



## **A Report on Management of Insect pests of Deodar and Shisham through techniques developed by HFRI, Shimla under AICRP-20**

**(December 24, 2024)**

ICFRE-Himalayan Forest Research Institute, Shimla organized one day (December 24, 2024) training programme at Kullu Forest Division on “**Management of Insect pests of Deodar and Shisham through techniques developed by HFRI, Shimla under AICRP-20**” for officers and officials of Kullu Forest Division, which is funded by MoEF&CC, New Delhi under CAMPA Scheme.

Dr. Pawan Kumar, Scientist-F was the training coordinator for this training programme. 50 participants including Assistant Conservator of Forest, Range Forest Officers, Block Officers and Forest Guards of Kullu Forest Division participated in this one day training programme. Sh. Sandeep Sharma, IFS, Conservator of Forest, Kullu, Sh. Rajesh Sharma, IFS, Divisional Conservator of Forest (Kullu Wild Life), Sh. Angel Chauhan, IFS, Divisional Conservator of Forest, Kullu, also participated in this training programme.

At the onset of the training programme Dr. Pawan Kumar, Scientist-F & Training Coordinator welcomed all the participants and also briefed about the objectives of the training programme, he said that for better survival of the deodar seedling, management of the insect pests in the nursery stage is very important, he also cited examples of cut worms and white grubs damage in the nursery plantations.



Dr. Sandeep Sharma, Director, HFRI, Shimla welcomed all the participants and chief Guest of the training programme, Conservator of Forest, Kullu Forest Circle. Later on highlighting the importance of the training he talked about different cultural practices, procurement of good quality seeds for better productivity and survival of the seedlings. He also highlighted recent achievements of the institute on

development of 2 bio-pesticides products viz., HIM BOKIL-I and HIM ALBIWASH and 2 microbial bio-fertilizers viz., HIM MRIDA SANJEEVANI, HIM GROWTH BOOSTER and 1 bio-fungicide product i.e. HIM TRICHOKAWACH. He also discussed about the different practices to be adopted for making model nursery. He said that this training programme will be helpful to the participants where in different management strategies will also be shared with them by different experts of entomology field.



Sh. Rajesh Sharma, IFS, Divisional Conservator of Forest (Kullu Wild Life) in his opening remarks said that such kind of platforms are necessary for learning process of the field staff. Further he said that the participants will also be benefited from the experience of experts in managing nursery insect pests.

Sh. Angel Chauhan, IFS, Divisional Conservator of Forest, Kullu highlighted the gap between research and its implementation in the forest nurseries. He said that such kind of training should be organized in regular intervals so that the field staff aware themselves about the recent Research & Development by the research institutions like Himalayan Forest Research Institute, Shimla, as it will be helpful to them while managing nursery insect pests.



Chief Guest of the occasion Sh. Sandeep Sharma, IFS, Conservator of Forest, Kullu Forest Circle, said that insect pests degrade quality of the seedlings in the nursery, he also highlighted upon the role of policy management and its implementation in the field. He is of the view that such kind of the trainings acquaint participants about the latest development in the forestry research with the help of which it will be more beneficial to the field staff in managing the forest nurseries in proper way. He is of the view point that this training will be of immense help to the

field functionaries.

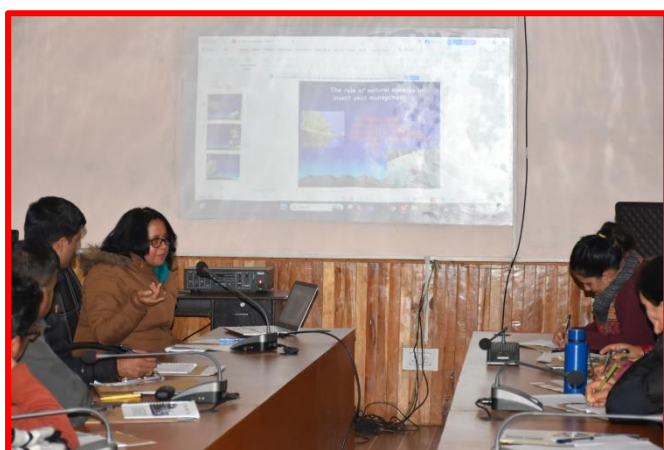
Sh. Akhil Kumar, Chief Technical Officer, HFRI, Shimla proposed a formal vote of thanks of the inaugural session.

## Technical Session

Dr. Pawan Kumar, Scientist-F and Training Coordinator delivered a talk on Green technology: Ecofriendly approach for management of Insect-Pests threats in North Western Himalaya. He also talked about Economic Importance of insects, Beneficial Insects. Later on he highlighted the Pesticides used worldwide and in India. Besides, the Deodar seedlings are very prone to insect-pest attacks. Nursery pests viz. Greasy Cut Worms, *A. ipsilon* (Lepidoptera); White Grubs, *Holotrichia consanguinea* and *H. serrata* (Coleoptera) cause considerable damage and require suitable ecofriendly biocontrol measures as an alternate to toxic insecticides. Biosynthesis of nanoparticles using biological agents has been an important approach for the synthesis of different forms of nanoparticles like Iron, Silver, Zinc, etc. He also talked about the natural Predators, Parasites and Parasitoids. Citing the example of pissumar (*Boenninghausenia albiflora*), he said that plants of Himalayan Region are Potential Source of Bio-pesticides. He highlighted that Institute has developed 2 bio-pesticides products viz., HIM BOKIL-I and HIM ALBIWASH from the pissumar plant and said that HIM BOKIL-I had been found quite effective in controlling the stored seeds (Juniper and Chilgoza) insect pests and HIM ALBIWASH had been found effective in controlling defoliators of *Salix*, Shisham and nursery insect pests of deodar. He ended his talk by laying emphasis on development of other plant based bio-pesticides products as they are effective alternate against the chemical insecticides.



Dr. Meena Chaudhary, Associate Professor, Himachal Pradesh University, Shimla talked



about the role of aphids, scale insects and saw flies in damaging plant nurseries. Talking of aphids she said that this group of insects has piercing-sucking mouthparts which they use to pierce plant tissues and suck sap from the plant. Insects in this group that attack trees are in the Orders Homoptera and Heteroptera. In addition to these insects, many species of mites in the Class Arachnida: Order Acari also feed on plants. In addition

to their direct feeding damage, some sucking insects are vectors of plant diseases. Talking of scale insects she said that a number of species of these small sucking insects are important in forest environments. Adult females lack wings, may not have legs, and are saclike with no

definite body segmentation. Adult males are more insect in appearance, usually with one pair of wings and with a definite head, thorax and abdomen. Most scale insects produce a waxy substance that covers the body either as a shield-like structure or as a coating on the body surface. The scale life stage most susceptible to chemical control is the first instar crawler stage. During this part of their life cycle, there is little or no waxy covering on the body. Attempts to control scale insects during other life stages are greatly hampered by the waxy covering on the insect's body and are often not very successful. Later on she also talked about their eco-friendly control measures.

Dr. Kulraj Singh Kapoor, Scientist-G (Retd.), Himalayan Forest Research Institute, Shimla talked about "Susceptibility Vis-Vis Vulnerability of High Level Himalayan Tree Communities to Insect-Pest and Disease Incidences and their Management in Himachal Pradesh". He said that Himalaya, in-fact is one of the largest, the youngest and the most fragile mountain system in the world. There is little doubt that the natural resources of the region has a great potential to provide a fundamental and resilient base for improvement in the standards of living not only of mountain people but also for the national and global communities. He also talked about Epidemic Defoliation of Willow in Leh Forest Division. Further he talked about the cultural, traditional and modern practices of nursery management.



Dr. Sandeep Sharma, Director, Himalayan Forest Research Institute, Shimla talked about Nursery Management Practices. He said that field functionaries must have the habit of record keeping, as this will be beneficial to them in managing nursery. He said that for better survival and productivity one must ensure the procurement of good quality seeds. Further he lays emphasis on deodar genetic variability,

overwintering of nursery plants and importance of forest soil in growth of the seedlings. Talking of ill effects of insecticides he said that chemical pesticides should be avoided rather their effective alternate like bio-pesticides should be practiced in managing insect pests of the nursery. He also threw some light on categorization and grading of plant stock. Further he talked about gradual hardening and acclimatization of nursery plants before their outplanting. He also briefed participants about the steps and protocols to be followed for making model nursery.

## Valedictory & Discussion Session

The valedictory and discussion session was conducted during the afternoon session wherein Sh. Sandeep Sharma, IFS, Conservator of Forest, Kullu Forest Circle appreciated the participants for their keen interest in the Training Programme and assured to take care of their suggestions. Sh. Akhil Kumar, Chief Technical Officer, Forest Protection Division proposed vote of thanks, wherein he thanked MoEFCC, New Delhi for funding of this project under CAMPA Scheme, he also thanked Director, HFRI Shimla, CF, Kullu, DCF, Kullu, DCF, Kullu (Wild Life) and resource persons from different fields. Lastly he thanked all the participants of this training programme.

### Glimpses of Training programme



Participants during Training programme



Participants during interaction with experts



Chief Guest Sh. Sandeep Sharma, IFS CF, Kullu addressing participants



**Group photo of participants**

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