VVK

ICFRE-INSTITUTE OF FOREST BIODIVERSITY (IFB), HYDERABAD

A report of Training on "Insect pests of nurseries plantation & their management" under VVK Telangana at ICFRE-IFB, Hyderabad

Institute of Forest Biodiversity (IFB), Hyderabad, organized a one-day training program on "**Insect pests of nurseries plantation & their management**" on 10th July 2025 under VVK at the ICFRE-IFB, for the MPDOs, panchayat secretary staffs and village nursery managing staffs of Telangana state.

Dr. Deepa M, Scientist-E & Course Coordinator, welcomed the dignitaries and participates to the training programme. She provided a brief overview of the training's genesis, emphasizing the importance of the VVK programme. The program was inaugurated by **Shri. E Venkat Reddy, IFS, ICFRE-IFB, Hyderabad.** He encouraged farmers to take advantage training sessions.

Dr. Deepa M, Scientist-E & Course Coordinator, highlighted the significance of nursery pest and their management and provided details of the training program. She extended her thanks to the Director of ICFRE-IFB. Following this, **Dr. S Pattnayak, Scientist-G and GCR** discussed the importance of nursery and their pest management. Further, **Dr. Pankaj Singh, Scientist-D and HOD** Extension highlighted the objectives of VVK programme and provided the insightful introduction to forest pest management practies. Finally, **Director, ICFRE-IFB** underscored the importance of pest control measures at the nursery level and recommended best practices for effective and sustainable pest management.

The session began with a presentation by Dr. Venkateshwar Rao, Joint Director of the Forest College and Research Institute (FCRI), covering the foundational concepts of forestry. He began by elucidating the basic classifications of forests, emphasizing their ecological and economic significance. The discussion highlighted the crucial roles played by afforestation and reforestation in restoring degraded landscapes, conserving biodiversity, and mitigating climate change. He outlined the essential prerequisites, including appropriate land area, electricity supply, secure fencing, and adequate labour, all of which contribute to the success and scalability of nursery operations. He emphasized the importance of soil preparation, notably the integration of

farmyard manure (FYM) and sand, which enhances soil structure, fertility, and water retention capacity. The procedures for forming primary beds were described in detail, along with various biofencing techniques utilized to protect young seedling from pests and grazing animals in an eco-friendly manner. the session, the discussion turned to the seedling production planning. Dr. Rao elaborated on systematic scheduling for propagation, watering, and weeding activities, tailored to the specific growth requirements of different species. He provided insights into the concept of dormancy, differentiating between types such as physical, physiological, and morphological dormancy, and explained their implications for germination and viability. He empower practitioners to adopt scientifically robust and resource-efficient nursery management practices.

The second presentation was delivered by **Dr. Deepa M.**, **Scientist-E & Course Coordinator** focusing on the topic "Insect Pests Affecting Forest Nurseries and Plantations, and Their Control Methods." She began by introducing various insect pests that commonly affect forest ecosystems and emphasized the importance of pest control to maintain healthy nurseries and plantations. She covered both above-ground and soil-borne insect pests, highlighting their damaging effects on seedlings, roots, and plant growth. In particular, she discussed pests such as white grubs, cutworms, and termites, which pose serious threats to nursery health. Dr. Deepa explained several eco-friendly methods for controlling these pests, including the application of *Trichogramma* and the use of biological control agents that target specific insect populations without harming the environment. She further elaborated on pest issues in specific species such as bamboo and *Casuarina*, especially addressing defoliators and semi-loopers that cause significant leaf damage. The role of egg parasitoids in breaking pest life cycles was discussed, along with the importance of natural predators and beneficial insects. She also provided insights into the use of entomopathogenic nematodes—microscopic worms that parasitize and kill harmful insects—as an effective biological control strategy. The presentation encouraged integrated pest management practices that rely on ecological balance rather than chemical treatments, promoting sustainability and long-term resilience in forest nurseries.

The third presentation was delivered by Dr. P. S. Srikanth, Scientist-C on the topic "Botanicals for Insect Pest Management." He began with comparative overview of conventional chemical pesticides and biopesticides, highlighting how biopesticides offer eco-friendly alternatives for managing insect pests without adversely affecting the environment. He explained the different types of biopesticides—microbial pesticides (derived from bacteria, viruses, and fungi), botanical pesticides (sourced from plant extracts), and biochemical pesticides (based on natural compounds that affect pest behaviour). He discussed their various applications, stressing the growing relevance of botanical solutions in sustainable pest control systems. The advantages of biopesticides include biodegradability, target specificity, and minimal environmental contamination, while challenges such as limited shelf life, slower action, and production scalability were also acknowledged. The

session further explored innovations in nanobiopesticide formulations, which enhance the delivery, stability, and effectiveness of active ingredients. These advanced technologies offer precise targeting of pests and reduce the required dosage, contributing to safer agricultural practices. In addition, he described methods of botanical pesticide extraction methods. He highlighted several plant species developed for botanical pesticide use, citing examples along with their active compounds and identified the insect pests they effectively target. Finally, he presented statistical insights into the production, commercial usage, and growing adoption of Indian botanical pesticides across farming communities. The data demonstrated a steady increase in preference for botanical alternatives, reflecting both environmental awareness and evolving market trends.

The participants were highly attentive throughout the training and actively engaged by asking questions and seeking clarifications. The training sparked their interest, particularly in nursery techniques their pest management. During the feedback session, participants expressed the need for regular future training sessions. Certificates were distributed to all participants for successfully completing the training through the Director ICFRE-IFB. The one-day program concluded with a vote of thanks by Dr. Srikanth, Scientist-B, Nodal Officer (VVK). The overall programme was executed by Extension Division andTeam.

Glimpses of the Program


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