

Three-Day Training Programme on Mass Production of Biocontrol Agents and Compatible Technologies for Insect Pest Management Organized at ICAR-NBAIR, Bengaluru

05-07 August 2026

ICAR-National Bureau of Agricultural Insect Resources (NBAIR), Bengaluru, organized a three-day training programme on “**Mass Production of Biocontrol Agents and Compatible Technologies for Insect Pest Management**” from **5 to 7 August 2026** at the Hebbal campus of the Institute. The training programme was sponsored by the **Karnataka State Department of Agriculture (KSDA), Government of Karnataka, Bengaluru**, with the objective of strengthening the technical capacity of agricultural officers in the production and utilization of biocontrol agents for sustainable insect pest management.

The training programme commenced with the inaugural function held on the forenoon of **5 August 2026**. **Sri Venkatarama Reddy J. Patil, Director, Directorate of Secondary Agriculture**, was the Chief Guest, while **Dr. T. Venkatesan, Director, ICAR-NBAIR, Bengaluru**, presided over the programme. Around **20 officers**, comprising Assistant Directors of Agriculture and Agricultural Officers from various districts of Karnataka, participated in the training.

In his welcome address, **Dr. T. Venkatesan** welcomed the Chief Guest, trainees and ICAR-NBAIR staff. He emphasized the importance of biocontrol agents in insect pest management and highlighted the expertise and capacity of ICAR-NBAIR in developing and promoting non-chemical pest management technologies.

Dr. Kolla Sreedevi, Course Director, gave an overview of the training programme, explaining that both theory and practical sessions would be conducted on the mass production protocols of various biocontrol agents, including macrobials and microbials.

A training manual containing lecture notes on the mass production of important parasitoids, predators, entomopathogenic bacteria, fungi, viruses and entomopathogenic nematodes, along with pheromone technologies and slow-release pheromone techniques, was released and distributed to the trainees.

In his inaugural address, **Sri Venkatarama Reddy J. Patil** stressed the importance of promoting non-chemical methods of pest management and called for the establishment and strengthening of biocontrol mass production units to ensure the timely supply of quality biocontrol agents to farmers across Karnataka. He assured financial support from the Directorate of Secondary Agriculture for such initiatives and encouraged KSDA officers to take up biological control activities with greater commitment and seriousness.

The inaugural programme concluded with a vote of thanks proposed by **Dr. A. Kandan, Course Coordinator**.



Release of Training Manual at the inaugural programme



Group photo with the KSDA officials on first day of the training programme

Technical Sessions

The technical sessions conducted during the three-day programme covered both theoretical and practical aspects of the **mass multiplication and production protocols of important macrobial and microbial biocontrol agents, as well as compatible technologies** for insect pest management.

The technical programme began with a lecture by **Dr. T. Venkatesan, Course Director and Director (A), ICAR-NBAIR**, on “**Prospects of Bio-control Agents in Pest Management of Agricultural Crops: Challenges and Future Road Map.**” The session highlighted the potential of biological control in sustainable crop protection and presented successful examples and experiences in the use of biocontrol agents for insect pest management. **Dr. Kolla Sreedevi, Course Director**, subsequently explained the importance of taxonomic identification in biological control, highlighting examples where incorrect identification of insect pests or natural enemies can lead to ineffective management and significant economic losses.

Dr. A. Kandan, Course Co-Coordinator, conducted both theory and practical sessions on the mass multiplication of entomopathogenic fungi. This was followed by a session on the mass production techniques of entomopathogenic bacteria by **Dr. C. Manjunatha, Course Coordinator**.

The mass production of important parasitoids and predators was covered by **Dr. Richa Varshney** and **Dr. Prabhulinga, T.** This was followed by sessions on the mass multiplication of host insects required for the rearing of parasitoids and predators. Practical demonstrations and hands-on sessions on rearing protocols were conducted by **Dr. Richa Varshney, Dr. Prabhulinga, T.** and **Dr. Omprakash Navik, Course Coordinators**.

The participants were also introduced to pheromone-based technologies for insect pest management. **Dr. K. Subaharan** delivered a lecture on pheromone technology, while **Dr. Deepa Bhagat, Course Co-Coordinator**, covered slow-release pheromone technology and its applications in pest management.

On the third day, sessions on the mass multiplication techniques of **entomopathogenic nematodes and entomopathogenic viruses**, including practical components, were conducted by **Dr. Jagadeesh Patil** and **Dr. G. Sivakumar, Course Co-Coordinators**, respectively. **Dr. Manjunatha, B. S., Course Coordinator**, delivered a session on the role of chitinolytic bacteria in insect pest management.

A session on the **mass production and utilization of predatory mites** and pathogens for the management of phytophagous mites, including theory and practical demonstrations, was conducted by **Dr. P. Sreeramakumar, Course Co-Coordinator**. The technical sessions concluded with an overview of the technologies developed and available at ICAR-NBAIR, presented by **Dr. Gandhi Gracy**.

The combination of classroom lectures, practical demonstrations and hands-on training provided the participants with practical knowledge on the production, handling and application of diverse biocontrol agents and compatible pest management technologies.

Valedictory Programme

The three-day training programme concluded with the valedictory function held on the evening of 7 August 2026. **Dr. G. T. Puthra, Director, KSDA**, was the Chief Guest, while **Smt. Deepaja, Joint Director of Agriculture, KSDA**, was the Guest of Honour. The programme was presided over by **Dr. T. Venkatesan, Director, ICAR-NBAIR**.

In his valedictory remarks, **Dr. G. T. Puthra** emphasized the utility of the knowledge and skills acquired during the training for strengthening existing biocontrol laboratories and establishing new mass production units to meet the growing demand for quality biocontrol agents among farmers. **Smt. Deepaja** called upon the trainees to demonstrate greater involvement and dedication in their professional services for the promotion and wider adoption of biological control technologies. Successful completion certificates were distributed to all the trainees by the dignitaries.

The training programme provided a valuable platform for strengthening the technical capacity of KSDA personnel and promoting the wider adoption of biological control and other non-chemical pest management approaches in Karnataka. The programme is expected to contribute towards strengthening existing biocontrol infrastructure and facilitating the establishment of new mass production units for the benefit of farmers and sustainable agricultural production.



Distribution of Certificates to the KSDA trainees



Glimpses of the Valedictory programme