



VVK



ICFRE-INSTITUTE OF FOREST BIODIVERSITY (ICFRE-IFB), HYDERABAD

Report of Training on “Plant Volatiles in Insect Pest Management” held on 18th February 2025 at ICFRE-Institute of Forest Biodiversity, Hyderabad under VVK.

ICFRE-Institute of Forest Biodiversity (ICFRE-IFB), Hyderabad organized a one-day training program on “**Plant Volatiles in Insect Pest Management**” under Van Vigyan Kendra (VVK) on 18th February 2025 for the Forest Section Officers (FSOs) of Telangana State Forest Academy, Dulapally, Hyderabad, Telangana, at Training cum Extension Building, ICFRE-IFB, Hyderabad. A total of 32 FSOs attended this training program.

Dr. P. S. Srikanth, Sc-B & Program Coordinator, welcomed the guests on the dais and spoke briefly about the genesis of the training program.

Dr. Pankaj Singh, Sc-D & Head Extension (I/C), explained in detail the concept of VVKs and its importance, the purpose of the training program, and the role of future forest staff in promoting Plant Volatiles in Insect Pest Management in forests in Telangana.

The training started with a welcome address by **Dr. Deepa M, Sc-E, Head of Forest Ecology & Climate Change Division, and Course Coordinator**, who welcomed the forest officials and elaborated the importance of the training program under VVK.

The Training program was inaugurated by **Shri E. Venkat Reddy, IFS, Director**, ICFRE-IFB, Hyderabad. He welcomed the FSOs to the training program. He highlighted the importance of Identification of forest insect pests and management of insect pests in forest nurseries and plantations. He also discussed about different pest control measures

like integrated pest management, biological pest control, Plant Volatiles in Insect Pest Management in forests, ICFRE-IFB research activities etc.

Dr. P. S. Srikanth, Sc-B, profusely thanked the dignitaries. He further said that ICFRE-IFB will give a diligent and comprehensive effort in the training program and expressed the hope that all the participants will play an active role in the success of this training program.

Technical Session

In the technical sessions, **Dr. Sravan Kumar G, Associate Professor, Malla Reddy University, Hyderabad**. The topic of the presentation was “*Role of semiochemicals in tritrophic interactions*”. During this lecture, he discussed different insect pests, generalist vs specialist pest, natural enemies, tritrophic interaction, defence system, semiochemicals, pheromones and verities, semiochemicals in tritrophic interaction, plant produced semiochemicals, Herbivore produced semiochemicals, predator released semiochemicals, pheromones in insect pest management, control of pest by mating disruption, demerits, role in pest management. Later he interacted with the FSOs and clarified their doubts about pests in different nurseries, plantations and their management.

The next presentation was given by **Dr. M. Ashwini, Assistant Professor, Malla Reddy University**. The topic of her presentation was “**Role of Plant Volatiles in pest management**”. She discussed the introduction on plant volatiles in pest management, role of plant volatiles, role of infochemicals, insect-plant interactions/ role of HIPV's in defense, classification of plant volatiles, parasitoid wasps and Herbivore-induced plant volatiles, fruit volatiles, flower volatiles, regulation of volatile emission, importance of plant volatiles in ecological interactions, attractant volatiles: used in monitoring and mass trapping of insect pests, repellent volatiles: deterrence of herbivorous insects, volatile-mediated host plant selection by insects, mechanisms of plant volatile-based pest management, use of push-pull strategies in integrated pest management, application of plant volatiles in sustainable pest control, synthetic analogs of natural volatiles in pest management, examples of volatile-based IPM strategies, challenges and future prospects of plant volatiles in pest management. Later Dr. M. Ashwini interacted with FSOs and clarified their doubts after the presentation regarding pest identification and management.

The Third presentation was given by **Dr. Deepa M. Sc-E, Course Coordinator & Head Forest Ecology and Climate Change division, ICFRE-IFB Hyderabad**. The topic of her presentation was “**Ethnoinsecticidal Plants for the control of major Insect Pest of Telangana**”. In this lecture, she discussed about Ethnoinsecticidal Plants, botanicals, key differences, plant volatiles & functions, examples of common plant volatiles, Ethnoinsecticidal Plants in insect pest management, mechanisms of action in pest management, examples of Ethnoinsecticidal Plants and their uses, common extraction methods, application methods, Soxhlet Extraction Process, ongoing research projects and examples, insect pests of forest nurseries plantations and their management, white grubs, cut worms, termites, root borer, grass hoppers, crickets, larva of teak defoliator, bamboo leaf roller, bamboo shoot borer, poplar defoliator, defoliators in casuarina, semi-looper, trichord, technique of release in field. Later she interacted with the FSOs and clarified their doubts about pests in different nurseries, plantations and their management.

During the next session of the program **Dr. Deepa M, Sc-E & Team** demonstrated in different collection of plant materials, cleaning, types of drying, grading, different solvents in Soxhlet extraction and the process of extraction of plant volatiles from *Chloroxylon swietenia* & *Sphaeranthus indicus* using Soxhlet apparatus, separation of extract and solvent using vacuum rotary evaporator, different concentrations of plant volatiles and their application in the field.

Participants were highly attentive throughout the training period and readily raised questions and sought clarifications. Some topics kindled their interest and they were curious to know about Plant volatiles, Eco-friendly pest management practices, integrated pest management, pest management in nurseries and plantations, etc. During the feedback sessions the participants expressed the need for such training regularly in the future. They are believed that such specific training would help in managing insect pests in nurseries and plantations. Certificates for the successful completion of training were distributed to all participants. The one-day training concluded with a vote of thanks by **Dr. Deepa M., Sc-E & Course Coordinator**.

The overall program is coordinated by **Extension Team, ICFRE-IFB, Hyderabad**.



Glimpses of the Program



