



ICAR sponsored Short Course
on

**“INSECTICIDE RESISTANCE MANAGEMENT
STRATEGIES WITH
MAJOR EMPHASIS ON COTTON INSECT PESTS”**

10th - 19nd February 2025

Venue: ICAR-CICR, Nagpur

Introduction

The ICAR-sponsored Short Course on "Insecticide Resistance Management Strategies with Major Emphasis on Cotton Insect Pests," scheduled from 10th -19th February 2025, at ICAR-CICR, Nagpur. It is a pivotal initiative aimed at equipping researchers, extension workers, and field professionals with advanced knowledge and practical skills to combat the escalating issue of insecticide resistance in cotton pests. Development of resistance in insect pest poses serious problems for cotton, a major cash crop, endangering sustainability and productivity. An overview of insecticide resistance in cotton pests, genetics & mechanisms of insecticide and cry toxin resistance, and the function of entomopathogenic fungi and nematodes in resistance management are just a few of the important subjects that will be covered in this course. Participants will also gain hands-on experience in setting up an insecticide and cry toxin bioassays, on plant bioassays, biochemical and molecular techniques, and exploring innovative tools like drone technology for insecticide applications. By fostering a multidisciplinary approach, the program seeks to enhance participants' capacity to implement resistance management in cotton cultivation, contributing to improved yield, environmental health, and long-term agricultural resilience.

Objectives

The objectives of the short course are to provide a comprehensive understanding of the mechanisms, genetics, and biochemical basis of insecticide resistance in major cotton pests, analyze pest dynamics over the last decade, and train participants in practical techniques such as diet preparation, insecticide & cry toxin

bioassays, and molecular methods for resistance detection. The course aims to promote eco-friendly resistance management strategies, including the use of entomopathogenic organisms, semiochemicals, RNA interference (RNAi), and drone technology, while fostering sustainable practices like organic farming and pollinator-friendly approaches.

Course Content

The course content includes lectures, laboratory and field practical and exposure visits. It covers important topics on, Overview of Insecticide Resistance, Mechanisms of Resistance (Biochemical, molecular, and genetic aspects of resistance to insecticides and Cry toxins), Laboratory Techniques (Practical training on biosafety, diet preparation, enzyme extraction, bioassays, and molecular tools for resistance detection), Cotton Pest Management (Dynamics of pests like pink bollworm, whitefly, and leafhopper over the last decade, and strategies for resistance management, including introgression of susceptible genes), Eco-Friendly Strategies (Role of entomopathogenic fungi, nematodes, semiochemicals, and boosting plant immunity in integrated resistance management), Emerging Technologies (RNA interference (RNAi), drone-based insecticide application, and bioinformatics tools for resistance management), Sustainable Practices (Organic and natural farming approaches, resistance management in pollinators, and breeding strategies for



pest resistance), Field Exposure (Visits to IRM-PBW demonstration plots, germplasm gardens, and farmer fields for practical insights into resistance management implementation).

Travelling, Boarding & Lodging

The lodging, boarding and travel expenses of the selected participants will be born under training programme budget as per ICAR guidelines. Accommodation will be provided at the Institute's guest house. The participants will be

paid to and fro travel fare by train or bus as the case may be, by the shortest route. The payment will be restricted to II A/C train fare as per the norms and guidelines of ICAR on production of a copy of the ticket (s). Air travel will not be reimbursed. Tickets booked through M/s Balmer Lawrie & Company Limited (BLCL), (b) M/s Ashok Travels & Tours (ATT), (c) Indian Railways Catering and Tourism Corporation Ltd. (IRCTC) only be reimbursed as per ICAR regulations. Participants are requested not to bring any family member along with them.

Eligibility

The participants should have at least Master's Degree (Entomology or Zoology) and working not below the rank of Scientist/Assistant Professor and equivalent in relevant disciplines in SAUs/ICAR Institutes. Maximum intake of participants will be limited to 25.

Registration Fee

Only 25 participants will be selected for the short course by a screening committee. All selected participants have to pay Rs 50/- either through Demand Draft in the favour of ICAR UNIT- CICR Nagpur or online transfer (Account Name: ICAR UNIT- CICR Nagpur; Account No- 11072609110; IFSC Code - SBIN0001633; Bank Name - SBI Ramdaspath, Nagpur) or ICAR-CICR's Payment Gateway <https://www.onlinesbi.sbi/sbicollect/icollecthome.htm?corpID=168696> as a registration fee.

About Institute

The Central Institute for Cotton Research (CICR), Nagpur, is a premier agricultural research

institute under the Indian Council of Agricultural Research (ICAR). Established in 1976, CICR focuses on enhancing cotton productivity and sustainability through innovative research and technology dissemination. The institute addresses various aspects of cotton cultivation, including crop improvement, protection, production, and fiber quality enhancement. It also leads efforts in integrated pest management, climate resilience, and biotechnology to meet the evolving challenges faced by cotton growers. CICR plays a pivotal role in promoting eco-friendly practices and supporting the Indian cotton industry, contributing significantly to the livelihoods of millions of farmers.

How to Apply

Participants should register online in the Capacity Building Programme (CBP) portal (<http://cbp.icar.gov.in/>) by creating an account for submission of application. A printed copy of the application duly signed and approved by the competent authority should be scanned and uploaded on the CBP portal on or before 15/01/2025. A copy may also be emailed to: head.croprot.cicr@gmail.com

How to Reach

ICAR-Central Institute for Cotton Research (CICR) is located in Nagpur, Maharashtra, well-connected by air, rail, and road.

- By Air: Dr. Babasaheb Ambedkar International Airport, Nagpur, is approximately 8 km from CICR. From the airport, you can hire a taxi or use app-based cab services to reach the institute.
- By Rail: Nagpur Junction, a major railway station, is about 15 km away. Auto-rickshaws, taxis, and local conveyance are available outside the station for a short commute to CICR.
- By Road: Nagpur is accessible via the NH-44 and NH-53 highways. The institute is located on the Wardha Road and is easily reachable by personal vehicles/buses/taxis.

- Local Landmarks: CICR is situated on the Wardha Road, opposite to Hotel Le Meridian and can be located using GPS navigation apps for accurate guidance.

Important Dates:

Last date of application: 15/01/2025

Information to selected candidates: 20/01/2025



CONTACT DETAILS

All correspondence may be addressed to:

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