

WINTER SCHOOL REPORT

ICAR-NBAIR WINTER SCHOOL

(16 January, 2025–5 February, 2025)

Morphological and molecular identification including mass production of natural enemies associated with economically important insect pests (including invasives) of Indian agroecosystem

The ICAR-sponsored Winter School “**Morphological and molecular identification including mass production of natural enemies associated with economically important insect pests (including invasives) of Indian agroecosystem**” was organised during 16th January 2025 to 5th February 2025 at the ICAR-National Bureau of Agricultural Insect Resources, Bengaluru.

Co-ordinating team: The programme was coordinated by **Dr Ankita Gupta**, Course Director & Senior Scientist ICAR-NBAIR along with two co-ordinators Dr R. Gandhi Gracy (Principal Scientist, ICAR-NBAIR) and Dr Richa Varshney (Scientist, ICAR-NBAIR).

The training aimed at providing participants with complete knowledge and skills on conventional taxonomic identification, molecular characterization, mass production and utilisation of beneficial natural enemies associated with insect pests of agricultural ecosystems including invasive pests.

This programme was inaugurated by the renowned taxonomist Prof. C. A. Viraktamath, Retd. Professor, University of Agricultural Sciences, GKVK, Bengaluru on 16th January, 2025. Prof. Viraktamath addressed the participants with special lecture on “Overview of Taxonomy”. He highlighted the basics, schools of taxonomy, nomenclature and importance of taxonomy in agriculture. The three week training kick-started with an overview of plant protection in India and role of ICAR-NBAIR in addressing the national pest related problems by Dr S. N. Sushil, Director ICAR-NBAIR followed by the release of training manual of 368 pages. All the 25 participants were given hard copy and a soft copy of the training manual and all presentations pdfs. Pre-evaluation test was conducted on 16th February, in which the average score was 53%.

The Winter School aimed to serve as a platform for knowledge exchange, skill enhancement, and collaborative innovation in agriculture. Twenty five young Scientists, Assistant Professors and Subject Matter Specialists from various SAUs, KVKs and ICAR institutes covering twelve states and one Union Territory (17 men and 8 women) from pan India - north-east region (Imphal), Central & Eastern region (West Bengal, Uttar Pradesh, Bihar and Madhya Pradesh), Western region (Maharashtra and Rajasthan), Southern region (Karnataka, Kerala and Andhra Pradesh) and northern region (Delhi, Himachal Pradesh and Jammu & Kashmir) attended the training programme. Over the period the participants were given 55 faculty lectures, 6 guest lectures, 22 practical classes, field visits and a live drone demonstration of bio-pesticide field application.

The valedictory function was held on 05-02-2025 at ICAR-NBAIR, Hebbal. Dr S. N. Sushil, Director, ICAR- NBAIR highlighted the importance of winter school and encouraged participants for future research collaborations. Dr V. V. Ramamurthy, President of the Entomological Society of India & Retd. Principal Scientist ICAR-IARI, New Delhi, an eminent and reputed entomologist graced the occasion as the Chief Guest of the valedictory function and delivered special lecture on importance and implications of taxonomy in insect pest management. The valedictory function concluded after distribution of certificates and receiving positive feedback from the participants. Post evaluation test was conducted on last date and the average score was 83 %.

Co-ordinating team:

1. **Dr Ankita Gupta** (Course Director, Senior Scientist GCC, ICAR-NBAIR)
2. **Dr R.G. Gracy** (Course Co-Director, Principal Scientist GR)
3. **Dr Richa Varshney** (Course Co-Director, Scientist GCU)

External experts:

1. **Prof. C. A. Viraktamath**, Ex Professor, Division of Entomology, UAS-B, Bengaluru
2. **Prof. V. V. Ramamurthy**, Ex Professor, Division of Entomology, ICAR-IARI, New Delhi
3. **Dr Chandish R. Ballal**, Ex Director, ICAR- NBAIR
4. **Prof Himender Bharti**, Director (Centre for Restoration of Ecosystem of Punjab); Professor and Former Head, Department of Zoology & Environmental Sciences Punjabi University, Patiala
5. **Dr Kamala Jayanthi**, ICAR National Professor, ICAR-IIHR, Bengaluru









Valedictory function conducted on 5th February with distribution of certificates



ACKNOWLEDMENT

I express my gratitude towards Agricultural Education Division of ICAR, Capacity Building programme team and ICAR for selecting me and my team to host this training.

I am extremely grateful to Dr S N Sushil, Director ICAR-National Bureau of Agricultural Insect Resources (NBAIR), SAO Mr Mathew and SFAO Ms Kusuma for ably supporting this winter school by all means.