

A Report on
Three Days Training Course for Other stakeholders
“Application of Bio-fertilizers and Bio-pesticides in Forestry Practices”
(25th to 27th September, 2024)



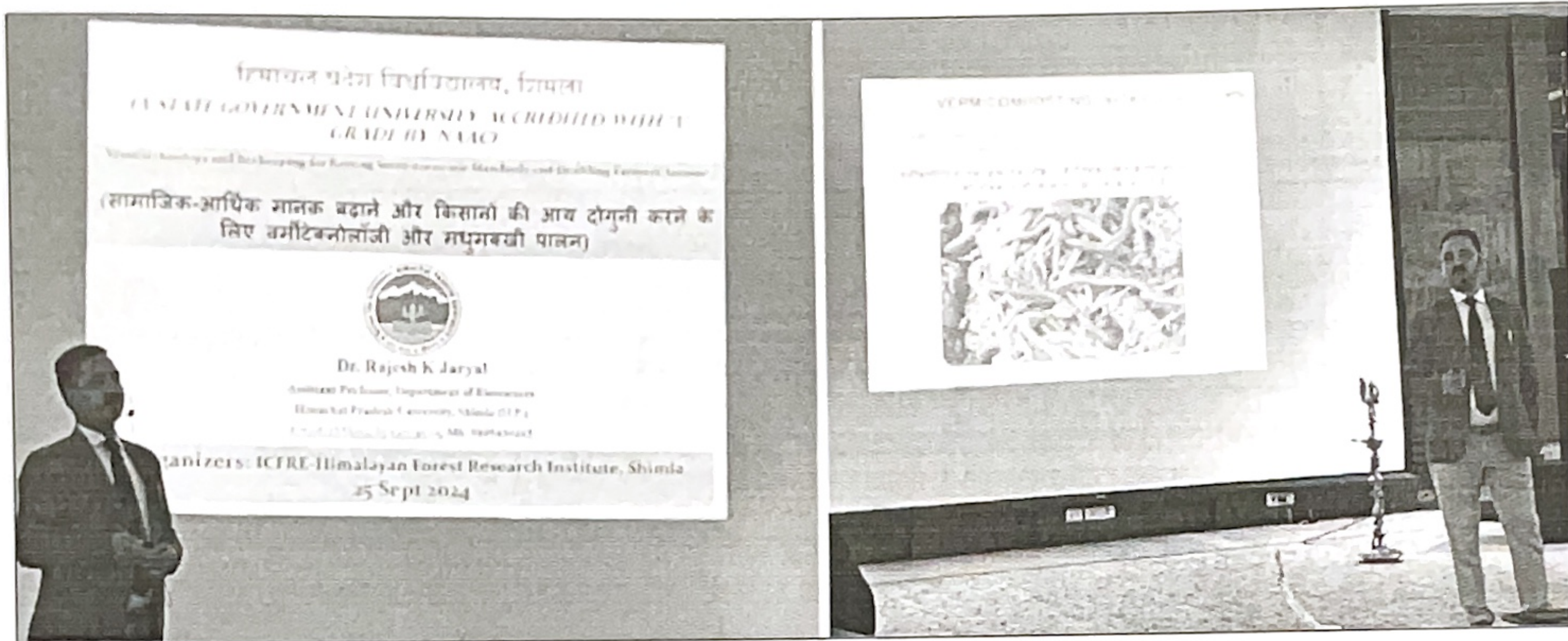
Students of Life Science [Six students (details enclosed)] along with two faculty members **Mr. Lakhbeer Singh** (Assistant Professor, Dept. of Environmental Science) and **Dr. Sushil Sharma** (Assistant Professor, Dept. of Botany) participated in “Three Days Training Course for Other stakeholders “Application of Bio-fertilizers and Bio-pesticides in Forestry Practices” (25th to 27th September, 2024) organised by ICFRE-HFRI Conifer campus, Panthaghati, Shimla-171009, funded by MoEF & CC, Govt. of India, New Delhi.

Dr. Pawan Kumar, Training Co-ordinator (Scientist-F & Head Forest Protection Division, ICEFRE-HFRI) delivered welcome address and a brief outline of 03 days training program to students. **Dr. Sandeep Sharma** (Director, ICRFE-HFRI, Shimla) gave introductory address to all the participants of training program. Training program was inaugurated in the presence of Chief Guest **Hon’ble Director General ICFRE, Ms. Kanchan Devi IFS** and she enlightened students about the importance of opting sustainable forestry practices. **Mr. Akhil Kumar** (CTO Forest Protection Division) gives a brief detail of R&D activities of the HFRI to students.

Bologga

Day-I (25-07-2024) Training Program

Dr. Rajesh Kumar Jaryal, Assistant Professor, Dept. of Bioscience, HPU Shimla gave training on the “Vermicomposting and Bee-Keeping for raising socio-economic standards and doubling farmers income”. Vermicomposting and bee-keeping can significantly raise socio-economic standards by providing farmers with sustainable income sources, improving soil health, and enhancing crop yields. These practices not only reduce input costs but also diversify income streams, contributing to the goal of doubling farmers' income through eco-friendly and profitable farming techniques.



Dr. Ashwani Tapwal (Scientist-F, HFRI) highlighted the importance “Application of Bio-fertilizers in Forestry”. He explained the practical applications of bio-fertilizers to improve soil health and tree growth in forestry.



Dr Harinder Singh Banyal (Chairman, Dept. of Bioscience, HPU) enhances students' knowledge on the use of “Bio-pesticides and Sustainable development”. Bio-pesticides play a crucial role in sustainable development by offering an eco-friendly alternative to chemical pesticides, reducing environmental pollution, and promoting biodiversity. They help in maintaining soil health, ensuring safer food production, and supporting long-term agricultural sustainability, aligning with global goals for a greener future. Dr. Mahender

Singh Thakur (Chairman, Dept. of Environmental Science HPU) gave a talk on the role of "Biopesticides & Biofertilizers, their impacts on the insect pollinators & role of organic farming" to the students and enrich knowledge of all participants.

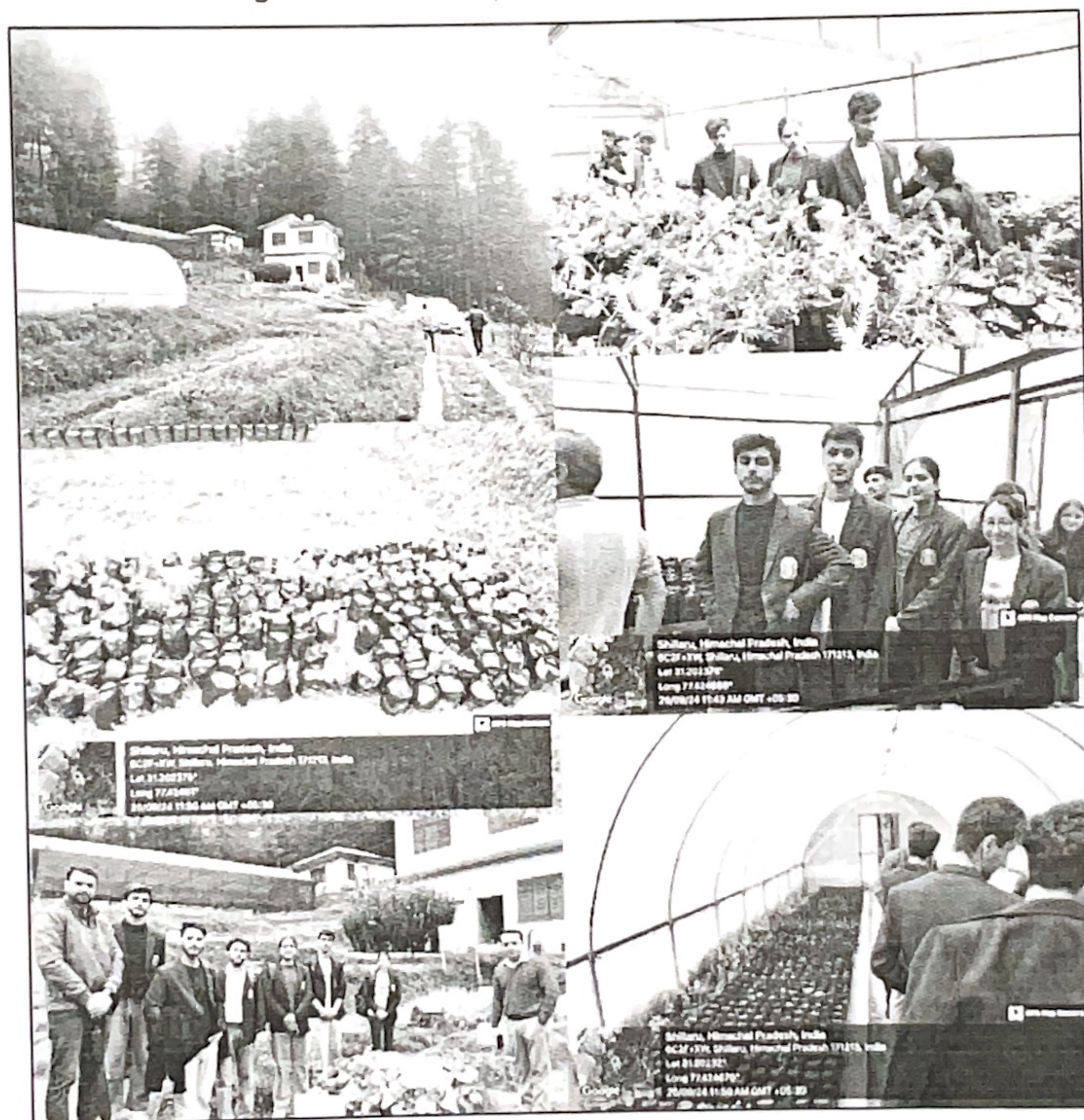


In the last session of the first day, Dr. Pawan Kumar, Training Co-ordinator (Scientist-F, ICFRE-HFRI, Shimla) explained the importance of "Bio-control Practices: An Effective Tool to Manage Insect Pests in Forests of N-W Himalaya". He highlighted the use of bio-control practices as an effective tool for managing insect pests in the forests of the N-W Himalaya, as they use natural predators to regulate pest populations. This eco-friendly approach minimizes the need for chemical pesticides, helping preserve the region's biodiversity and maintaining the ecological balance of forest ecosystems.



Day-II (26-09-2024) Training Program

In the second day of training program field visit to HFRI-Field Research Station, Shillaru, Shimla and adjoining Experimental sites. At Field research station Dr. Ashwani Tapwal, explained the field application of Mycorrhizal and Bio-fertilizers in Nurseries and Plantations at research station, Ms Neha Thakur demonstrated the application of Mycorrhiza in Plant Growth performance. Dr. Pawan Kumar, demonstrated the Bio-pesticide Application in Forest Nursery and plantation. Also, Akhil Thakur, demonstrated students with the techniques of application of Bio-control Agents in nursery and forest plantation.



Students learn different techniques and methods on the Biofertilizers and Biopesticides in forestry and nursery. Students visited nearby experimental sites such as Hattu Peak (3400 m amsl) Highest peak of Shimla, Tani Jubbar lake and nearby areas. Students collected various medicinal plant samples from these areas. The field visit was a key highlight of the training, offering participants hands-on experience and practical knowledge in the application of bio-fertilizers and bio-pesticides in forestry practices.



Day-III (27-09-2024) Training Program

In the third day of training program, Dr. Sandeep Sharma (Director, ICFRE-HFRI) gave their talk on the “Modern nursery techniques & production of quality stock for productivity enhancement”. He explained the importance of modern nursery techniques and the production of quality stock which are essential for enhancing agricultural productivity. These methods ensure healthy, disease-free plants, improve germination rates, and promote uniform growth, leading to better crop yields and sustainability in farming. After that Dr. Prakash Pathania (Scientist-E, ZSI, Solan) explained the “Role of Bio-pesticides in management of insect pests of North-West Himalaya”. Bio-pesticides play a vital role in managing insect pests in the North-West Himalaya by providing an eco-friendly alternative to chemical pesticides. They help protect the region's fragile ecosystem, reduce pesticide resistance, and promote sustainable agriculture while safeguarding beneficial species and maintaining soil health.

Mrs. Deep Shikha Sharma (IFS, Deputy conservator of forest, HFRI) gave her talk on “Current challenges in forestry practices”. Addressing current challenges in forestry practices is crucial for maintaining ecosystem balance, combating climate change, and preserving biodiversity. Issues like deforestation, habitat degradation, and invasive species threaten forest health, making sustainable management practices essential for long-term environmental and economic stability. The Chief guest for the last day training program was Dr. Jagdish Chander (IFS, PCCF-cum-MD, HFDC, Haryana) highlighted the importance of Bio-pesticides and Bio-fertilizers and told us about the properties of various medicinal plants which can be used to prevent pest attack and enhance productivity of plants. All the participants share their experiences in the end of training program. Students were awarded with the training program certificates.



Details of student attended training program

SN	Name	Father name	Class	Class roll no.
1	Ishan Thakur	Sh. Subhash Chand	BSc Life Science (3 rd year)	22401055
2	Suryakant Negi	Sh. Anand Singh	BSc Life Science (3 rd year)	22401056
3	Hricha Sharma	Sh. Ajay Kumar	BSc Life Science (3 rd year)	22401094
4	Vineeta Negi	Sh. Basu Dev Negi	BSc Life Science (3 rd year)	22402008
5	Tanish Kimta	Sh. Inder Singh	BSc Life Science (2 nd year)	23401004
6	Vineet Ronta	Sh. Mahender Singh	BSc Life Science (2 nd year)	23401067

Conclusion

In the three-day training program provided students with valuable insights into the application of bio-fertilizers and bio-pesticides in forestry practices, highlighting their role in promoting sustainable agriculture and forest management. Through a combination of theoretical sessions and hands-on field experiences, participants gained a deeper understanding of eco-friendly pest management, modern nursery techniques, and the challenges facing forestry today, equipping them with knowledge to contribute to sustainable development and biodiversity conservation in the North-West Himalaya region.

Host Institution: ICFRE - Himalayan Forest Research Institute (HFRI), Conifer campus, Panthaghati, Shimla-171009 (H.P.).

Venue for training program: At Kufri, Shimla (The Ananda (Hotel) Kufri, Shimla)

Participants: Govt. College Sanjauli, St. Bede's College, Eco-task force (ETF), Members of gram panchayats (Narkanda and Kumarsain), Himachal Pradesh University Shimla, Farmers, and Yuvak Mandal's members etc.

Lakhbeer Singh

Mr. Lakhbeer Singh
Assistant Professor
Department of Environmental Science

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