluation of Plant Growth Promoting Rhizobacteria, *Bacillus safensis* for Phosphorus (P) solubilization potential in Ginger (Ambalavayal, Chintapalli, Kalyani, Kammarpally, Kumarganj, Pasighat, Pottangi, Pundibari, Raigarh)

- Nil. The trial got concluded.
- If any reduction in yield is observed due to unfavourable weather conditions, a footnote may be added stating: "Yield reduction attributed to extreme climatic events."
- The transfer of technology presentation should include the respective state average yield and the percentage increase in yield attributable to the treatment.

GIN/CM/5.2: Evaluation of Plant Growth Promoting Rhizobacteria, *Bacillus safensis* for zinc (Zn) solubilization potential in Ginger (Chintapalli, Kalyani, Kammarpally, Kumarganj, Pasighat, Pottangi, Raigarh)

- Nil. The trial will be concluded.
- The transfer of technology presentation should include the respective state average yield and the percentage increase in yield attributable to the treatment.

Turmeric

TUR/CM/5.1: Evaluation of Plant Growth Promoting Rhizobacteria, *Bacillus safensis* for Phosphorus (P) solubilization in turmeric (Chintapalli, Coimbatore, Kahikuchi, Kalyani, Kammrpally, Kozhikode, Pasighat, Pottangi, Pundibari, Raigarh, Solan)

- This technology has been approved for recommendation and presentation in the technology presentation session. The available phosphorus level should be quantified, and the percentage yield improvement should be included while presenting the results. Publication should be come out in two months in journal with NAAS rating >7.0. **[Action: Dr. Praveena, IISR]**

TUR/CM/5.2 – Evaluation of Plant Growth Promoting Rhizobacteria, *Bacillus safensis* for zinc (Zn) solubilization in turmeric (Chintapalli, Coimbatore, Dholi, Kahikuchi, Kalyani, Kammrpally, Kanke, Kumarganj, Kozhikode, Pasighat, Pottangi, Pundibari, Raigarh)

- The experiment is concluded. This technology is agreed for recommendations for presenting in technology presentation session and the percentage yield improvement should be included while presenting the results. Publication should be come out in two months in journal with NAAS rating >7.0. **[Action: Dr. Praveena, IISR]**

Tree Spices

TSP/CM/5.1: Site-specific nutrient management in Nutmeg (Coimbatore, Dapoli, Kozhikode, Thrissur)

- The trial is on-going and two centers, Thrissur and Coimbatore should make effort to initiate the trial in this season

General Suggestion

- The result table should include an additional row showing the state average yield (past five years) and the national average yield of the crop.
- Each trial presentation should include one slide on the inventor's claim.
- Wherever possible, data should be presented in graphical form for better visualization and understanding.

New Techncial programmes

A total of five Crop Management technical programmes were presented during the session. Of these, three proposals were accepted for implementation in the forthcoming cropping season, subject to specific modifications and compliance with prescribed guidelines. Two proposal was not recommended for inclusion under the AICRPS multilocational trial framework; instead, the proposer institute was advised to undertake the study as an institute-level trial. A consolidated summary of the Chair's recommendations is provided below.

Sl. No.	Project Title	Proposer	Accepted (Y/N)	Recommendations / Remarks	Reference to TP (only accepted)
1	Effect of plant density and fertilizer levels on growth, yield and quality of transplanted fennel	Dr. Ravindra Singh, NRCSS	Yes with modification	• Five centres: Ajmer, Mandore, Jagudan, Kumarganj, Jabalpur and Jobner. • Maintain two fertilizer levels (100% RDF & 125% RDF) and two spacings: 30×30 cm (transplanted) & 45×30 cm (direct sowing). • Total 8 treatment combinations (2×2×2). • Region-specific recommended varieties to be used • Jabalpur centre to consult Dr. Ravindra Singh and procure AF-1 seedlings from NRCSS, Ajmer. • Proposal must include date of transplantation and date of sowing.	TP: FNL/CP/5.1 p.68-71
2	Assessment of effect of polysulphate (dehydrate polyhalite) on yield and quality of small	Dr. K.A. Saju, ICRI, Myladum para	Conditional / Yes	• For initiating trial on this commercial product, follow the standard protocol by ICAR has to be followed. • Applicable trial charges must be paid.	TP: Not finalised

	cardamom				
3	Study on efficiency of organic and inorganic mulching materials for weed control in turmeric	Dr. R. Naga Lakshm, Guntur	Yes, with modifications	• Centres: Coimbatore, Guntur, Jabalpur, Dapoli, Kammarpally. • Centres with irrigation facilities compulsorily use drip irrigation. • Regional-specific varieties to be planted. • Approved for two years.	TP: TUR/CP/4.1 p.67
4	Media standardization for the propagation of bush pepper in Panniyur 1 variety of black prpper (*Piper nigrum* L.)	Dr. G. Malathi, Yercaud	No	• Recommended to be taken up as an Institute-level trial, not as an AICRP trial	--
5	Study on suitable harvesting and drying methods for good quality quills and high essential oil yield in YCD-1 cinnamon	Dr. G. Malathi, Yercaud	No	• Recommended to be taken up as an Institute-level trial, not as an AICRP trial	--

TECHNICAL SESSION III

SUMMARY OF THE TECHNICAL SESSION

Project code	Title	Centres	Comments
Black Pepper			
PEP/CM/3.4	Effect of Arbuscular Mycorrhizal (*Rhizophagus irregularis*) fungi on growth and yield of black pepper	Dapoli, Kahikuchi, Kozhikode, Panniyur, Sirsi, Yercaud	Continued
Cardamom			
CAR/CM/5.5	Effect of micronutrients on growth and yield of small cardamom	Appangala, Mudigere, Myladumpara, Pampadumpara, Sakleshpur	Continued for one more year (2025-26)
CAR/CM/5.6	Site-specific recommendations for varying yield targets of cardamom.	Appangala, Mudigere, Myladumpara, Pampadumpara, Sakleshpur	continued for one more year (2025-26)
Large cardamom			
LCA/CM/2.1	Assessment of effect of Polysulphate (Dehydrite Polyhalite) on Yield and Quality Parameters of Large Cardamom (*Amomum subulatum* Roxb.).	ICAR Gangtok, ICRI Gangtok	Continued
Ginger			
GIN/CM/4.1	Evaluation of different ginger-based intercropping systems for higher yield and income	Chintapalle, Dholi, ICAR Gangtok, Kanke, Kalyani, Mizoram, Nagaland, Pottangi, Pundibari, Sirsi, Solan.	Concluded
GIN/CM/5.1	Evaluation of Plant Growth Promoting Rhizobacteria, *Bacillus safensis* for Phosphorus (P) Solubilization Potential in ginger	Ambalavayal, Chintapalli, Kalyani, Kammarpally, Kumarganj, Pasighat, Pottangi, Pundibari, Raigarh,	Concluded
GIN/CM/5.2	Evaluation of Plant Growth Promoting Rhizobacteria, *Bacillus safensis* for zinc (Zn) solubilization potential in ginger	Chintapalli, Kalyani, Kammarpally, Kumarganj, Pasighat, Pottangi, Raigarh,	Concluded

Turmeric			
TUR/CM/5.1	Evaluation of Plant Growth Promoting *Rhizobacteria*, *Bacillus safensis* for phosphorus (P) solubilization potential in turmeric	Chintapalli, Coimbatore, Kahikuchi, Kalyani, Kammarpally, Kozhikode, Pasighat, Pottangi, Pundibari, Raigarh, Solan.	Concluded
TUR/CM/5.2	Evaluation of Plant Growth Promoting *Rhizobacteria*, *Bacillus safensis* for zinc (Zn) solubilization potential in turmeric	Chintapalli, Coimbatore, Dholi, Kahikuchi, Kalyani, Kammarpally, Kanke, Kumarganj, Kozhikode, Pasighat, Pottangi, Pundibari, Raigarh.	Concluded
Tree Spices			
TSP/CM/5.1	Site-Specific Nutrient Management in Nutmeg (*Myristica fragrans*)	Vellanikkara, Kozhikode, Dapoli, Coimbatore	Continued
Coriander			
COR/CM/2.3	Crop specific micronutrient formulation for coriander	Ajmer, Coimbatore, Guntur, Hisar, Jagudan, Jobner	Continued
COR/CM/5.1	Growth and yield of Coriander as influenced by AMF (Arbuscular Mycorrhizal Fungi)	Coimbatore, Dholi, Guntur, Jabalpur, Kota	continued for one more year (2025-26)
COR/CM/6.1	Effect of modern growth regulators on yield and quality of coriander	Coimbatore, Guntur, Hisar, Jabalpur, Jobner, Kota, Raigarh	Concluded
Cumin			
CUM/CM/2.1	Standardization of plant density and sowing time for cumin genotype CZC 94	Ajmer, Mandore, Jagudan, Jobner,, Sanand,	Concluded
CUM/CM/3.4	Crop specific micronutrient formulation for cumin	Ajmer, Mandore, Jagudan, Jobner	Continued
Fenugreek			
FGK/CM/5.1	Growth and yield of fenugreek as influenced by AMF (Arbuscular Mycorrhizal Fungi)	Dholi, Kota, Mandor, Jabalpur	continued for one more year (2025-26)
FGK/CM/6.1	Effect of modern growth regulators on yield and quality of fenugreek	Ajmer, Dholi, Hisar, Jobner, Kota	Concluded

TECHNICAL SESSION: IV

CROP PROTECTION AND FOOD SAFETY

Chairman: **Dr. S.J. Eapen,** Former Director, ICAR-IISR, Kozhikode

Co-Chairpersons: **Dr. A.I. Bhat,** Head, Division of Crop Protection, ICAR-IISR, Kozhikode

Rapporteurs: Dr. Aditi Sharma, YSPUHF, Solan
Dr. Anamika Debnath, UBKV, Pundibari

General Recommendations

- For label-claim experiments, confidentiality of the generated data must be strictly maintained. The data should be shared exclusively with the Project Coordinator (PC) Cell. [Action: PC & the centres involved in the trial].
- The Project Coordinator may convene a dedicated meeting of all crop protection scientists to finalize the list of new AICRPS trials. [Action: PC Cell].
- NRCSS may organize a focused brainstorming session on cumin blight management with participation from all relevant stakeholders. [Action: Director, NRCSS].

Crop Specific Project-wise Recommendations

Cumin

CUM/CP/7.1: Eco-friendly management of cumin blight. (Jagudan, Jobner, Mandor)
CUM/CP/7.2: Assessment of cumin blight (*Alternaria burnsii*) for weather-based prediction model. (Ajmer, Mandor, Jagudan, Jobner, Sanand)

- One additional sowing date should be included as a treatment, preceding the farmers' normal sowing date, from the second year onward.

Fenugreek

FGK/CP/7.1: Bio-efficacy of fungicides against powdery mildew of fenugreek. (Coimbatore, Hisar, Jabalpur, Jagudan, Jobner, Kota, Raigarh)

- The trial has been completed. The technology developed under this trial should be presented in the transfer of technology session.

Nigella

NGL/CP/7.1: Management of root rot of nigella. (Dholi, Kumarganj, Raigarh)

- Two new technologies are expected to emerge from this trial.
- This year, technology involving biocontrol agents may be presented based on the Benefit: Cost (B:C) ratio.
- The trial may be continued for one more year at the Dholi centre only, using chemicals for residue analysis. The technology may be presented next year.

Seed Spices

SS/CP/7.1: Survey and monitoring of diseases and insect pests of seed spices for developing prediction models. (Ajmer, Coimbatore, Dholi, Guntur, Jagudan, Jobner, Kammarpally, Kalyani, Kumarganj, Raigarh, Sanand)

- Sunshine hours should be included wherever the data is missing.
- The five years' data may be compiled and sent to NRCSS who will develop disease forecasting models and present in the next workshop.

Black Pepper

PEP/CP/7.2: Evaluation of effective insecticides against against pollu beetle (*Lanka ramakrishnai*) infesting black pepper for label claim expansion. (Appangala, Kozhikode, Panniyur)

- Details about the natural enemies should be included.
- Include the actual data on pest incidence along with transformed values.

Cardamom

CAR/CP/2.1: Efficacy of combined application of *Heterorhabditis indica* (EPF) against root grubs (*Basilepta fulvicorne*) and *Meloidogyne* sp. nematodes in small cardamom. (Appangala, Myladumpara, Pampadumpara)

- The trial at Appangala needs to be initiated.

Ginger

GIN/CP/4.1: Evaluation of consortia (*Bacillus safensis*, *B. amyloliquefaciens*, *Raoultella terrigena*, and *Acinetobacter* sp.) for growth promotion and rhizome rot suppression in ginger. (Kozhikode, Pundibari, Raigarh, Solan)

- Nil.

GIN/CP/7.3: Evaluation of effective insecticides against shoot borer (*Conogethes punctiferalis*) infesting ginger for label claim expansion. (Ambalavayal, Appangala, Kozhikode, Mudigere, Raigarh)

- The incidence of shoot borer should be included in the presentation.
- Details about the natural enemies should be included.

Turmeric

TUR/CP/4.1: Evaluation of consortia (*Bacillus safensis*, *B. amyloliquefaciens*, *Raoultella terrigena*, and *Acinetobacter* sp.) for growth promotion and rhizome rot suppression in turmeric. (Coimbatore, Guntur, Kammarpally, Kozhikode)

- Nil.

TUR/CP/7.1: Evaluation of effective insecticides against shoot borer (*Conogethes punctiferalis*) infesting turmeric for label claim expansion. (Appangala, Coimbatore, Guntur, Kammarpally, Kozhikode)

- The shoot borer incidence should be included from in the presentation.

TUR/CP/7.2: Assessment of nematicides for management of root lesion nematodes (*Pratylenchus* spp.) infecting turmeric. (Coimbatore, Guntur, Kammarpally, Kozhikode, Pundibari)

- Transformed data should be included along with actual data in the tables.

New technical Programmes

A total of ten new proposal on crop protection programmes were presented during the 36th AGM. Of these, two programmes were accepted for implementation in the forthcoming season (two as label-claim trials) and one trial accepted conditionally, while seven proposals were not recommended for inclusion in AICRPS multilocational trials and were advised to be taken up as station trials only, considering their preliminary nature or the need for further refinement. In addition, experts, advised PC to hold online meeting with all crop protection scientists to finetune/make necessary action so that the centres come up with programmes with rigour and relevance. A summary of the Chair's recommendations is presented below.

Sl. No.	Project Title	Proposer	Accepted (Y/N)	Recommendations / Remarks	Reference to TP (only accepted)
1	Evaluation of Chlorantraniliprole 18.5% SC against cardamom shoot and capsule borer and its effect on natural enemies.	Dr. CM Senthil Kumar, IISR	Yes	• Approved as proposed. Field validation to follow regulatory requirements. • For label-claim experiments, confidentiality of the generated data must be strictly maintained. The data should be shared exclusively with the Project Coordinator (PC) Cell.	TP: CAR/CP/5.1 p.72-74
2	Evaluation of the bio-efficacy, phytotoxicity of Spinosad 45% SC against cardamom shoot and capsule borer and its effect on natural enemies.	Dr. CM Senthil Kumar, IISR	Yes	• Approved as proposed. Field validation to follow regulatory requirements. • For label-claim experiments, confidentiality of the generated data must be strictly maintained. The data should be shared exclusively with the Project Coordinator (PC) Cell.	TP: CAR/CP/5.2 p.79
3	Evaluation of Bio-fungicide (Bactarium based bioformulation) for management of cumin blight (*Alternaria burnsii*) and PM disease	Dr. R.D. Meena, NRCSS	Conditional / Yes	• Bio agent need further charcterisation	TP: Not finalised
4	Evaluation of combination fungicides against foliar diseases of small cardamom	Dr. Remya J S, CRS, Pampadumpara	No	• Trial may be conducted as a station trial only	Station trial – No TP reference
5	Evaluation of safer fungicides against *Fusarium* rot of small cardamom	Dr. Remya J S, CRS, Pampadumpara	No	• Trial may be conducted as a station trial only	Station trial – No TP reference
6	Evaluation of new generation insecticides and their combinations for the combined management of shoot and capsule borer and thrips in cardamom	Dr. Remya J S, CRS, Pampadumpara	No	• Trial may be conducted as a station trial only	Station trial – No TP reference
7	Management of foot rot disease in black pepper by using newer fungicides and bio-agents	Dr. Kiran KC, Sirsi	No	• Trial may be conducted as a station trial only	Station trial – No TP reference

8	Comparative efficacy of biocontrol agents and fungicides in the management of foot rot in Black Pepper (*Piper nigrum* L.)	Dr. Sanju Balan, Panniyur	No	• Trial may be conducted as a station trial only	Station trial – No TP reference
9	Integrated approaches for managing the Slow wilt and yellowing complex in Black Pepper	Dr. Sanju Balan, Panniyur	No	• Trial may be conducted as a station trial only	Station trial – No TP reference
10	Evaluation of *Trichoderma* spp. for biological control of saffron (*Crocus sativus* L.) corm rot caused by *Sclerotium* sp.	Dr. S. Dar, Pampore	No	• Trial may be conducted as a station trial only	Station trial – No TP reference
11	Constitution of other new crop protection proposals & trials 4-10.	Concerned PIs	Pending	• These proposals will be finalised by the Project Coordinator after convening the online meeting with all crop protection scientists.	—

TECHNICAL SESSION III

SUMMARY OF THE TECHNICAL SESSION

Project code	Title	Centres	Comments
Black pepper			
PEP/CP/7.2	Evaluation of effective insecticides against pollu beetle, *Lanka ramakrishnai* infesting black pepper for label claim expansion	Appangala, Kozhikode, Panniyur	Continued
Cardamom			
CAR/CP/2.1	Efficacy of combined application of Heterorhabditis indica (EPF) against root grubs (*Basilepta fulvicorne*) and *Meloidogyne* sp. nematodes in small cardamom	Appangala,Myladumpara, Pampadumpara	Continued
Ginger			
GIN/CP/4.1	Evaluation of consortia (*B. safensis, B. amyloliquefaciens, Raoultella terrigena, & Acinetobacer sp.*) for growth promotion and rhizome rot suppression in ginger	Kozhikode, Pundibari, Raigarh, Solan	Continued
GIN/CP/7.3	Evaluation of effective insecticides against shoot borer, Conogethes punctiferalis infesting ginger for label claim expansion	Ambalavayal, Appangala, Kozhikode, Mudigere, Raigarh	Continued
Turmeric			
TUR/CP/4.1	Evaluation of consortia (*B. safensis, B. amyloliquefaciens, Raoultella terrigena, & Acinetobacer sp.*) for growth promotion and rhizome rot suppression in turmeric	Coimbatore, Guntur, Kammarpally, Kozhikode,	Continued
TUR/CP/7.1	Evaluation of effective insecticides against shoot borer, Conogethes punctiferalis infesting turmeric for label claim expansion	Appangala, Coimbatore, Guntur, Kammarpally, Kozhikode	Continued

TUR/CP/7.2	Assessment of nematicide for the management of root lesion nematodes (*Pratylenchus* spp.), infecting turmeric.	Guntur (AP), Kammarapally (TG), Coimbatore (TN), Pundibari (WB) and Calicut;	Continued
Cumin			
CUM/CP/7.1	Eco-friendly management of cumin blight	Jaugdan, Jobner, Mandor	Concluded
CUM/CP/7.2	Assessment of cumin blight (*Alternaria burnsii*) disease for weather-based prediction model	Ajmer, Mandor, Jagudan, Jobner	Continued
Fenugreek			
FGK/CP/7.1	Bio-efficacy of fungicides against powdery mildew of fenugreek.	Coimbatore, Hisar, Jabalpur, Jagudan, Jobner, Kota.	Concluded
Nigella			
NGL/CP/7.1	Management of root rot of nigella	Dholi, Kumarganj, Raigarh	Continued
Seed spices			
SS/CP/7.1	Survey and monitoring of diseases and insect pests of seed spices for development of prediction models	Ajmer, Coimbatore, Dholi, Guntur, Jagudan, Jobner, Kammarpally, Kalyani, Kumarganj, Raigarh,	Continued

TECHNICAL SESSION: V

VARIETY INDENTIFICATION COMMITTEE MEETING

Chairman: Dr. Sudhakar Pandey, ADG (FVS & MP), ICAR, New Delhi
Members: Nominated by DDG
(1) Dr. Dr. R. Dinesh, Director, ICAR-IISR, Kerala
(2) Dr. Vinay Bhardwaj, Director, ICAR-NRCSS, Rajasthan
(3) Dr. Samarendra Hazarika, Director, ICAR-Res. Complex for NEH, Barapani
(4) Dr. Prakash Patil, Project Coordinator, AICRP Fruits, ICAR-IIHR, Bengaluru
(5) Dr. K. Nirmal Babu, Formerly Director, ICAR-IISR, Kerala
(6) Dr Divya. C.V., Asst. Director, DASD for Dr. Homey Cheriyan, Director, DASD
Member Secretary: Dr. D. Prasath, Project Coordinator, ICAR-AICRP on Spices

Rapporteurs: Dr. M.S. Sivakumar, Scientist, ICAR-IISR, Kerala.
Dr. Mukesh Sankar. S, Scientist, ICAR-AICRP on Spices.

Committee Decision Criteria

The Committee adopted a revised approach to varietal identification, emphasizing frequency of appearance among the top three performers across environments as the primary criterion for recommendation, instead of relying solely on mean yield or single-location superiority. This approach aims to ensure stability, adaptability, and consistent performance of varieties across diverse agro-climatic conditions, along with consideration of biotic-abiotic tolerance and quality attributes.

Varietal Recommendations

During the session on variety release, the following varieties were identified for release.

Crop	Variety	Centre	Salient Features	Recommendations
Fennel	Karan Saunf-2 (RF 234/ UF-231)	SKNAU, Jobner, Rajasthan	• High yielding variety with an average seed yield of 1742 kg ha^{-1}, ~10.4% higher than check RF 205 (1578 kg ha^{-1}). • Mean volatile oil 3.32% and oil yield 57.83 l ha^{-1}, significantly higher than national checks. • Superior essential oil quality with 97.93% total volatile oil and 18 aromatic compounds. • Major compounds: Estragol (52.54%) and Anethole (16.67%),	• The entry came second in rank in CVT trial, proposing center claimed the variety with superior quality. • XXXV AGM recommended to submit the additional data on oil content and quality aspects. • The centre submitted data which on securitized and accepted the claim to be true. • Hence the 36th AGM Identified variety for release in Fennel

			enhancing flavour and fragrance quality preferred by industry.	growing areas of Rajasthan, Gujarat, UK, Uttar Pradesh, Bihar, Madhya Pradesh and Haryana. • It is recommended to do DNA finger printing and get IC number for this variety.
Cumin	CAZRI Cumin 2 (CZC-94)	CAZRI, Jodhpur	CZC-94 is an early-maturing cumin entry with a shorter maturity period (110days), offering potential for improved yield with optimized agronomic practices. It exhibits a slightly higher essential oil content (4.34%) and demonstrates resilience to terminal heat stress, making it a suitable option for regions experiencing increasing heat during the growing season	• Entry withheld for identification due to marginal yield advantage wrt check, GC-4. • Proposer claimed the entry will perform better to GC-4 under high density spacing and late planting. • XXXV AGM recommended to generate data under close-spacing and late planting condition • Data was generated under AICRPS trial CUM/CM/2.1 for one year across and scrutinized the data which failed to support proposer claims. Hence the entry CZC 94 was deferred in identification session of 36th AGM.
Ajwain	Gujarat Ajwain 4 (JA 2019-01)	Seed Spices Research Station, SDAU, Jagudan, Gujarat	• High yielding with 1136 kg ha^{-1} average seed yield; 10.72% higher over national check AA-2. • Early flowering & early maturity (155–166 days). • Higher number of seeds per umbel and bold seed size (Test wt. 1.72 g). • High volatile oil content (4.18%), maintaining good essential oil quality.	• Recommended by Varietal Identification Committee (VIC) for identification in Ajwain-growing regions of Rajasthan, Gujarat, Andra Pradesh, Uttar Pradesh & Chhattisgarh. • Suggested to pursue DNA fingerprinting and IC number approval
Ajwain	Hisar Ajwain 7 (HAJ-7)	CCS Haryana Agricultural University, Hisar	• High yielding variety with average seed yield 1193 kg ha^{-1}, 16.2% higher than national check AA-2. • Medium maturing (175–	• Recommended by Varietal Identification Committee (VIC) for identification in Ajwain-growing regions of Rajasthan, Gujarat &

			190 days) with good branching and more umbels and seeds per umbel. • Essential oil content 4.96%, 2.88% higher than AA-2, with good thymol profile. • Tolerance to Root Rot (9.99%) and low incidence of aphids. • Performs best under irrigated *Rabi* conditions on loamy to sandy-loam soils.	Haryana. • Centre is requested to provide high-definition images of crop variety (Field view, plant view and other significant characters along). • Suggested to pursue DNA fingerprinting and IC number approval
Ajwain	Ajmer Ajwain 24 (AA-24)	ICAR-NRC on Seed Spices, Ajmer	• High yielding ajwain variety with average seed yield 1216 kg ha^{-1}, 19.7% higher than national check AA-2. • Medium maturing (171–176 days) and better plant architecture with increased branching. • Significantly higher yield components: Higher umbels/plant (323) and seeds/umbel (380) on an average. • Bold seed size marked by test weight of 1.03 g. • Excellent quality attributes: 49.47% thymol & 4.96% essential oil, both higher than national check. • Highly tolerant to Root rot disease (only 8.86%) under field conditions. • Well-adapted to irrigated Rabi conditions in major ajwain belts.	• Recommended by Varietal Identification Committee (VIC) for identification in Ajwain-growing regions of Rajasthan
Ginger	IISR Navya (HP0.5/2)	ICAR–Indian Institute of Spices Research, Kozhikode	• High and stable yielder with average fresh rhizome yield 15.3 t ha^{-1} with potential yield up to 36 t ha^{-1}. • Field tolerant to rhizome rot disease, PDI 14.1, better than national check in pooled CVT trials.	• Identified for release to Kerala, West Bengal, Meghalaya (& NEH). • It is recommended to get IC number for this variety.

			• Good quality attributes: Essential oil 2.7%, Oleoresin 6.65%, Fibre 6.5%, Dry recovery 18.78%. • Developed through gamma-ray induced mutation in Himachal local cultivar selected for disease resistance. • Suitable for rainfed and irrigated conditions.	
Ginger	OUAT Kalinga Ginger 4 (Koraput Ada) /V1E4 5)	HARS, Odisha University of Agriculture & Technology (OUAT) Pottangi	• Higher yielder with average fresh rhizome yield of 15.9 t ha^{-1}, 10% increase over national check IISR-Varada; potential yield 20.7 t ha^{-1} in Pottangi & Chintapalle trials. • Medium duration (225 days) with medium bold rhizomes & fingers. • Superior quality: Low fibre (3.5%), 21.5% dry recovery, high oleoresin (4.2%), medium essential oil (1.7%). • Moderately tolerant to soft rot, tolerant to leaf spot, moderately resistant to shoot borer & scale insects, and highly resistant to bacterial wilt under natural field conditions. • Performs well under irrigated & rainfed, hill & plain conditions.	• Identified for release to Odisha & Andhra Pradesh ginger-growing regions. • It is recommended to get IC number for this variety.

Future Course of Action

- From the next evaluation year, the VIC will take resolution on location-wise varietal decisions and will be presented in varietal identification session based on data prior to proposing varieties for identification by centre. This will enhance regional suitability and strengthen the scientific basis for varietal release proposals.
- Monitoring Visit Reports: Monitoring team visiting the AICRPS centers must include detailed information on monitoring visits in their workshop presentations. This will help the committee better understand field-level performance and environmental interactions.

- The Centres that have identified varieties during this session are required to submit the formal varietal identification proposals in the prescribed format within 15 days of the meeting for further processing and documentation.

Revision of guidelines for testing in spices crops

During the session, two key presentations were delivered related to guideline refinement and seed production standards in seed spices among the expert of the house.

❖ **Guidelines for Testing Coriander Varieties in CVT trials**

A presentation on the draft Guidelines for Coordinated Varietal Testing in Coriander as per ICAR guidelines was delivered by Dr. Shailesh Marker, on behalf of the committee constituted for this purpose.

The house held a detailed discussion and provided the following major suggestions:

- Incorporation of data management protocols and criteria for minimum yield improvement required for advancement from Initial Varietal Trial (IVT) to Advanced Varietal Trial (AVT).
- Inclusion of guidelines for importing germplasm from outside the country, enabling their integration into the coordinated trials.
- Possibility of separate CVTs for bold-seeded and small-seeded coriander varieties to better reflect genetic diversity and market segments.

Considering the broad and critical nature of the revisions required, it was recommended that the committee reconvene (in virtual mode) to refine and finalize the document before its adoption.

❖ **Standardization of Isolation Distance for Cumin Seed Production**

Dr. P. J. Patel, Jagudan Centre, presented results from ongoing trials aimed at finalizing isolation distances for ensuring genetic purity during cumin seed production.

- Preliminary findings showed no evidence of outcrossing even at an isolation distance as small as 10 meters.
- The conclusions were based on morphological marker traits such as hairiness and white flower colour.

The house noted that the genetic control mechanisms of these marker traits are not yet fully established. Hence, it was recommended that the study be further refined with supporting genetic information before finalizing the guidelines.

❖ **Breeder Seed Indent Status**

Dr. R. S. Meena presented the breeder seed indent received for seed spices through the SATHI portal, informing the house about the current demand and allocation status for the ongoing production cycle.

It is recommended that nodal officers of SATHI portal, Dr. R.S. Meena (Seed Spices) and Dr. S. Mukesh Sankar (Major Spices) will make presentation on breeder seed indent, allocation and status of production in the ensuing AGMs after Varietal Identification Session.

TECHNICAL SESSION: VI

TRANSFER OF TECHNOLOGY

Chairman: **Dr. Vikramaditya Pandey,** Principal Scientist, ICAR-New Delhi
Co-chair: **Dr. Brajpal Singh,** Head (TA&CB), ICAR-RC for NEHR, Umiam

Rapporteurs: Dr. Akshitha H.J., ICAR-IISR RS Appangala, Karnataka
Dr. Chetan Jangir, NRCSS, Ajmer, Rajasthan

General Recommendations

1. A summary of the various technologies that need to be presented and discussed during the session may be prepared and shared with the chairpersons.
2. All centres involved in the production and sale of seeds or planting materials must provide farmers with a one-page POPs (Package of Practices) pamphlet.
3. The recommended technologies should be communicated to the farming community through mass media channels—such as television, radio, and newspapers—in the local language.
4. The recommended technologies should be incorporated into the training sessions and demonstrations conducted under the TSP, SCSP, and NEH programs.

The Transfer of Technology (ToT) session focused on the review and consideration of newly developed technologies from the cooperating centres under the concluded AICRPS project. A total of nine (09) technologies were presented before the house. Each technology was evaluated for relevance, field applicability, scalability, and potential for farmer adoption. After detailed discussion and expert review, seven (07) technologies were approved for promotion and inclusion under ToT initiatives, one technology (Management of Root Rot in Nigella) requires an additional year for completion of residual and molecular data, and two ginger-related technologies on PGPR-mediated P and Zn solubilization were merged into a single integrated module. The summary of the technologies and the decisions there of are given below.

Sl. No.	Crop	Technology	Technology statement	Decisions
1.	Black Pepper	Effective Insecticide for controlling pollu beetle (*Lanka ramkrishnai*) in black pepper	Three rounds of spray with chlorantraniliprole 18.5 % SC or flubendiamide 39.35 % SC at 0.3-0.5 ml/l of water during July, August and September.	Recommended for black pepper growing regions of Kerala and Karnataka
2.	Fenugreek	Formulation of Growth Regulators in fenugreek for Yield	Two foliar sprays of Brassinosteroid 1.0 ppm or Benzyl Adenine 20 ppm at 30 and 60 DAS to improve the seed yield by 25-30 % and net returns by Rs.	Recommended for Rajasthan, Bihar, Haryana and Uttar Pradesh Compatibility of these

		Enhancement	15000-17000/ha.	growth regulators with micro nutrients or nutrients need to be checked.
3.	Fenugreek	Management of powdery mildew	Foliar spray of Hexaconazole 5% SC @ 0.1% at the time of initial appearance of powdery mildew in fenugreek followed by second spray after 15 days	Recommended for Gujarat
			Foliar spray of Hexaconazole 5% SC @ 0.1% or Tebuconazole 25.9% EC @ 0.1 % at the time of initial appearance of powdery mildew in fenugreek followed by second spray after 15 days	Recommended for Rajasthan
			Foliar spray of Tebuconazole 25.9 % EC @ 0.1% at the time of initial appearance of powdery mildew in fenugreek followed by second spray after 15 days	Recommended for Madhya Pradesh
4.	Cumin	Eco-friendly management of cumin blight	Seed treatment and four foliar sprays of *Bacillus subtilis* 1.15 WP (1x108 cfu/g) @ 40 g / 10 L water + *Pseudomonas fluorescens* 1.15 WP (1x108 cfu/g) @ 50 g / 10 L water starting from 40 days after sowing.	Technology is recommended for Rajasthan and Gujarat
5.	Nigella	Management of root rot of nigella	One week prior to sowing, Soil application of talc based *Trichoderma s*pp. (2 x 10^6 cfu/g) @2.5kg multiplied in 250kg FYM per ha can be recommended for eco-friendly management of root rot disease and getting maximum benefit in nigella. Soil drenching with Azoxystrobin (20%) + Difenoconazole (12.5%) SC @0.2% one week prior to	The technology has been deferred pending the submission of the following data and information: • For chemical control measures, residue data analysis must be conducted, and the results need to be presented. *Trichoderma* spp. samples must be sent to

			sowing & at 45 DAS can be recommended for management of root rot disease and getting higher return in nigella.	NBIAM, Mau for identification and corrected spp. identity need to be specified while giving the technology.
6.	Ginger	Intercropping in ginger	Intercropping ginger with Elephant foot yam (2:2) (Grow taro in *Kharif*)	Technology recommended for Andhra Pradesh, Bihar and West Bengal
			Intercropping ginger with Maize (2:1 or 2:2) (Grow sweet corn in *Kharif*, and *Rabi*)	Recommended for Orissa, Nagaland, Himachal Pradesh and Mizoram
			Intercropping ginger with french bean (2:2) (Grow Dolichos bean in Kharif; French bean, in Rabi)	Recommended for West Bengal
			Intercropping ginger with Coriander + Leafy vegetables (Grow ginger and coriander in 2:2 ratio. After harvesting coriander, grow leafy vegetables in place of coriander)	Recommended for Sikkim
7.	Ginger	Plant growth promoting rhizobacteria *Bacillus safensis* for Phosphorous and zinc solubilization in ginger	Application of 75 % P, 50 % Zn and *Bacillus safensis* at the time of planting, 30 DAP and 60 DAP increases yield and income. *Bacillus safensis* – Dissolve 1 biocapsule in 100 litres water and apply 3-5 litre solution per bed (bed size - 3×1 m).	Kerala, Andhra Pradesh, West Bengal, Uttar Pradesh, Arunachal Pradesh and Orissa
8.	Coriander	Growth regulators for improving the yield and quality of coriander	Spraying of Salicylic acid (50 ppm) at 30 and 60 days after sowing for higher profitability	Recommended for Rajasthan, Madhya Pradesh, Chhattisgarh, Haryana, Tamil Nadu and Andhra Pradesh

Flagship programs

Flagship projects, including TSP, SCSP, and NEH, were presented.

1. Success stories need to be compiled and published from the PC unit.
2. A standardized proforma should be utilized to evaluate the impact of the conducted trainings and demonstrations. Research articles may subsequently be prepared and published using the data collected.
3. In all presentations, data should be quantifiable, and the impact assessment should be included.

TECHNICAL SESSION: VII

PLENARY SESSION

Chair	**Dr. Sudhakar Pandey,** Asst. Director General (FVS&MP), ICAR, New Delhi
Co-Chairs	**Dr. Vinay Bhardwaj,** Director, ICAR-NRCSS **Dr. R. Dinesh,** Director, ICAR-IISR **Dr. D. Prasath,** Project Coordinator, ICAR - AICRP Spices
Rapporteurs	Dr. Lijo Thomas, ICAR-IISR, Kozhikode Dr. Mukesh Sankar S, ICAR-IISR, Kozhikode

Day 3 of the annual group meet commenced with a plenary session chaired by Dr. Sudhakar Pandey, (ADG Horticulture, ICAR) with Dr. Vinay Bhardwaj, (Director, NRCSS, Ajmer), Dr. R. Dinesh, (Director, ICAR-IISR, Kerala) and Dr. D. Prasath, (Project coordinator, AICRPS) as co-chairs. Dr. Lijo Thomas and Dr. Mukesh Sankar S served as rapporteurs.

During the sessions rapporteur report of Day 1 & Day 2 were presented by Dr. Maneesha (Inaugural session & PC report), Dr. Shivakumar (crop improvement), Dr. Sivaranjani (crop management), Dr. Anamika Debnath (Crop protection and food safety), and Dr. Akshitha H.J. (Technology release), respectively. The session concluded with a vote of thanks delivered by Dr. Virendra Verma, followed by National Anthem.

General Recommendations

- Research on "Pan Methi" (fenugreek leafy type) should be formally included. Centres possessing promising entries should generate station trial data to facilitate the initiation of a new CVT.

General Suggestions

- The PC Unit should institute a structured system of reminders to ensure timely submission of work plans and data from all participating AICRPS centres.
- Tree spice cultivation in the Andaman and nearby islands should be explored to utilize the region's unique agro-climatic potential.
- Centres should intensify pre-breeding activities, with emphasis on mobilizing useful traits from landraces, wild species, and wild relatives into breeding pipelines.
- Under Government of India's flagship programmes, the dissemination of newly released varieties should be strengthened through the identification and training of suitable farmer groups who can serve as master trainers and quality planting material producers.

TECHNICAL PROGRAMMES OF APPROVED PROJECTS

Genetic Resources & Crop Improvement

Project Code:	TUR/CI/1.3
Project Title	Evaluation of Turmeric Somaclones and Seedling Progenies for Superior Agronomic Traits & Regional Adaptation--Series 2025
Crop	Turmeric
Centres	Guntur and Kumarganj
Year of start	2025
No. of entries & checks: 139+2	Please refer appendix
No of Plots	168
Design	Augmented Replicated Block Design (ARBD) (Layout provided)
No. of replications	one
Plot size/spacing	Plot size: 1 x 1m^2; spacing of 30 x 30 cm
Observation to be recorded	
Morphological Observations	Plant height (cm) Leaf length (cm) Leaf Width (cm) No. of leaves per clump Number of tillers per clump Days to maturity Rhizome core color (Colour value as per RHS)
Yield & Yield related Parameters	Fresh weight of clump (g) Fresh rhizome yield /ha (t) Dry rhizome yield /ha (t) Dry recovery (%)
Quality Parameters	Curcumin content (%) Oleoresin (%) Essential Oil (%)
Drought Related Indices	If any
Disease and Pest Incidence	If any Against- Rhizome rot/Leaf spot or blotch/Shoot borer **as per the screening protocol given by AICRPS** (http://14.139.189.27/AICRPS/OP/SC.pdf)
Weather data	Year wise all parameters
Soil parameters	Soil pH EC Organic carbon Major nutrients

***Note:** All **the centres are requested to submit the dried turmeric samples for dry powder colour (L, a, b*) analysis**. LAB values should be recorded from properly dried and finely powdered samples. The dried samples may be sent to ICAR-Indian Institute of Spices Research (IISR), Kozhikode for estimation. for quality analysis.**

Appendix

List of test entries

S.No	Genotype	S.No	Genotype	S.No	Genotype	S.No	Genotype
1	SLP-18/1	36	SLP-69/1	71	SLP-138/28	106	SLP-399/7
2	SLP-18/2	37	SLP-69/3	72	SLP-138/32	107	SLP-399/8
3	SLP-18/3	38	SLP-69/4	73	SLP-138/33	108	SLP-399/12
4	SLP-18/6	39	SLP-69/5	74	SLP-138/34	109	SLP-414/4
5	SLP-18/8	40	SLP-69/7	75	SLP-138/40	110	SLP-415/7
6	SLP-18/10	41	SLP-69/8	76	SLP-138/41	111	SLP-415/8
7	SLP-18/14	42	SLP-126/3	77	SLP-138/42	112	SLP-415/9
8	SLP-18/15	43	SLP-126/6	78	SLP-138/44	113	SLP-415/11
9	SLP-18/16	44	SLP-126/7	79	SLP-138/45	114	SLP-417/2
10	SLP-18/17	45	SLP-126/8	80	SLP-138/47	115	SLP-421/4
11	SLP-18/18	46	SLP-126/10	81	SLP-138/48	116	SLP-421/7
12	SLP-18/20	47	SLP-126/11	82	SLP-138/49	117	SLP-421/10
13	SLP-18/21	48	SLP-126/12	83	SLP-138/50	118	SLP-426/1
14	SLP-18/22	49	SLP-126/15	84	SLP-138/51	119	SLP 434/1
15	SLP-18/24	50	SLP-126/16	85	SLP-138/56	120	SLP 434/4
16	SLP-18/25	51	SLP-138/1	86	SLP-138/57	121	SLP 434/6
17	SLP-18/27	52	SLP-138/2	87	SLP-138/58	122	SLP 434/8
18	SLP-18/28	53	SLP-138/3	88	SLP-138/60	123	SLP 434/9
19	SLP-18/29	54	SLP-138/4	89	SLP-138/61	124	SLP 434/12
20	SLP-20/2	55	SLP-138/5	90	SLP-138/63	125	SLP 434/14
21	SLP-20/3	56	SLP-138/6	91	SLP-138/66	126	SLP 434/15
22	SLP-20/4	57	SLP-138/7	92	SLP-138/67	127	SLP 435/5
23	SLP-20/7	58	SLP-138/9	93	SLP-138/69	128	SLP 435/6
24	SLP-20/9	59	SLP-138/10	94	SLP-138/68	129	SLP 435/7
25	SLP-65/2	60	SLP-138/13	95	SLP-138/70	130	SLP 435/8
26	SLP-65/4	61	SLP-138/14	96	SLP-138/73	131	SLP 447/1
27	SLP-65/7	62	SLP-138/15	97	SLP-138/74	132	SLP 449/1

28	SLP-65/8	63	SLP-138/17	98	SLP-138/75	133	SLP 449/2
29	SLP-65/12	64	SLP-138/18	99	SLP-138/79	134	SLP 449/3
30	SLP-65/14	65	SLP-138/19	100	SLP-300/3	135	SLP 449/4
31	SLP-65/16	66	SLP-138/20	101	SLP-354/1	136	SLP 449/6
32	SLP-65/19	67	SLP-138/22	102	SLP-354/4	137	SLP 449/8
33	SLP-65/20	68	SLP-138/23	103	SLP-354/5	138	SLP 449/9
34	SLP-65/21	69	SLP-138/25	104	SLP-399/4	139	SLP 449/10
35	SLP-65/24	70	SLP-138/26	105	SLP-399/5		

Advice on Experimental Layout, Number of Test Entries, and Use of Local Checks in Replicated Fashion

1. Experimental Layout:

Design: Use an Augmented Randomized Complete Block Design (Augmented RCBD) or plant as per the design provided along with.

Blocks: Divide the genotypes into a suitable number of blocks. Since you have 139 test entries, dividing them into 12 blocks with 14 plots each (including local checks) can be efficient.

Plot Size: Plot size: 1 x 1m2; spacing of 30 x 30 cm.

2. Number of Test Entries:

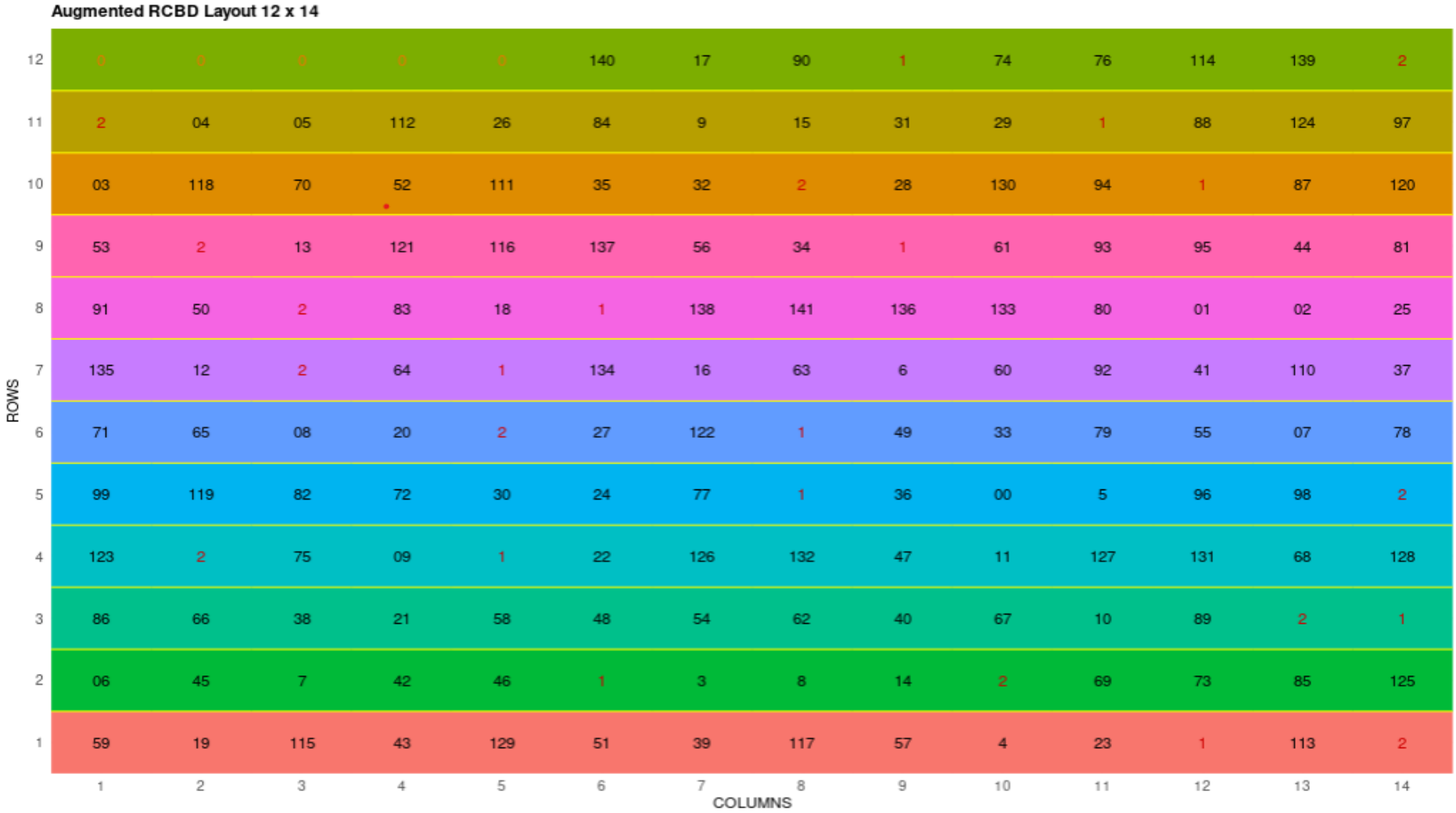
Total Entries: 139 test genotypes

3. Use of Local Checks:

Check Varieties: Include two checks preferably IISR Pragathi and IISR Prathiba along with local checks in each block to identify top-performing entries over local cultivars/region-specific/drought/disease resistance screens

Distribution: Ensure that each block contains a mixture of test entries and two local check varieties for comparison.

Layout of Augmented Design to be followed



"0" is the local check; National check should be placed at **"1"** and **"2"** and remaining numbers are of those of entries in serial order (1 to 139) started from **3 to 141.**

Project Code:	**FGK/CI/2.3**
Project Title	CVT on Green Seeded Fenugreek 2025 Series I
Crop	Fenugreek
Aim of Project	The focus of this trial will be on evaluating high-yielding fenugreek varieties with green seed colour and high seed yield
Centres (6)	Ajmer, Coimbatore, Hisar, Jagudan, Jobner, Pantnagar
Year of start	2025-26
No. of Entries (12)	**11 Treatments (fenugreek elite lines/varieties)** 1. IC-0633362 (NRCSS) 2. IC-0633364 (NRCSS) 3. IC-0633365 (NRCSS) 4. IC-0633367 (NRCSS) 5. IC-0633369 (NRCSS) 6. IC-0633371 (NRCSS) 7. HM 444 (Green seeded Check) 8. PGM 2020-1 (Pantnagar) 9. UMG-6 (Jobner) 10. AFg-5 (National Check 1) 11. Hisar Sonali (National Check 2) 12. RMt-361 (National Check 3)
Design	Randomized Block Design
No. of replications	Three replications,
Plot size/spacing	4 x 2.4 m,
Crop geometry (Row*plant spacing)	30 x 10 cm
Recommended dose of fertilizers	N:P: K:: 20:40:30
Observations to be recorded	
Observations	1. Germination % (20 days after sowing) 2. Days to 50% flowering 3. Plant height (cm) 4. Primary branches per plant 5. No. of pods per plant 6. Pod length (cm) 7. Seeds per pod 8. Test weight (g) 9. Maturity (days) 10. Seed yield (kg/ha) 11. Stover yield (kg/ha) 12. Harvesting Index 13. Incidence of pests & diseases (aphids, weevil, caterpillars, powdery mildew, Downy mildew, root rot, etc.) 14. 4-HIL (%), Diosgenin and other biochemical constituents*

***Note: All the centres are requested to submit the samples for quality analysis to the Director, ICAR-NRCSS, Ajmer. Contact Email - mahla_rs@yahoo.com, Mob- 9414755175**

Project Code	AJN/CI/2.3	**Project Title**	Coordinated Varietal Trial–2025 Series
Centres	Ajmer, Hisar, Guntur, Jagudan, Jobner, Kumarganj, Sanand		
Date of start	2025-26	**Date of closure/ duration**	3 years (2027-28)
Experimental details			
No. of Entries (13)	Treatments/genotypes 1. LAS 21-2 (Guntur) 2. LAS-21-9 (Guntur) 3. AA-135 (NRCSS) 4. AA-137 (NRCSS) 5. JA 22-03 (Jagudan) 6. JA 21-04 (Jagudan) 7. JAJ-35 (Jobner) 8. SA-13 (Sanand) 9. NDAJ-21 (Kumarganj) 10. HAJ-35 (Hisar) 11. HAJ-22 (Hisar) 12. GA-3 (Zonal Check) 13. Ajmer Ajwain-2 (National Check)		
Design	RBD;		
Replications	3		
Plot size/spacing	4.00x2.5m^2 Spacing- 50x20cm;		
Observations to be Recorded			
Observations	1. Germination % 2. Days to 50% flowering (on plot basis) 3. Plant height (cm) 4. Primary branches per plant 5. Secondary branches per plant 6. Days to maturity 7. Umbels per plant 8. Umbellets per umbel 9. Seeds per umbel 10. Test weight (g) 11. Seed yield (kg ha^{-1}) 12. Disease and pest incidence, if any 13. Quality (essential oil %, Thymol content*)		

***Note: All the centres are requested to submit the OP seeds to the Director, ICAR-NRCSS, Ajmer for quality analysis.**

Project Code:	**TUR/CI/5.1**
Project Title	Understanding the genetic gain realized in national turmeric improvement programme
Crop	Turmeric
Aim of Project	To quantify genetic gain in turmeric achieved through national breeding programmes using decade-wise released "mega" varieties and traditional local cultivars across representative agro-climatic zones and to perform an economic appraisal of realized gains.
Centres (10)	Rainfed Ecology: Kozhikode, Dapoli. Irrigated: Coimbatore, Guntur, Kammarpally. High Altitude /Hilly Regions: Pottangi, Barapani, Mizoram. North Indian Plain Zone: Kumarganj, Dholi.
Year of start & duration	2026-27 (2 year)
No. of Entries (30)	Decade-wise distribution of genotypes given in Annexure
Design	Alpha-lattice design
No. of replications	Two replications,
Plot size/spacing	$3m^2$ (3 x 1/25 x 25 cm)
Recommended dose of fertilizers	As per POP.
Observations to be recorded	
Observations	1. Fresh Rhizome Yield per plot (Kg/plot) 2. Dry Rhizome Yield per plot (Kg/plot) 3. Plant biomass per plot (Kg/plot) 4. Dry recovery (%) 5. Curcumin content (%)* 6. Plant height (cm) at 120 DAP and at harvest (mean of 5 representative plants/plot) 7. Fresh rhizome yield per clump (g) 8. Duration/ Maturity (days) 9. Percent disease incidence (Leaf blotch/Leaf spot/Soft rot) — use standard disease scoring scales. **as per the screening protocol given by AICRPS** (http://14.139.189.27/AICRPS/OP/SC.pdf)

***Note:** All **the centres are requested to submit the dried turmeric samples for curcumin content estimation. The dried samples may be sent to ICAR-Indian Institute of Spices Research (IISR), Kozhikode for estimation. for quality analysis.**

Project Code:	PEP/CI/3.8
Project Title	CVT on Black Pepper 2025 Series X
Crop	Black Pepper
Centres	Appangala, Chintapalli, Dapoli, Kozhikode, Panniyur, Sirsi, Sri Vijaya Puram.
Year of start	2025-26
No. of entries: 11	1. PRS 157 (Panniyur) 2. SIRSI sel-V11 (Sirsi) 3. BPLG (Sirsi) 4. Acc.7598 (IISR) 5. Acc.7211 (IISR) 6. Acc.4132 (IISR) 7. Acc.1495 (IISR) 8. Acc.6610 (IISR) 9. PN 11 (Yercaud) 10. Panniyur 1 (National Check) 11. IISR Thevam (Check)
Design	Randomized Block Design (RBD)
No. of replications	Three
Plot size/spacing	6 standards/ entry/plot (3x3 m), 1 plant/ standard
Observations	
Morphological data	1. Plant height (m) 2. Average spike length (cm)
Yield & yield related parameters	1. Average number of mature berries per spike (observation to be taken in 10 spikes) 2. Percent fruit set (%) 3. Fresh berry yield (kg vine^{-1}) 4. Dry berry yield (kg vine^{-1}) 5. berry size (mm) 6. 1000 berry weight (g) 7. No. of spikes per lateral branch
Quality parameters	Dry Recovery (%), Bulk density (g L^{-1}) Essential oil (%) Oleoresin (%) Piperine (%)
Pest & Disease Incidence	As per the SOP published - screening protocol given by AICRPS (http://14.139.189.27/AICRPS/OP/SC.pdf)

Project Code:	KZ/CI/2.1
Project Title:	CVT on Kalazeera – 2026 Series I
Crop	Kalazeera [*Bunium persicum* (Boiss.) Fedts.]
Centers (4)	Srinagar, Solan, Pantnagar, Pottangi, Ajmer
Year of start	2026-27
No. of entries (4)	1. SRS/KZ/177 2. SRS/KZ/167 3. SRS/KZ/149 4. Shalimar Kalazeera-1 (Check)
Design	Randomized Complete Block Design (RCBD)
No. of replications	5
Plot size/spacing	1.0m × 1.0m / 20 × 15 cms between rows and plants
Observation to be recorded	
Morphological data	Days to tuber sprouting Days to 50% flowering Plant height (cm) Number of branches per plant
Yield and yield related parameters	Number of umbels per plant Number of umblets per umbel Number of seeds per umbel 1000 Seed weight (g) Days to maturity Yield per plant (g)
C. Quality Parameters	-
D. Trial-Specific Indices, if any	-
E. Disease and Pest Incidence	Tuber rot incidence
F. Weather data	November 2026 to July 2028
G. Soil parameters	-

Crop Management

Project Code	**TUR/CP/4.1**
Project title	Studies on efficiency of organic and inorganic mulching materials for weed control in turmeric
Crop	Turmeric
Centres	Coimbatore, Dapoli, Guntur, Jabalpur, Kammarpally.
Year of start Kh-2026	**Date of closure/ duration** 2 years (2027-28)
No. of treatments	7 treatments T_1: Organic mulch (Paddy straw @5 t ha^{-1}) T_2: Live mulch (Sunnhemp) T_3: Plastic mulch (25 µ) T_4: Weed mat (120 gsm) T_5: Herbicide check (Pre emergence Pendimethalin 2.5 lit ha^{-1} + Post emergence Quizalofop ethyl 5 % EC@1 lit ha^{-1} at 30 DAP) T_6: Weed free check via., Hand weeding T_7: Weedy check
Methodology	Crop variety: Popular regional specific variety of respective centre / area Planting rhizomes on raised bed with Drip irrigation.
Design	RBD
No. of replications	Three replications
Plot size/spacing	Spacing- 60 x 15 cm or 45 x 15 cm based on soil type Bed size 1x3 m, 4 beds per replication
Observations to be recorded	
Observations	1. Sprouting of rhizomes at 30 and 45 DAP 2. Growth parameters at 60 and 120 DAP 3. Plant height (cm) 4. No. of tillers per plant 5. Weed count/ m^2 6. Weed dry matter (g/ m^2) At harvest 7. Clump weight (g) 8. Number of primary rhizomes per plant 9. Duration (No. of days to harvest) 10. Yield (Q/ha) 11. Weed Control efficiency 12. Weed index 13. Economics and B:C ratio

Project Code	:	FNL/CM/5.1
Project Title	:	Effect of plant density and fertilizer levels on growth, yield and quality of transplanted fennel
Crop	:	Fennel
Variety	:	Popular Improved variety of region
Centers	:	Ajmer, Jobner, Mandore, Jagudan, Jabalpur, Hisar, Kumarganj
Year of start	:	2025-26
Duration of the project	:	Three Year (2025-26 to 2027-28)
Details of technical programme		
Design	:	Mixed Factorial RBD (2X 4) **(a) Factor 1: Crop Establishment method** • Direct seed sowing • Transplanting **(b) Factor 2: Spacings** • 30 × 30 cm (1.11 lakh plants/ha) • 45 × 30 cm (0.74 lakh plants/ha) • 100% RDF • 125% RDF
Plot Size	:	3.6 x 3.0 m^2 (12 and 8 rows for 30 and 45 cm spacing)
Spacing	:	Given along with treatments
No. of Replication	:	3
Treatments (18)	:	8
Observation to be recorded	:	1. Date of sowing of nursery 2. Seedling vigor (Shoot: Root ratio fresh and dry weight basis) 3. Date of transplanting/ seeding 4. Plant stand at 30 DAS/Transplanting 5. Mortality rate (%) 6. Days to 50% Flowering (as plot basis) 7. Maturity duration (No. of days to 75% senescence or maturity) 8. Plant height (cm) at maturity 9. No. of days to king umbel emergence 10. No. of primary branches/plant 11. No. of secondary branches/plant 12. No. of umbels/plant 13. No. of umbellets/umbel 14. No. of seeds/umbellet 15. No. of seeds/umbel 16. Test weight (1000 seed weight) (g) 17. Yield (kg/ha) 18. Essential Oil 19. Harvest Index 20. Economics and B:C ratio
Note: 1. Observations at Sr No 7 to 20 to be recorded at maturity 2. Nursery Raising (for transplanting) For transplanting seedling should be raised on nursery in advance **Tentative sowing date of nursery:** *first week of september* **Transplanting age:** 45–55 days old seedlings (5–6 leaf stage) at first fortnight of oct		

Treatment combinations

Treatment	Establishment	Spacing / Density	Fertilizer
T1	Seed sown	1.11 lakh/ha (30 × 30 cm)	100% NPK
T2	Seed sown	1.11 lakh/ha (30 × 30 cm)	125% NPK
T3	Seed sown	0.74 lakh/ha (45 × 30 cm)	100% NPK
T4	Seed sown	0.74 lakh/ha (45 × 30 cm)	125% NPK
T5	Transplanted	1.11 lakh/ha (30 × 30 cm)	100% NPK
T6	Transplanted	1.11 lakh/ha (30 × 30 cm)	125% NPK
T7	Transplanted	0.74 lakh/ha (45 × 30 cm)	100% NPK
T8	Transplanted	0.74 lakh/ha (45 × 30 cm)	125% NPK

Lay out map

Border	**Border**					
	RI	1m	**RII**	1m	**RIII**	**Border**
	transplanting		**Seed sowing**		**transplanting**	
	30x30 100% (T5)		30x30 125% (T2)		45x30 100% (T7)	
	30x30 125% (T6)		30x30 100% (T1)		45x30 125% (T8)	
	45x30 100% (T7)		45x30 100% (T3)		30x30 125% (T5)	
	45x30 125% (T8)		45x30 125% (T4)		30x30 100% (T6)	
	0.50 meter Raasta					
	Seed sowing		**transplanting**		**Seed sowing**	
	45x30 100% (T3)		30x30 100% (T5)		45x30 100% (T3)	
	45x30 125% (T4)		30x30 125% (T6)		45x30 125% (T4)	
	30x30 100% (T1)		45x30 100% (T7)		30x30 100% (T1)	
	30x30 125% (T2)		45x30 125% (T8)		30x30 125% (T2)	
	Border					

Plot dimensions and plant numbers (recommended)

Net plot (usable area): 3.6 m (row-direction) × 3.0 m (planting-direction) = 10.8 m².

- For **30 × 30 cm spacing**: rows = 3.6/0.30 = 12 rows; plants per row = 3.0/0.30 = 10 → **120 plants / plot** (matches 1.11 lakh/ha).
- For **45 × 30 cm spacing**: rows = 3.6/0.45 = 8 rows; plants per row = 10 → **80 plants / plot** (matches 0.74 lakh/ha).

Standard Operating Procedure (SoP)

Method of Raising Fennel Seedlings (*Foeniculum vulgare* Mill.)

Objective

To ensure healthy, uniform, and vigorous fennel seedlings for transplanting through adoption of scientific nursery raising techniques.

1. Nursery Site Selection

- Choose a well-drained, sandy loam soil, free from soil-borne diseases and weeds.
- Site should have access to irrigation and protection from strong winds.

2. Methods of Raising Seedlings

A. Raised Bed Method

- Prepare raised nursery beds of **3 m × 1 m × 15 cm height**.
- Incorporate **well-decomposed FYM/compost @ 5 kg/m²** along with 10 g urea + 20 g SSP + 10 g MOP per bed also add **Trichoderma viride @ 50 g/ bed**.
- Treat seeds with ***Trichoderma viride* @ 4 g/kg** or fungicide (Captan/Thiram @ 2.5 g/kg).
- Sow seeds in lines **5 cm apart**, or uniform broad casting of seed, cover lightly with soil + FYM mixture, and apply light irrigation with rose cane.
- Provide frequent light irrigation (2 times) during hot hours with rose cane or perforated sprinkler pipes if it sown on raised beds.
- Maintain uniform moisture through light irrigation at 3–4 days interval if surface irrigation.

B. Portray Method

- Use **protrays (cell size 3–4 cm, 98 cells per tray)**
- Filled with sterilized cocopeat: vermicompost: sand/Perlite/Vermuculite (2:1:1).
- Sow two treated seed per cell and cover lightly with cocopeat.
- Keep trays under shade-net (50%) and irrigate with fine mist sprayer.
- Apply 0.2% water soluble fertilizer (NPK 19:19:19) at 10-day intervals for better growth.
- Seedlings remain free from soil-borne pathogens and show uniform growth.

Note: Method A is appropriate for all centres for Nursery

3. Seed Requirement & Duration

- Seed rate: **1.5–1.8 kg/ha nursery area** sufficient for 1 ha main field.
- Area: A nursery of 90-100 m^2 area is sufficient for 1.0 ha area.
- Seedlings ready for transplanting in **45–55 days** (5–6 leaf stage).

4. Precautions

- Weeding as per need in nursery
- Ensure seed source is certified and disease-free.

- Avoid excess irrigation to prevent damping-off.
- Harden seedlings by reducing irrigation 4–5 days before transplanting.
- Full irrigation one day before uprooting at nursery and irrigation during transplanting

5. Advantages

- Raised beds: Low cost, suitable for resource-poor farmers.
- Portrays: Higher establishment rate, uniform seedlings, reduced transplant mortality.

Crop Protection and Food Safety

Project Code:	:	**CAR/CP/5.1**
Project Title	:	Evaluation of the bio-efficacy, phytotoxicity of Chlorantraniliprole 18.5% SC against cardamom shoot and capsule borer and its effect on natural enemies.
Crop	:	Small Cardamom
Aim of Project	:	To evaluate the bio-efficacy, phytotoxicity of Chlorantraniliprole 18.5% SC against cardamom shoot and capsule borer (*Conogethes sahyadriensis*) and its effect on natural enemies.
Centers (4)	:	Appangala, Myladumpara, Thadiyankudisai (TN under Myladumpara)
Year of start & duration	:	2026-27 (2 year)
Target Pest	:	Shoot and capsule borer (*Conogethes sahyadriensis*)
Design	:	Randomized Block Design
Plot size	:	12 clumps/replication
Replication	:	3
Water volume	:	1000 L/ha
No. of spray application	:	5
Time of application	:	For Bio-efficacy (T.No. 1 to 6 & 8): February-March, March-April, April-May, September and October For Residue analysis (T.No. 9 and 10): 5 sprays to be given at fixed 30 days interval
Method of Application	:	Knapsack sprayer fitted with hollow cone nozzle

Treatments (T)	**Dosage (g/ha)**	
	Active substance (g a.i.)	**Product (g or mL)**
T1- Chlorantraniliprole 18.5% SC	75	375
T2- Chlorantraniliprole 18.5% SC	100	500
T3- Chlorantraniliprole 18.5% SC	125	625
T4- Diafenthiuron 50 % WP	400	800
T5- Lambda-cyhalothrin 04.90 % CS	20	400
T6-Acephate 95 SG	950	1000
T7- Untreated Control	-	-
<u>For phytotoxicity evaluation</u>:		
T8- Chlorantraniliprole 18.5% SC	200	1000
<u>Residue studies only</u>		
T9- Chlorantraniliprole 18.5% SC	100	500
T10- Chlorantraniliprole 18.5% SC	125	625

Note:

1) T_4, T_5 and T_6 are market standards.
2) T_8 treatment is to be evaluated for phyto-toxicity only. The layout of T_8 may be avoided in close vicinity of other plots to get rid of any drift. The report on comparative Phytotoxicity of T_8 may be reported separately in the study report along with T_2 & T_7.

3) **Sample collection (one season) for residue analysis:**

a) Samples (qty: 100g) of Cardamom (pods+ seeds) from treatment T_7, T_9 and T_{10} to be collected at 0 (2h after application),1, 3, 5, 7, 10, 15 days after last application and dried pods (at harvest) from four locations. Soil samples (qty: 250 g) to be taken 15 days after last spray from 4 locations. All samples to be sent to residue laboratory in dry ice condition.

b) For persistence studies, the samples of Cardamom leaves (qty: 250g) to be taken from treatment T_7, T_9 and T_{10} at 0, 1, 3, 5 ,7, 10, 15 days (One location from ICRI, Myladumpara). All samples to be sent to residue laboratory in dry ice condition.

Observations:

1. Observation on percent plant and capsule damage and pest populations at before application, 14 days after each application to be recorded. Percent reduction over control to be calculated.
2. Observation on population of natural enemies before application and 14 days after each application.
3. Phyto-toxicity after 0, 1, 3, 7, 10 and 14 days of each spray for phytotoxicity symptoms, leaf injury on tips/surface, stunting, necrosis, chlorosis, vein clearing, epinasty and hyponasty based on 0-10 scale.
4. Cumulative yield per hectare.

Annexure

1. BIO-EFFICACY AGAINST INSECTS PESTS / DISEASE

Table 1. Data requirement for Bio efficacy of (Chemical Name**) against (**Pest species**) in (**Crop Name**) after each application**

T. No	Season 1			Season 2		
	Location			Location 1		
	BS	DAA	% ROC	BS	DAA	% ROC
T1						
T2						
T3						
T4						
T5						
T6						
T7						
T8						
S.E.m ±						
C.D. at 5%						

BS: Before Spray; *DAA: Days After Application (Fill the data pertinent to the last observation); % ROC : % reduction over control

Note: Data to be provided at different intervals after each spray.

2. PHYTOTOXICITY

Table 2. Data requirement for phytotoxicity of (Chemical Name) against (Pest species) in (Crop Name) after each application

T. No	Season 1						Season 2					
	Location 1						Location 1					
	Phytotoxicity grade (0-10 Scale)											
	DAA						DAA					
	0	1	3	5	7	14	0	1	3	5	7	14
T1												
T2												
T3												
T4												
T5												
T6												
T7												
T8												
S.E.m ±												
C.D. at 5%												

DAA: Days After Application; Observations should be recorded on 0,1,3,5,7, and 14 days after treatment

3. EFFECTS ON NATURAL ENEMIES (PREDATORS AND PARASITOIDS)

Table 3. Data requirement for Bioefficacy of (Chemical Name) against (Natural Enemies) in (Crop Name) after each application

T. No	Season 1		Season 2	
	Location 1		Location 1	
	BS	DAA	BS	DAA
T1				
T2				
T3				
T4				
T5				
T6				
T7				
T8				
S.E.m ±				
C.D. at 5%				

BS: Before Spray; DAA: Days After Application; %

Yield and percent increase of yield over control for season-I and season -II

Project Code:	:	**CAR/CP/5.2**
Project Title	:	Evaluation of the bio-efficacy, phytotoxicity of Spinosad 45% SC against cardamom shoot and capsule borer and cardamom thrips its effect on natural enemies.
Crop	:	Small Cardamom
Aim of Project	:	To evaluate the bio-efficacy, phytotoxicity of Spinosad 45% SC against cardamom shoot and capsule borer (*Conogethes sahyadriensis*) and cardamom thrips (*Sciothrips cardamomi*) and its effect on their natural enemies.
Centers (4)	:	Appangala, Myladumpara, Thadiyankudisai (TN under Myladumpara)
Year of start & duration	:	2026-27 (2 year)
Target Pest	:	Cardamom thrips (*Sciothrips cardamomi*), cardamom shoot and capsule borer (*Conogethes sahyadriensis*)
Design	:	Randomized Block Design
Plot size	:	12 clumps/replication
Replication	:	3
Water volume	:	1000 L/ha
No. of spray application	:	5
Time of application	:	For Bio-efficacy (T.No. 1 to 6 & 8): February-March, March-April, April-May, September and October For Residue analysis (T.No. 9 and 10): 5 sprays to be given at fixed 30 days interval
Method of Application	:	Knapsack sprayer fitted with hollow cone nozzle

Treatments (T)	Dosage (g/ha)	
	Active substance (g a.i.)	Product (g or ml)
T1- Spinosad 45% SC	169	375
T2- Spinosad 45% SC	225	500
T3- Spinosad 45% SC	281	625
T4- Diafenthiuron 50 % WP	400	800
T5- Lambda-cyhalothrin 04.90 % CS	20	400
T6-Acephate 95 SG	950	1000
T7-Untreated Control		
For phytotoxicity evaluation:		
T8- Spinosad 45% SC	450	1000
Residue studies only		
T9- Spinosad 45% SC	225	500
T10- Spinosad 45% SC	281	625

Note:

1) T_4, T_5 and T_6 are market standards.
2) T_8 treatment is to be evaluated for phyto-toxicity only. The layout of T_8 may be avoided in close vicinity of other plots to get rid of any drift. The report on comparative Phytotoxicity of T_8 may be reported separately in the study report along with T_2 & T_7.

3) **Sample collection (one season) for residue analysis:**

a) Samples (qty: 100g) of Cardamom (pods+ seeds) from treatment T_7, T_9 and T_{10} to be collected at 0 (2h after application),1, 3, 5, 7, 10, 15 days after last application and dried pods (at harvest) from four locations. Soil samples (qty: 250 g) to be taken 15 days after last spray from 4 locations. All samples to be sent to residue laboratory in dry ice condition.

b) For persistence studies, the samples of Cardamom leaves (qty: 250g) to be taken from treatment T_7, T_9 and T_{10} at 0, 1, 3, 5 ,7, 10, 15 days (One location from ICRI, Myladumpara). All samples to be sent to residue laboratory in dry ice condition.

Observations:

1. Observation on percent capsule damage and cardamom shoot and capsule borer populations at before application 14 days after each application.
2. Capsule damage by thrips can be assessed by drawing 100 g of cured capsules from each clump of every treatment. The total number of capsules and the number of capsules that showed characteristic scab formation due to thrips infestation have to be visually recorded for calculating the per cent capsule damage. The mean per cent capsule damage for an accession in a year can be calculated, pooling the plant-wise harvest data.
3. Observation on population of natural enemies before application and 14 days after each application.
4. Phyto-toxicity after 0, 1, 3, 7, 10 and 14 days of each spray for phytotoxicity symptoms, leaf injury on tips/surface, stunting, necrosis, chlorosis, vein clearing, epinasty and hyponasty based on 0-10 scale.
5. Cumulative yield/mean data.

Annexure

1. BIO-EFFICACY AGAINST INSECTS PESTS / DISEASE

Table 1. Data requirement for Bio efficacy of (Chemical Name**) against (**Pest species**) in (**Crop Name**) after each application**

T. No	Season 1			Season 2		
	Location			Location 1		
	BS	DAA	% ROC	BS	DAA	% ROC
T1						
T2						
T3						
T4						
T5						
T6						
T7						
T8						
S.E.m ±						
C.D. at 5%						

BS: Before Spray; *DAA: Days After Application (Fill the data pertinent to the last observation); % ROC : % reduction over control

Note: Data to be provided at different intervals after each spray.

2. PHYTOTOXICITY

Table 2. Data requirement for phytotoxicity of (Chemical Name**) against (**Pest species**) in (**Crop Name**) after each application**

T. No	Season 1						Season 2					
	Location 1						Location 1					
	Phytotoxicity grade (0-10 Scale)											
	DAA						DAA					
	0	1	3	5	7	14	0	1	3	5	7	14
T1												
T2												
T3												
T4												
T5												
T6												
T7												
T8												
S.E.m ±												
C.D. at 5%												

DAA: Days After Application; Observations should be recorded on 0,1,3,5,7, and 14 days after treatment

3. EFFECTS ON NATURAL ENEMIES (PREDATORS AND PARASITOIDS)

Table 3. Data requirement for Bioefficacy of (Chemical Name**) against (**Natural Enemies**) in (**Crop Name**) after each application**

T. No	Season 1		Season 2	
	Location 1		Location 1	
	BS	DAA	BS	DAA
T1				
T2				
T3				
T4				
T5				
T6				
T7				
T8				
S.E.m ±				
C.D. at 5%				

BS: Before Spray; DAA: Days After Application; %

- **Yield and percent increase of yield over control for season-I and season -II**

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Research Programmes at a glance (Crop-wise)

Crop Name	GENETIC RESOURCES & CROP IMPROVEMENT		CROP MANAGEMENT		CROP PROTECTION		Total No. of Projects
	List of Projects	No.	List of Projects	No.	List of Projects	No.	
Black Pepper	PEP/CI/1.1, PEP/CI/3.7	2	PEP/CP/3.4	1	PEP/CP/7.2	1	4
Cardamom	CAR/CI/1.1, CAR/CI/3.9, CAR/CI/4.4, CAR/CI/4.5	4	CAR/CM/5.5, CAR/CM/5.6	2	CAR/CP/2.1	1	7
Large Cardamom	LCA/CI/1.1, LCA/CI/2.1	2	LCA/CM/2.1	1	No project	0	3
Ginger	GIN/CI/1.1, GIN/CI/2.6, GIN/CI/2.7	3	GIN/CM/4.1, GIN/CM/5.1, GIN/CM/5.2	3	GIN/CP/4.1, GIN/CP/7.3	2	8
Turmeric	TUR/CI/1.1, TUR/CI/1.2, TUR/CI/2.11	3	TUR/CM/5.1, TUR/CM/5.2	2	TUR/CP/4.1, TUR/CP/7.1 TUR/CP/7.2	3	8
Tree Spices	TSP/CI/1.1, TSP/CI/2.4, TSP/CI/2.5, Project Mode	4	TSP/CM/5.1	1	No project	0	5
Coriander	COR/CI/1.1, COR/CI/2.1, COR/CI/2.2, COR/CI/4.1	4	COR/CM/2.3, COR/CM/5.1, COR/CM/6.1	3	No project	0	7
Cumin	CUM/CI/1.1, CUM/CI/2.1	2	COR/CM/2.1, COR/CM/3.4,	2	CUM/CP/7.1, CUM/CP/7.2	2	6
Fennel	FNL/CI/1.1, FNL/CI/2.1	2	No project	0	No project	0	2
Fenugreek	FGK/CI/1.1, FGK/CI/2.1	2	FGK/CM/5.1, FGK/CM/6.1	2	FGK/CP/7.1	1	5
Ajwain	AJN/CI/2.1	1	No project	0	No project	0	1
Nigella	NGL/CI/2.1	1	No project	0	NGL/CP/7.1	1	2
Saffron	Project mode	1	No project	0	No project	0	1
Kalazeera	Project mode	1	No project	0	No project	0	1
Seed Spices	No project	0	No project	0	SS/CP/7.1	1	1

Monitoring visits of AICRPS 2025-26

Period (Tentative)	Monitoring Team	Place of Visit	Purpose of Visit
07/05/2025 - 11/05/2025	Dr. D. Prasath (PC, AICRPS)	NE Region Centers: 1. AICRPS, Barapani, Meghalaya; 2. AICRPS, Kaikuchi, Assam; 3. AICRPS, Mizoram; 4. AICRPS, Sikkim; 5. AICRPS, Pundibari, West Bengal; 6. AICRPS, Pasighat, Arunachal Pradesh; 7. AICRPS, Kalyani, West Bengal; 8. AICRPS, Medziphema, Nagaland	To review AICRPS activities of NE centers.
17/06/2025 - 20/06/2025	Dr. D. Prasath (PC, AICRPS)	Rajamundry, Chintapalli, Pottangi (Andhra Pradesh/Odisha)	To review AICRPS activities at these centers.
21/07/2025 - 23/07/2025	Dr. D. Prasath (PC, AICRPS) & Dr. Mukesh Sankar	Pampadumpara, Myladumpara (Kerala)	To review AICRPS activities at these centers.
01/09/2025 - 04/09/2025	Dr. D. Prasath (PC, AICRPS)	ICAR-NRCSS, Ajmer, Rajasthan	To review AICRPS activities and finalize new seed spices trials.
October 2025 (1st Week)	Mukesh Sankar & Lijo thomas	Pepper Research Station (KAU) Panniyur, Kannur	To review AICRP activities.
29/10/2025 - 31/10/2025	Dr. D. Prasath (PC, AICRPS)	Barapani, Meghalaya	AICRPS Annual Group Meeting (AGM).
14/11/2025 - 16/11/2025	Dr. D. Prasath (PC, AICRPS)	Sanand centre, AAU, Ahmedabad, Gujarat	To review AICRP activities.

26/11/2025	Dr. R. Dinesh & Mukesh Sankar	Appangala	To review AICRPS activities.
Jan-2026	Dr. D. Prasath (PC, AICRPS) & Mukesh Sankar	Pepper Research Station (KAU) Panniyur, Kannur	To review AICRP activities. (PC's separate visit)
Jan-2026	Dr. D. Prasath (PC, AICRPS)	Pant Nagar	Reviewing of AICRPS activities
February-March 2026	Seed Spice Monitoring Team (Under Director, NRCSS)	All seed spices centres	Monitoring of Seed Spice Centers.
January – February 2026	Budget review meeting (online)	All the centres	

Proposed monitoring committee visit of ICAR-AICRPS (2026-2027)

Monitoring Team	Tentative period	Place of Visit	Purpose of Visit
Major spices (black pepper, cardamom, tree spices)	December-January 2027 June-July 2027 October-November 2027	Chintapalle, Appangala, Mudigere, Sirsi, Yercaud, Appanagala, Thrissur Panniyur, Pampadumpara, Myladumpara, Dapoli, Peechiparai	To review AICRPS activities of black pepper, cardamom and tree spices centers
Major spices (ginger, turmeric)	December-January 2027 June-July 2027 October-November 2027	Appangala, Coimabtore, Dapoli, Chinthapalle, Pottangi, Kammarpally, Guntur Barapani, Mizoram, Pasighat	To review AICRPS activities of ginger and turmeric centres
Seed spices	January 2027 February 2027 March 2027	Ajmer,Jobner, Jagudan, Anand, Navsari, Kumarganj, Raigarh, Kumarganj Hisar	To review AICRPS activities and finalize new seed spices trials.
Budget review meeting (online)	January – February 2026	All the centre	
Annual group meeting 2026	September 2026	All the centre	

VARIETIES RECOMMENDED FOR RELEASE DURING XXXVI ANNUAL GROUP MEETING 2025

Karan Saunf 2 (UF 231/RF 231)

HAJ 7

Ajmer Ajwain 24 (AA-24)

Gujarat Ajwain 4 (JA 2019-01)

IISR Navya

Koraput Ada

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