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## ICFRE-Himalayan Forest Research Institute



### DIRECTOR'S DESK



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ICFRE-Himalayan Forest Research Institute (HFRI), Shimla has responsibilities for conducting research in the state of Himachal Pradesh and Union Territories of Jammu & Kashmir and Ladakh. At HFRI, considerable importance is given for extension of research finding to their prospective users. The institute reaches out of the stakeholders through capacity building programmes. Training programmes were conducted on different aspects like nursery techniques of forestry species, cultivation of medicinal plants, bio-fertilizer, bio-pesticides and management of insect-pest etc.



The Himalayan Newsletter aims to enrich the reader's knowledge on the research and extension activities of the institute. I sincerely hope that the information provided in our Newsletter would be of interest of researchers. We sincerely look forward to your suggestions and feedback and seeks your support and cooperation.



## **EXTENSION IN RESEARCH: A NECESSITY**

**Joginder Singh Chauhan and Vaneet Jishtu**

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### **Strengthening Extension for Effective Dissemination of Research Technologies**

Extension activities play a pivotal role in bridging the gap between research and its practical application in the field. The dissemination of technologies developed by research institutions to stakeholders is a critical aspect of the innovation process. Without effective extension mechanisms, the outcomes of research remain confined to laboratories and academic literature, limiting their real-world impact. Therefore, transferring knowledge from research institutions to end-users—particularly farmers, forestry professionals, and rural communities—should be a central goal of any research programme.

Extension acts as a vital link between research organizations, universities, and the local communities. It not only facilitates the flow of information from the laboratory to the field but also ensures that feedback from stakeholders informs the shortcomings of the ongoing and future research. This reciprocal relationship enhances the relevance, applicability, and efficiency of research and development (R&D) efforts.

### **Integration of Research, Education, and Extension**

The Extension Division of an Institute/organization is a well-integrated system that combines research, education, and its extension to local communities, for multiple benefits:

1. **Public Awareness:** Extension programs make the general public aware of how investments in research benefit society at federal, state, and local levels.
2. **Stakeholder Engagement:** These programs serve as a platform to communicate effectively with stakeholders, helping them understand, support, and benefit from research activities.
3. **Technology Transfer:** Extension ensures that new innovations are not limited to academic circles but are adapted and adopted by the wider community.

**Feedback Loop:** Challenges faced by end-users in implementing new technologies are communicated back to researchers, enabling continual improvement and innovation.

## Objectives and Advantages of Extension

Extension services focus on educating and empowering farmers and other stakeholders by:

- Advising them in decision-making.
- Clarifying their goals.
- Facilitating the adoption of new knowledge and technologies. Enhancing agricultural productivity and Improving livelihoods.
- Accelerating the adoption of scientific advancements.

Contributing to national development initiatives.

## Scope of Extension Activities

Extension must be dynamic and responsive to effectively deliver research outputs. Its scope includes:

1. Enhancing productivity in agriculture and forestry.
2. Improving the marketing, distribution, and utilization of farm and forest products.
3. Promoting sustainable natural resource management.
4. Encouraging effective farm management practices.
5. Supporting youth and leadership development.
6. Advancing community and rural development.
7. Strengthening public engagement for holistic development.

## Evolution and Expansion of Extension Models

Historically, extension models focused predominantly on agriculture. However, in recent years, there has been a growing recognition of the need to extend these services to the forestry sector. A notable example is the establishment of *Van Vigyan Kendras* by the Indian Council of Forestry Research and Education, modeled on *Krishi Vigyan Kendras*, to bring forestry research directly to stakeholders.

## The Way Forward: Building an Effective Extension Module

Extension and outreach are foundational to sustainable development in both agriculture and forestry. Despite the availability of advanced technologies and innovative practices, these are not always reaching stakeholders effectively—particularly in developing countries, like India. To close this gap:

- Extension systems must be strengthened, modernized, and made more responsive.
- Greater integration and synergy between research and extension are needed.
- Collaborative, well-structured joint programs should be encouraged.
- Training and leadership development for extension personnel are critical for program success and sustainability.

Extension activities must be regularly monitored, evaluated, and adapted to evolving needs and technologies.

As new technologies continue to emerge, extension services must evolve accordingly to ensure these innovations reach and benefit those who need them most. Strengthening extension systems is not just a complementary activity to research; it is essential for realizing the full value of scientific advancements—from the lab to the field.

# *Hyoscyamus niger* L. (Black Henbane): an Important Plant Used in Traditional Medicines

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## Introduction

India has a rich heritage and long history of using medicinal plants for improving the quality of life. The recent global resurgence of interest in herbal medicine has led to an increased demand for medicinal plants. The world health organization (WHO, 2008) has estimated that 80% of world's population and 70% of India population use herbal medicine for healthcare and therapeutic purpose. India has huge natural resources of medicinal plants distributed all across the country. *Hyoscyamus niger* L. (Solanaceae), commonly known as Henbane, or Khurasani ajwain, is an important poisonous and medicinal herb with unpleasant smell widely distributed in Europe and Asia. 'Henbane' name is derived from the Anglo-Saxon hen (chicken) and bana (murderer) because when fowls eat the seeds of this plant, they become paralysed and die. Despite of its poisonous properties, it is widely used in Indian, Chinese and Tibetan traditional medicine system to cure various ailments due to high medicinal properties.



## Vernacular Names

Bengali	Khorasani ajawan
Chinese	Tianxianzi
Himachali	Bazarangh, Dipya, Parasikayavani, Khurasani ajwain, Tukhlang, Thuklang, Henebane
Hindi	Dandura, Dantura, Bazrban, Datura, Sura, Damutra, Bangidewana, Khurasani ajvayan, Khurasani jamani, Telingeh, Khurasani jamani
English	Henbane, Stinking nightshade, Insane root, Poison tobacco
Kannada	Khuraasaani oma, Vilaayati tulasi
Punjabi	Dandura, bazrban, Dentura, Datura, Sura, Damtura, Bangidewana, Telingchi
Sanskrit	Parasikaya
Marathi	Khorasa i-owa
Nepali	Khursani jwanu, Bajarabhaang
Spiti	Thuklang

## Synonyms

*Hyoscyamus agrestis* Kit. ex Schult; *Hyoscyamus auriculatus* Ten ; *Hyoscyamus vulgaris* L.

## Morphology

It is an erect medium to tall, pubescent, unpleasant smelling, annual or biennial herb. Stems erect, robust, 30-90 cm, coarsely hairy, viscid or sticky. Basal leaves 15-25 cm long, oblong-ovate, coarsely sinuate or toothed, tomentose or hairy, petioled. Cauline leaves small, 5-8 cm long, ovate, irregularly pinnatifid or lobed and sessile. Flowers pale yellow-green, 2.5-3.8 cm in diameter, veined with purple darker in the center, nearly sessile; lower flowers in the forks of the branches, upper solitary in the axils of leaf-like bracts, forming long, 1-sided spikes rolled back at the top before flowering, ultimately becoming elongate and straight. Calyx tubular, 1.9 cm long, softly hairy, tube ovoid, short, limb funnel shaped, lobed or toothed; teeth 5, mucronate, triangular pointed; calyx enlarging conspicuously to 2.5 cm or more and becoming papery, rigid and spine-tipped in fruit. Corolla funnel shaped, purple at the base, limb lurid, reticulate, green, purple veined, oblique, spreading across, lobes 5, broad, short slightly unequal. Stamens 5, attached about the middle of the corolla tube; filaments unequal; anthers exerted or sub included, oblong, dehiscent longitudinally. Carpels 2-celled; style thread-like, longer than the stamens; stigma nearly round. Fruits (Capsules) 1.3 cm in diameter, 2-celled enclosed in the globose tube of the enlarged calyx, lower part membranous, top hard, rigid, opening transversely along the constriction between the two portions. Seeds many, dark grey, reniform, 1.5 mm long, compressed, embryo peripheric. Its flowering and fruiting period is April-September.

**Habitat:** Common in sandy places, wastelands and cultivated areas

## Habitat and Distribution

It is distributed mainly in the temperate and dry temperate regions of Asia, Europe, Brazil, Pakistan to SW. China, N. Africa and N. America. In India it is found mainly in Himachal Pradesh, Jammu & Kashmir and Uttarakhand at altitudinal range 2400 -3900 meter above mean sea level. In Himachal Pradesh it is found in Chamba, Kinnaur, Lahaul & Spiti and Kullu districts.

## Active chemical components

It contains alkaloid and non-alkaloid metabolic constituents. The main chemical components present in the plant are hyoscyamine, atropine, scopolamine, hyoscyapicrin, aphoyoscine, tropine, phytin, alpha and beta belladonine, apoatropine, cuscohygrine and daturamine. Withanolides, flavonoids, lignans, coumarinolignans, saponins, glycerides, glycosides, phenolics are non alkaloidal metabolic constituents. The two main alkaloid hyoscyamine and scopolamine, are used as medicines under controlled conditions.

## Ethno-medicinal Importance

It has many pharmacological properties such as analgesic property, antispasmodic property, antihistaminic property, sedative properties, narcotics, and anti-inflammatory properties. It is widely used to cure intestinal worm infection, heart disease, indigestion, loss of appetite, flatulence, abdominal tumors, insomnia, muscle pain, psychological disorders, fever, meningitis, asthma, colic, bronchitis, respiratory disorders, kidney problems, amenorrhea, dyspepsia, rheumatoid arthritis, orchitis, dental problems and urinary tract infection. In Ayurveda it is also used as anti-Parkinson drug.

The plant also used as a fumigant for magical purposes especially to invoke the souls of the dead as well as demons. For certain exorcisms the lamas burn the seeds with fat and blow the smoke into the patient's mouth. Henbane leaves and herbage without roots are chopped and dried and are used as incense and smoking blends and also for making beer and tea, wine as flavoring agent. Henbane leaves are boiled in oil to derive henbane oil which is used for body massage. A kind of necklace is made from root, as anodyne necklace and dangled on neck of children to prevent convulsion and easy teething.

### Toxicological effects

Due to the presence of high alkaloid content this plant also possesses poisonous properties and overdose /intake of high concentrated decoction also acts as poison. The plant especially seeds in large doses produces poisonous effects similar to *Datura* poisoning such as dryness of mouth, giddiness, delirium, blurriness of vision etc. It also causes dizziness, dry mouth, thirst, difficulty in swallowing, and speaking, warm flushed skin, dilated pupils, blurred vision, and photophobia, vomiting, urinary retention, tachycardia, pyrexia, drowsiness, slurred speech, hyper-reflexes, auditory, visual, or tactile hallucinations, confusion, disorientation, delirium, agitation, and combative behaviour. In severe cases, there may be hypertension, coma, and convulsions. Henbane is also toxic to cattle, wild animals, fish, and birds.



### Conclusion

Indian Himalaya is one of the well-known ecosystems of the world with a great range of plant diversity with high conservation and utilitarian value. The North-Western Himalaya represents a unique bio-region owing to its varied habitat heterogeneity and topography. Habitat loss, fragmentation, agricultural expansion, uncontrolled grazing and over-exploitation have rendered 355 plant species threatened in the region. *H. niger* is one of the most important plants of north western Himalaya used in different types of traditional medicines and it also has much market value. Its seeds are traded and the local people collect the seeds for commercial purposes. A single plant yields approximately 10,000 seeds. Its annual trade in herbal mandis is 100-200 MT/year and its market rate is Rs. 65-140/kg. Its major supply source is Himalayan forests and the large-scale collection may lead to its extinction from the areas where it is existing naturally. As per the FRLTH it is also listed among the 100 species of conservation concern in commercial demand for herbal raw drugs under endangered category. Thus, this species needs immediate conservation intervention for long term survival in natural habitats in Western Himalayan landscape.

## MONTHLY RESEARCH SEMINARS

Monthly Research Seminar on “Experience of a Forester in Shivalik, Western Ghats and Tropical Rain Forest of India” was organized by HFRI, Shimla on 30 January 2024. Sh. Kuldeep Sharma, IFS, CF made presentation on the said topic. Total 52 participants including Scientists, Technical staff, Research staff attended the seminar (through Online and Offline mode).

Monthly Research Seminar on “Genetic Improvement of Seabuckthorn: Current Status and Future Strategies” was organized by HFRI, Shimla on 29 February 2024. Dr. Mohm. Ibrahim, Scientist-D made presentation on the said topic. Total 49 participants including Scientists, Technical staff, Research staff attended the seminar (through Online and Offline mode).



Monthly Research Seminar on “Identification of Genetically Superior Stock of Forestry Species and Variety Releasing Protocols of ICFRE” was organized by HFRI, Shimla on 28 March 2024. Dr. Jagdish Singh, Scientist-G made a presentation on the said topic. Total 49 participants including Scientists, Technical staff, Research staff attended the seminar (through Online and Offline mode).

Monthly Research Seminar on “Discovering ways to improve nursery practices and plant quality” was organized by ICFRE-HFRI, Shimla on 30 April 2024. Sh. Jawala Prasad, Sr. Technical Officer made a presentation on the said topic. Total 40 participants including Scientists, Technical staff, Research staff attended the seminar (through Online and Offline mode).

Monthly Research Seminar on the topic of “Forest Fire and its Management” under theme “Biodiversity Conservation and Ecological Security” was organized by ICFRE-HFRI, Shimla on 30 May 2024. Dr. Ranjeet Kumar, Scientist-F and Head, Forest Ecology and Climate Change Division made a presentation on the said topic. Total 48 participants including Scientists, Technical staff, Research staff attended the seminar (through Online and Offline mode).

Monthly Research Seminar on the topic of “Diversity, Distribution, Usage Pattern and Cultivation Scope of Medicinal Plants in Cold Desert Regions of India” under theme “Managing Forest and



Forest Products for Livelihood Support and Economic Growth” was organized by ICFRE-HFRI, Shimla on 28 June 2024. Sh. Pitamber Singh Negi, Scientist-D, Silviculture & Tree Improvement Division made a presentation on the said topic. Total 30 participants including Scientists, Technical staff, Research staff attended the seminar.

## WORKSHOPS/SEMINARS/WEBINARS ATTENDED

- ◆ Dr. Vaneet Jishtu, Scientist-E, FE&CC Division attended/participated in Capacity Building Workshop on Roles and Responsibilities of Indian CITES Scientific Authorities on CITES Implementation, Organized by Ministry of Environment Forest and Climate Change Government of India, Hosted by Zoological Survey of India on 8<sup>th</sup> January 2024 at Taj City Centre, New Town, Kolkata.
- ◆ Sh. P. S. Negi, Scientist-D attended a one-day conference to celebrate the 150<sup>th</sup> Year of the *Indian Meteorological Department*, organized by the Meteorological Centre, Shimla, and Ministry of Earth Sciences on 15 January 2024 at Shimla.
- ◆ Dr. Pawan Kumar, Scientist –F and Dr. Pravin Rawat, Scientist-C attended a workshop on “Advanced Remote Sensing Techniques for forestry applications” organized by Regional Remote Sensing Centre-North National Remote Sensing Centre, Indian Space Research Organization, New Delhi on 29 and 30 January 2024.
- ◆ Dr. R.K. Verma, Scientist-G, HFRI, Shimla attended State Credit Seminar 2024-2025 organized by National Bank for Agriculture and Rural Development Himachal Pradesh (NABARD) on 31 January 2024 at Hotel Holyday Home Shimla.
- ◆ Dr. Swaran Lata Scientist-D attended workshop on topic “Improving manufacturing of Bamboo products to advance the Bamboo sector in India” organised by ICFRE-Institute of Wood Science & Technology (IWST), Bengaluru on dated 2<sup>nd</sup> February, 2024.
- ◆ Dr. Pawan Kumar, Scientist- F, chaired the technical session in the international conference organized by Deptt. of Zoology and Deptt. of Environment Science, Vallabh Govt. College, Mandi, H.P. on February, 14-15, 2024.
- ◆ Smt. Shilpa, CTO and Smt. Neha Thakur, Technical Assistant attended the three days workshop on “Gender Budgeting, Climate change and Women Empowerment” organized by Maharaja Agarsen University, Solan, w.e.f. March 18-20, 2024.
- ◆ Dr. Pawan Kumar, Scientist- F, chaired the technical session in the international conference "International conference on green energy for a sustainable Future: Innovations, Policies and Global Collaboration (Mar. 21, 2024)" organized by MCM DAV College Kangra w.e.f. March, 21-23, 2024.
- ◆ Sh. Akhil Kumar CTO, attended the workshop on Project Dissemination Workshop for Biodiversity and Ecosystem Services (BDES) valuation in selected Himachal landscapes jointly organized by Himachal Pradesh State Forest Department Shimla and Wetlands International New Delhi, on March 27, 2024.
- ◆ Dr. Pawan Kumar, Scientist- F, ICFRE-HFRI, Shimla participated in a one day workshop on “Global Horizons: Foreign Collaborations in National Education Policy, 2020” organized by RKMV Shimla.
- ◆ Dr. Ashwani Tapwal, Scientist-F attended webinar on “Round 2: Evaluation of Innovation Excellence Indicators of Public funded R&D Organizations” 30 April 2024 organized by the office of PSA.
- ◆ Dr. Swaran Lata, Scientist-D and Sh. Pitamber Singh Negi, Scientist-D, participated in online webinar on topic “Assessing Land Degradation Dynamics and Restoration Efforts with Remote Sensing Data and GIS Tools” organized by Centre of Excellence Sustainable Land Use Management (CoE-SLM), ICFRE, Dehradun on dated 2 May 2024.

- ◆ Dr R.K. Verma, Scientist-G, HFRI, Shimla attended the online webinar on Sustainable Land Management: Principles, Practices, and Applications- Post Training Webinar on 15/05/2024.
- ◆ Dr. Swaran Lata, Scientist-D, participated in state level training workshop on “Peoples Biodiversity Registers” organized by Himachal Pradesh State Biodiversity Board, Shimla on dated 22<sup>nd</sup> May, 2024 and also delivered lecture on “Floristic Diversity of Western Himalaya: Plant Collection, Identification and Herbarium Preparation Methods for preparation of PBRs”.
- ◆ Dr R.K. Verma, Scientist-G, HFRI, Shimla attended the online workshop on “Training Workshop on Use of Soil Health Card for Promoting Nutrient Management Practices” on 28 May 2024.
- ◆ Sh. P. S. Negi, Scientist-D attended as one of the Panellists during 3-day virtual international seminar “Issues and Advancements in Contemporary World”-Multidisciplinary Hybrid Mode (Arts, Science and Commerce) organized by Rajeev Gandhi Govt. College, Shimla, Rajkiya Kanya Mahavidyalaya, Shimla, COE, Govt. College, Sanjauli, Gautam Girls College, Hamirpur and ICFRE-HFRI, Shimla from 3 to 5 June, 2024.
- ◆ Dr Ashwani Tapwal, Scientist-F, Forest Protection Division attended webinar on Round 2: Evaluation of Innovation Excellence Indicators of Public funded R&D Organizations on 7 June 2024 organized by the office of PSA.
- ◆ Dr, Swaran lata, Scientist- D , Sh. P. S. Negi, Scientist-D and Technical Officers of SFM Division virtually attended a symposium organised by Centre of Excellence on Sustainable Land Management, Indian Council of Forestry Research and Education, Dehradun, Uttarakhand on the theme “United for Land. Our Legacy. Our Future,” to commemorate the “World Day to Combat Desertification and Drought” organized by ICFRE Dehradun on 18 June 2024.
- ◆ Dr. Pawan Kumar, Scientist –F and Dr. Pravin Rawat, Scientist-C attended above workshop organized by Regional Remote Sensing Centre-North National Remote Sensing Centre, Indian Space Research Organization, New Delhi on 29 and 30 January 2024.
- ◆ Smt. Shilpa, CTO and Smt. Neha Thakur, Technical Assistant attended the three days workshop on “Gender Budgeting, Climate change and Women Empowerment” organized by Maharaja Agarsen University, Solan, w.e.f. March 18-20, 2024.
- ◆ Dr. Pawan Kumar, Scientist- F, chaired the technical session in the international conference " 'International conference on green energy for a sustainable Future: Innovations, Policies and Global Collaboration (Mar. 21, 2024)' " organized by MCM DAV College Kangra w.e.f. March, 21-23, 2024.
- ◆ Dr. Pawan Kumar, Scientist- F Delivered an invited talk " Green technology: Ecofriendly approach for management of Insect-pests threats in NW Himalaya (Mar. 21, 2024)" in the 'International conference on Green energy for a sustainable Future: Innovations, Policies and Global Collaboration 'organized by MCM DAV College Kangra w.e.f. March, 21-23, 2024.
- ◆ Sh. Akhil Kumar CTO, attended the workshop on Project Dissemination Workshop for Biodiversity and Ecosystem Services (BDES) valuation in selected Himachal landscapes jointly organized by Himachal Pradesh State Forest Department Shimla and Wetlands International New Delhi, on March 27, 2024.
- ◆ Dr. Pawan Kumar, Scientist- F, ICFRE-HFRI, Shimla participated in a one day workshop on “Global Horizons: Foreign Collaborations in National Education Policy, 2020” organized by RKMV Shimla.
- ◆ Dr. Ashwani Tapwal, Scientist-F attended webinar on 30 April 2024 organized by the office of PSA.
- ◆ Dr. Swaran Lata, Scientist-D and Sh. Pitamber Singh Negi, Scientist-D, participated in online webinar on topic “Assessing Land Degradation Dynamics and Restoration Efforts with Remote Sensing Data and GIS Tools” organized by Centre of Excellence Sustainable Land Use Management (CoE-SLM), ICFRE, Dehradun on dated 2 May 2024.

- ♦ Dr. Swaran Lata, Scientist-D, participated in state level training workshop on “Peoples Biodiversity Registers” organized by Himachal Pradesh State Biodiversity Board, Shimla on dated 22nd May, 2024 and also delivered lecture on “Floristic Diversity of Western Himalaya: Plant Collection, Identification and Herbarium Preparation Methods for preparation of PBRs”.
- ♦ Dr R.K. Verma, Scientist-G, HFRI, Shimla attended the online workshop on “Training Workshop on Use of Soil Health Card for Promoting Nutrient Management Practices” on 28 May 2024.
- ♦ Dr. Vaneet Jishtu, Scientist, ICFRE-HFRI as a Guest Speaker during the one day workshop on Understanding Botany at Centre of Excellence, Govt. College Sanjauli, Shimla talked on "Basic Principles of Taxonomy - with emphasis on Classification and Nomenclature" on 1<sup>st</sup> March 2024 .





## MEETINGS ORGANIZED

- ♦ ICFRE-HFRI, Shimla organized the Project Evaluation Committee (PEC) meeting on 12 January 2024 at HFRI. The Assistant Director General (M & E) ICFRE, Dehradun, Dr. D.R. Bhardwarj, Dr. Sanjeev Chauhan, Dr. Anil Sood, External Experts (through Online mode ) and Dr. R.K. Verma, Sci-G, Dr. Jagdish Singh, Sci-G, Dr. Ranjeet Kumar, Sci-F & Dr. Vaneet Jishtu, Sci-E as Internal Member attended the PEC meeting.
- ♦ Research Advisory Committee (RAC) meeting for conducting of Pre-Thesis Submission Seminar and Evaluation of Six Monthly Progress Report of Ms. Krishna Kumari and Mr. Ajay Kumar, Research Scholars was organised by Dr. R.K. Verma, Nodal Officer FRIDU on dated 6 February 2024.
- ♦ Research Advisory Committee (RAC) meeting was organized by Dr. R.K. Verma, Nodal Officer, HFRI, Centre, FRIDU for reviewing the Annual progress report of 25 Ph. D. Research Scholars of FRI Deemed University on 10 April 2024.

## MEETINGS ATTENDED

- ♦ Dr. Ashwani Tapwal, Scientist- F attended 98<sup>th</sup> meeting of Himachal Pradesh State level Expert Appraisal Committee for appraisal of different cases for grant of Environment Clearance at Department of Environment, Science & Technology, Paryawaran Bhawan near US Club Shimla on January 6, 2024.
- ♦ Dr. Sandeep Sharma, Director, HFRI, Shimla, Dr. Jagdish Singh, Scientist-G and Sh. P. S. Negi, Scientist-D attended a virtual review to discuss the modalities for the transfer of technologies developed by Institutes of ICFRE in collaboration with GBPNIHE, Almora chaired by DDG (Extension), ICFRE, Dehradun on 16 January 2024.
- ♦ Dr. Vaneet Jishtu, Scientist-E attended the meeting and discussed the plan, design and estimation of the Orchidarium of the HPSFD coming up at the Himalayan National Park, Kufri with the Architect on 16 January 2024.
- ♦ Dr. R.K. Verma, Scientist-G, HFRI, Shimla attended the meeting on Evolution of the Research Project organized Department of Science & Tech. US Club Shimla on 18 January 2024.
- ♦ Dr. Balkrishan Tiwari, Scientist-C and Dr. Pravin Rawat, Scientist-C attended the Meeting of Technical and Financial Committee of NIRANTAR on 19 January 2024 and presented the following two projects;
  1. Studies on regulation and management of cone induction and seed yield in *Pinus gerardiana* Wall. Ex. D. Don.
  2. Testing of selected superior strains of *Picrorhiza kurroa* Royle ex Benth and *Valeriana jatamansi* Jones through regional and national level multi-location trial to release their varieties for the benefit of the farming communities.
- ♦ Sh. P. S. Negi, Scientist-D & Dr. Swaran Lata Scientist-D attended a virtual review meeting of the DBT-funded project “Ecological assessment, niche modelling, phytochemical investigations and standardization of propagation protocol of some important Himalayan medicinal plants for mass multiplication of elite germplasm” organized by DBT, New Delhi on 22 January 2024.
- ♦ Dr. Swaran Lata Scientist-D participated in meeting related to Review of expenditure, pending CAG audit paras and status of GeM under the chairmanship of AS&FA, MoEF&CC on 23 January 2024.
- ♦ Dr. Sandeep Sharma, Director, HFRI, Shimla attended the NIRANTAR Meeting at MoEF &CC, New Delhi. The meeting was chaired by Sh. Bhupender Yadav, Hon’ble Minister of MoEF&CC and attended by Heads and Senior Officials of various organizations under the Ministry.
- ♦ Dr. Balkrishna Tiwari, Scientist-C and Smt. Parul Chaudhary, LDC, Hindi Cell, attended राजभाषा प्रशिक्षण कार्यशाला at Van Vigyan Bhawan, New Delhi on 21 and 22 March, 2024.

- ♦ Dr. R.K. Verma, Scientist-G HFRI, Shimla attended the online meeting on “AICRP-22 Assam Pre-release of Forest soil health card” on 5 April 2024 organized by ICFRE-RFRI, Jorhat, Assam.
- ♦ Dr. R.K. Verma, Scientist-G, HFRI, Shimla attended the online meeting on “AICRP-22 Telangana Prerelease of Forest soil health card” on 05/04/2024 organized by ICFRE-IFB, Hyderabad, Telangana.
- ♦ Dr R.K. Verma, Scientist-G, HFRI, Shimla attended the online meeting on “AICRP-22 Chhatisgarh Pre-release of Forest soil health card” on 23/04/2024 organized by ICFRE-TFRI, Jabalpur.
- ♦ Dr. Ashwani Tapwal, Scientist-F attended 100<sup>th</sup> SEAC meeting on virtual platform with Department of Environment, Science & Technology, Shimla, Himachal Pradesh for appraisal of different cases for grant of Environment Clearance.
- ♦ Sh. P. S. Negi, Scientist-D attended the virtual review meeting “WINCOIN” to discuss the actionable points of ICFRE & its institutes organized by ICFRE-IWST, Bengaluru on 02<sup>nd</sup> May, 2024.
- ♦ Dr. Sandeep Sharma, Scientist-G and NPC AICRP-27 and Sh. Kuldes Kumar, Technical Officer attended a virtual review meeting of CAMPA funded project “Conservation and sustainable management of Wild edible Fruiting species” (ACIRP-27) reviewed by Dr. Surabhi Rai, IFS DIG (RT), MoEF&CC, New Delhi on 06.05.2024.
- ♦ Sh. P. S. Negi, Scientist-D attended review meeting of CAMPA funded project “Combating desertification by enhancing vegetation cover and people livelihoods in degraded drylands and deserts of India (AICRP-24)” reviewed by Dr. Surabhi Rai, IFS DIG (RT), MoEF&CC, New Delhi on 07<sup>th</sup> May, 2024.
- ♦ Dr. Swaran Lata, Scientist-D, participated in online review meeting of AICRPs/FGR under scheme “SFRESPE” under chairmanship of DIG (RT) & AIG (RT), MoEF&CC on dated 9<sup>th</sup> May, 2024.
- ♦ Dr. Ranjeet Kumar (Sci-F) attended online meeting of Task Force on National Action Plan on Forest Fire on 9<sup>th</sup> May, 2024 organized by ICFRE Dehradun.
- ♦ Dr. Swaran Lata, Scientist-D, participated in six monthly review of AICRP project titled “Sustainable Management of NTFPs through Conservation and Value addition” by Project Expert Group (PEG) under the chairmanship of Dr. Rajesh Sharma, DDG, Research, ICFRE on dated 13<sup>th</sup> May, 2024.
- ♦ Dr. Sandeep Sharma, Scientist-G and NPC AICRP-27 and Sh. Kuldes Kumar, Technical Officer attended 8<sup>th</sup> Six Monthly PEG Review meeting of CAMPA funded project “Conservation and sustainable management of Wild edible Fruiting species” (ACIRP-27) under the chairmanship of Dr. Rajesh Sharma, DDG, Research, ICFRE on dated 13<sup>th</sup> May, 2024.
- ♦ Sh. P. S. Negi, Scientist-D attended 8<sup>th</sup> six monthly review meeting of CAMPA funded project “National Programme for Conservation and Development of Forest Genetic Resources” reviewed by the Project Evaluation Group (PEG), ICFRE, Dehradun on 14<sup>th</sup> May, 2024.
- ♦ Dr. R.K. Verma, Scientist-G HFRI, Shimla attended the online meeting on “AICRP-22 Assam Pre-release of Forest soil health card” on 14 May 2024 at HP State Forest Department, Talland Shimla, Himachal Pradesh.

- ♦ Sh. P. S. Negi, Scientist-D attended 8<sup>th</sup> six monthly review meeting of CAMPA funded project “Developing seed testing and seed storage protocols of selected forestry species from diverse forest types (AICRP-10)” reviewed by Project Evaluation Group (PEG), ICFRE, Dehradun on 15<sup>th</sup> May, 2024.
- ♦ Sh. P. S. Negi, Scientist-D attended a virtual review meeting of CAMPA funded project “Developing seed testing and seed storage protocols of selected forestry species from diverse forest types (AICRP-10)” reviewed by Dr. Surabhi Rai, IFS DIG (RT), MoEF&CC, New Delhi on 20<sup>th</sup> May, 2024.
- ♦ Sh. P. S. Negi, Scientist-D attended a virtual review meeting of CAMPA funded project “*National Programme for Conservation and Development of Forest Genetic Resources*” reviewed by Dr. Surabhi Rai, IFS DIG(RT), MoEF&CC, New Delhi on 20<sup>th</sup> May, 2024.
- ♦ Dr. Sandeep Sharma, Director, HFRI, Shimla attended the PAEC Meeting for the review of H.P. Specific Research and Development Projects Sanctioned during the year 2021-22 on 25 May 2024 in the Conference Hall of DEST, Paryavaran Bhawan, US Club, Shimla.
- ♦ Dr R.K. Verma, Scientist-G, HFRI, Shimla attended the online meeting on “AICRP-22 Chhatisgarh Pre-release of Forest soil health card” on 23/04/2024 organized by ICFRE-TFRI, Jabalpur.
- ♦ Dr. Vaneet Jishtu, Scientist-E, attended the meeting with Mr. Jerry Boyle Agriculture Specialist (World Bank) and the Director Agriculture and discussed issues regarding climate change with respect to development of agriculture, horticulture and forestry in the state on 14 June 2024.
- ♦ Dr. Ashwani Tapwal attended SEAC meeting on virtual platform with Department of Environment, Science & Technology, Shimla, Himachal Pradesh for appraisal of different cases for grant of Environment Clearance.
- ♦ Dr. Vaneet Jishtu, Scientist-E attended Project review meeting chaired by the PCCF – cum – Chief Wildlife Warden, HP State Forest Department at Talland on dated 20 June 2024.
- ♦ Dr. Swaran lata, Scientist- D participated in Expert Group meeting for evaluation and authentication of the draft PBRs prepared and updated by different Technical Support Group (TSGs) organised by Himachal Pradesh State Biodiversity Board (HPSBB) and also presented block and district level PBRs of Shimla and Solan district and 376 panchayats of Himachal Pradesh at Conference Hall, Center for Science Learning and Creativity (CSLC) Anandpur, Shoghi, Shimla, Himachal Pradesh on dated 20-21 June 2024.
- ♦ Dr. Ashwani Tapwal, Scientist-F, Forest Protection Division attended Board of Studies meeting of the School of Biological & Environmental Sciences, Shoolini University Solan, on 27 June 2024.

## SIGNIFICANT RESEARCH FINDINGS

Sustainable harvesting techniques of *Valeriana jatamansi* (Muskbala) and *Picrorhiza kurroa* (Kutki) have been optimized so that these species can be protected, conserved and utilized through effective management strategies. For developing sustainable harvesting techniques for both the species; five harvesting treatments namely control, 25, 50, 75 and 100% were applied in three selected sites for *V. jatamansi* and two sites for *P. kurroa*, respectively. The study revealed that the various harvesting treatments had a significant effect on the extent of change in the density of *V. jatamansi* and *P. kurroa*. It was observed that 50% harvesting of *V. jatamansi* reached the initial density levels after 3 years of harvesting in all experimental sites. Similarly, in case of *P. kurroa*, 50% of harvesting of plants was appropriate as densities of *P. kurroa* reached the initial density levels after 3 years of harvesting in the Banse-rudhar site, whereas, at Tino site, it reached to 98% of initial density level after three years of harvesting. Hence, it is recommended that there should be 50% harvesting of *V. jatamansi* and *P. kurroa* after every three years to sustain the population of these species.

## KISAN MELA ORGANIZED

ICFRE-Himalayan Forest Research Institute, Shimla, in collaboration with Krishi Vigyan Kendra - Saru, District - Chamba, organized **Kisan Mela** on theme: **Sustainable Development through Forestry Technologies** at Kalsui Chamba on 23 February, 2024 in about 250 people from different Panchayats participated of Kalsui, Mehla, Chamba and Surrounding participated. Smt. Kanchan Devi, IFS, DG, ICFRE graced the occasion as a Chief Guest. Dr. Sandeep Shrama Direct, HFRI, Shimla, Dr. Sanjeev Chauhan Director of Research, Dr. YS Parmar, UHF, Nauni Solan, HP, Dr. Inder Dev, Director Extension & Education, Dr. YS Parmar, UHF, Nauni Solan, HP were also present during the occasion. Exhibition stall of HFRI, Shimla, KVK, Saru Chamba, Horticulture



and Agriculture department, Chamba, wild life wing Chamba, displaying activities of institute and departments were also installed. Detailed discussions Officers, scientists and with farmers was held and queries of the farmers were satisfied with expert opinions.



## TRAINING PROGRAMME ORGANIZED

- ◆ ICFRE-HFRI, Shimla in collaboration with JICA, State Forest Department, Himachal Pradesh jointly organized three-days training workshop “Capacity building for promoting beekeeping for livelihood generation” from 4 to 6 January 2024 at Nihri (District Mandi, Himachal Pradesh) for the Self-Help Groups of District Mandi, Himachal Pradesh. 34 participants of 6 self-help groups from 3 forest ranges i.e. Jhungi, Kangu and Jaidevi participated in the training program.
- ◆ ICFRE-HFRI, Shimla and Bilaspur Forest Division, Himachal Pradesh jointly organized a One day training programme on “Development of Model Nursery for raising quality planting material of forestry species” at Jagatkhana, Bilaspur.
- ◆ ICFRE- HFRI, Shimla, H.P. organized a one-day training program on ‘Forest Technologies for Sustainable Development’ at Krishi Vigyan Kendra-Samba, J&K in collaboration with KVK Samba.
- ◆ ICFRE- HFRI, Shimla organized a training programme at VVK Longani, Dharampur, Mandi (H.P) on "Agroforestry: An option for productivity enhancement and source of additional income at Khelag, Longani, Dharampur, Mandi, Himachal Pradesh.
- ◆ ICFRE-HFRI, Shimla organized one day (February 24, 2024) training programme on “Application of mycorrhizal bio-fertilizers in organic farming” at Saru, Chamba in which 70 progressive farmers participated.
- ◆ ICFRE-HFRI Shimla organized a training program on “Cultivation and nursery techniques of Mahameda and other important temperate medicinal plants; An option for diversification and augmentation of rural income” at Chirgoan, Rohru, Shimla on 5 March 2024.
- ◆ Dr. R.K.Verma, Scientist-G and Sh. Dushyant Kumar, Senior Technical Officer, FE&CC Division of this institute organized a Capacity Building Training Programme on Promoting Soil Test Based Nutrient Management Practices on 15 June, 2024 to the Forest Officers/officials of Leh and Kargil Forest Department UT Ladakh under the Project AICRP-22. 25 officials participated in the training programme.
- ◆ ICFRE-HFRI, Shimla organized MoEF&CC sponsored training on ‘Cultivation and Conservation of Important Cold Desert Plants for Livelihood Generation’ for other stakeholders at National Institute of Sowa-Rigpa (NISR), Leh, Ladakh, UT from 12 to 14 June, 2024.
- ◆ ICFRE-HFRI organized one day training programme on ‘Cultivation and conservation of medicinal plants’ was organized by ICFRE-HFRI Shimla at Chuchot Ladakh on 13 June 2024.
- ◆ ICFRE-HFRI, Shimla organized MoEF&CC sponsored training on ‘Cultivation and conservation of temperate medicinal plants important for livelihood generation’ for other stakeholders at HFRI Shimla from 26-28 June, 2024

# GLIMPSES OF TRAINING PROGRAMME ORGANIZED



## TRAINING PROGRAMME ATTENDED

- ◆ Sh. Kuldeep Sharma IFS, CF and Smt. Deepshikha, IFS, DCF, ICFRE-HFRI attended One week compulsory training programme organized for IFS officers at IIFM, Bhopal on the topic "Value of Ecosystem Services" w.e.f. 8 to 12 January, 2024. The training course was useful in learning advance scientific methods and tools of valuating ecosystem services.
- ◆ Dr. Sandeep Sharma, Director, HFRI alongwith Scientists, Officers, Technical and Ministerial staff attended the virtual online training on “*e-Office*” organized by Dr. Anna Durai, Sr. Consultant, MoEF & CC, New Delhi on 28 February 2024.
- ◆ Dr. Swaran Lata Scientist-D participated in training programme on “Building Local Resilience in a Changing Climate” organised by Centre of Disaster Management, Lal Bahadur Shastri National Academy of Administration (LBSNAA), Mussoorie for Woman Scientist & Technologist working in the government sector from 25 February to 1 March 2024.
- ◆ Dr. Swarnlata, Scientist-D participated online in knowledge and training programme for promoting Natural Climate Solutions in India National Roundtable organized by ICFRE-Arid Forest Research Institute, Jodhpur, Rajasthan on dated 5 March 2024.
- ◆ Dr. Swarnlata, Scientist-D participated in training programme on “Resolving issues related to utilization of funds through PFMS in hybrid mode” organized by R&D section, National Medicinal Plant Board, Ministry of Aayush on dated 8<sup>th</sup> March, 2024.
- ◆ Dr. Balkrishna Tiwari, Scientist-C attended training program on “Multilocation trial data analysis” organized by IFGTB-Coimbatore as part of ICFRE-HRD program from 11-16 March, 2024.
- ◆ Sh. Dinesh Dhiman, Private Secretary and Sh. Rohit Kumar, UDC, Establishment Section attended the Online training program on “Recruitment, Roster Writing and Reservation in Service, Promotions, Engagement of Personnel” for ICFRE Personel’s organized by IWSST Bangalore as part of ICFRE-HRD program from 11-16 March, 2024.

## MEMORANDUM OF UNDERSTANDING

- ♦ A Memorandum of Understanding was signed between Director, ICFRE-HFRI, Shimla and Economic Advisor, Economics and Statistics department Himachal Pradesh pertaining to execution of activities under the project “Assessment of Non-Timber Forest Products (NTFPs) on 17 May 2024.

- ♦ A Memorandum of Understanding was signed between ICFRE-HFRI, Shimla and College of Excellence, Government College, Sanjauli, Shimla for collaboration in various activities related to forestry, forestry research, environment protection, education, and extension on 6<sup>th</sup> June 2024. Both the Institutions have agreed to work in close collaboration for exchange of students by mutual agreement between both the institutions; exchange of faculty members by mutual agreement; collaborative research; conducting and participating in webinars/ seminars/ conferences, etc.

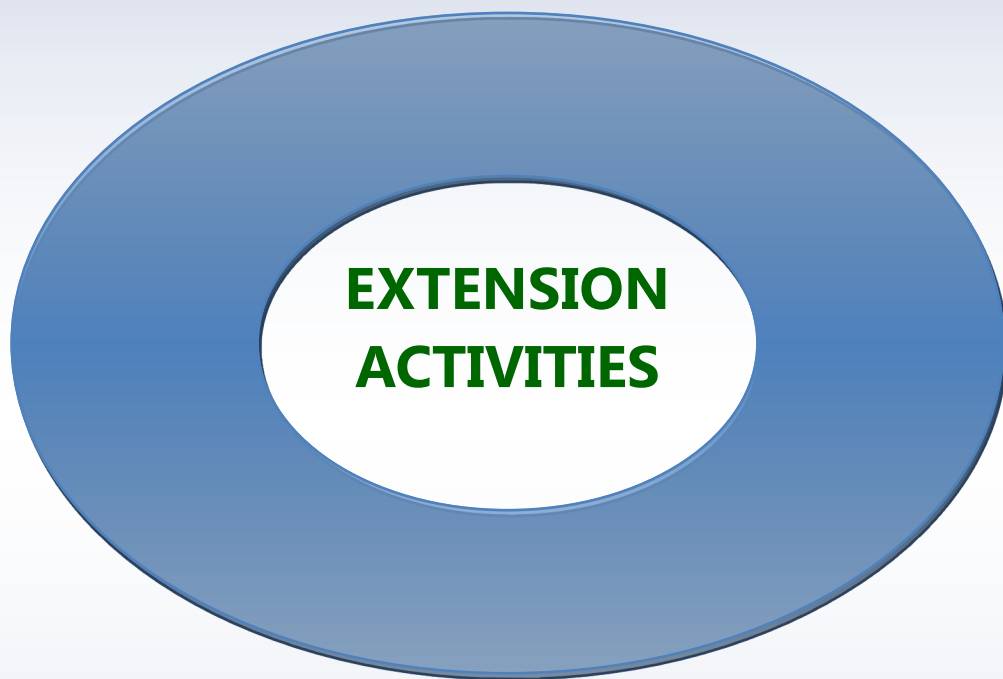


- ♦ A Memorandum of Understanding was signed between ICFRE-HFRI, Shimla and National Institute of Sowa Rigpa (NISR), Leh, Ladakh signed a MoU with objective of collaboration for pursuing quality research especially related to studies on the medicinal plant of temperate and cold desert region and providing new opportunities for employment and economic development with focus on environment, bio-resource, skill development and livelihood opportunities.



- ♦ A Memorandum of Understanding was signed between ICFRE-HFRI, Shimla and Shoolini Institute of Life Sciences and Business Management, Solan, Himachal Pradesh signed MoU with objective of collaboration for pursuing quality Research and building a new generation of highly skilled human resource providing entirely new opportunities for employment and economic development with focus on environment, bio-resources, skill development, livelihood opportunities, science and technology, biotechnology, health and wellness lifestyle domain of North West Himalayan region.





## ACTIVITIES UNDER VAN VIGYAN KENDRA

- ♦ A programme was organized under VVK Janipur Jammu at KVK Samba on 22 January, 2024 under Mission LiFE. Importance of millets for better health was discussed. Besides, awareness on Amrit Sarvoar programs importance of urban forestry was created and people were encouraged to plant trees.
- ♦ During a training programme under VVK Longani Dharmampur organized at Khelag, Longni, participants were made aware of Mission LiFE, under the theme 'Water Saved was discussed' on 24 January, 2024. Under Amrit Sarvoar programs people were made aware about recharging of natural water bodies/ Bawari They were also made aware of importance of urban forestry and encouraged to plant trees.
- ♦ Ms. Fay Pauly, from USA- representative of Techno Serve (An International NGO) visited Van Vigyan Kendra Jagatsukh Manali on 25 April, 2024, She was apprised about ICFRE-HFRI, Shimla and ongoing research activities at FRS/VVK Manali.
- ♦ Students of 12<sup>th</sup> class from Government Senior Secondary School, Haripur, Kullu; were acquainted with identification, importance and cultivation of medical plants viz. *Podophyllum hexandrum* (van ka-kri), *Picrorhiza kurroa* (kadu), *Valeriana jatamansi* (nihani) and *Angelica glauca* (chora) at Van Vigyan Kendra, Jagatsukh, Kullu of HFRI Shimla on 4 May, 2024. Besides, demonstration on preparation of raised and sunken nursery beds and vermicomposting was given and importance of the same was also briefed to them.
- ♦ Students of GBSSS, Leh were informed about the natural habitat, distribution of the tree, medical uses and nursery and plantation techniques developed by the institute at VVK, Leh on 27 May, 2024. Booklets on nursery and plantation techniques of *Juniper polycarpus* developed by the institute were also distributed.
- ♦ Field activities pertaining to celebration of activities of #World Environment Day-2024, under Mission LiFE, ICFRE-HFRI, Shimla, organized an awareness program for students (7<sup>th</sup> to 11<sup>th</sup> class) of Government Senior Secondary School Tabo on at Field Research station Tabo, Lahual & Spiti, HP on 28 May, 2024. Students were taken to demonstration plantation of *Juniperus polycarpus*. The importance of *Juniperus polycarpus* in preventing desertification and land restoration efforts in cold desert areas was also emphasized.
- ♦ Under Mission LiFE for celebration of World Environment Day-2024 ICFRE-HFRI, Shimla organized events at Taryamla near vicinity of VVK Longni, Dharmampur on 2 June 2024. Villagers were made aware about saving water and rejuvenation of Bawri/stepwells through forestry interventions and their management on sustainable basis.
- ♦ On the occasion of World desertification day 2024 Van Vigyan Kendra Leh, ICFRE-HFRI, Shimla celebrated this event under 'Ek Ped Maa Ke Naam' on 17 June 2024. Ladakh Police (4 persons) and Sakra Yokma Panchayat (3 persons) participated in this event. Three *Cedrus deodara* trees were planted in this event. All participants were also motivated to connect others with this campaign.

# GLIMPSES ACTIVITIES UNDER VAN VIGYAN KENDRA



## PRAKRITI PROGRAMME / SCHOOL VISIT

- ◆ ICFRE- Himalayan Forest Research Institute, Shimla organized PRAKRITI Programme at Kendriya Vidyalaya (KV), Hamirpur, H.P. on 4 January, 2024. Students were briefly apprised about R&D activities of the institute. Demonstrated on vegetative propagation techniques of the forestry species was also given.
- ◆ A group of 72 students along with two faculty members from College of Forestry, Ponnampet, Kodagu, KVS University of Agricultural and Horticultural Sciences, Shimoga, Karanataka visited ICFRE-Himalayan Forest Research Institute Shimla on 7 February, 2024. Dr. Joginder Singh Chauhan, CTO apprised student about research and extension activities of the institute through power point presentation.
- ◆ A Prakrti Programme was organized by institute at KV Hamirpur, HP on 4 January, 2024 students were made aware about Mission LiFE particularly on topic single use plastic reduced and also informed about Amrit Sarvoar programs. They were also made aware of importance of urban forestry and encouraged to plant trees. About 60 students actively participated in the programme.



## AWARENESS AND DEMONSTRATION PROGRAMMES

- ◆ CFRE-Himalayan Forest Research Institute, Shimla, participated in the Mega Exhibition "गतिशील जम्मू एवम कश्मीर" organized by **Prayas Event and Exhibition** at Jammu from March 1<sup>st</sup> to 3<sup>rd</sup>, 2024. The event was inaugurated by Sh. Jugal Kishore, Honorable MP, who also visited the institute's stall. Dr. Joginder Singh Chauhan, Chief Technical Officer briefed him about the technologies and products developed by the institute and showcased in the stall. ICFRE-HFRI, Shimla organized an awareness program on Mission LiFE at Reur Panchayat, Dharampur, Mandi (HP) on 9 April, 2024. Twenty women activity took part in the same program. They were briefly apprised about aims and objectives of the



mission. Water and energy saved themes were discussed in detail. Participants were also apprised about Amrit Sarvoar Scheme.

- ◆ ICFRE-Himalayan Forest Research Institute, Shimla organized an awareness program on Mission LiFE at, Leh, Ladakh on 10 April 2024. People were briefly apprised about aims and objectives of the mission. Participants were informed about practices to save energy. They were encouraged to use LED bulbs, taking public transport, and turning off vehicle engines at red lights.

- ◆ At FRS Bir Plasi Nalagarh, an awareness campaign about environment conservation for students and local people of Birplasi on 5<sup>th</sup> June 2024. During this occasion, about 50 seedlings of Shisham, Ritha, Jamun, etc. were planted.
- ◆ Dr. Jagdish Singh, Scientist-G delivered a lecture on Mission LiFE to IFS Officers undertaking GoI, sponsored One-Week Compulsory Training Course on Ecotourism as a Sustainable Livelihood at Leh on 11<sup>th</sup> June, 2024.

## GLIMPSES OF AWARENESS AND DEMONSTRATION PROGRAMMES



## Awards:

- ♦ **SADNA** (Society for advancement of human and Nature): Dr. Y.S. Parmar University of Horticulture and Forestry awarded Best paper award 2023 to the publication: Tiwari, B., Singh, J., Sharma, S., Sharma, Y. and Sharma, K (2023). Genetic diversity of *Populus alba* L in Kinnaur, Himachal Pradesh. *India International Journal of Farm Sciences* 13(4): 34-41.

## Popularizing Forestry through All India Radio/ Doordarshan:

- ♦ Dr. Ashwani Tapwal, Scientist-F, Forest protection division delivered a talk titled “Importance of Mycorrhizal biofertilizers in Organic farming” on 31 January, 2024 hosted by DD Shimla.
- ♦ On the occasion of celebration of International Day of Forest on 21<sup>st</sup> March, 2024. Dr. Sandeep Sharma, Director HFRI Shimla talked about role of youth in Forestry and environment with Doordarshan Shimla, whereas Dr. Jishtu Talked about importance of Western Himalayan Temperate Arboretum as green space.
- ♦ Dr. Ranjeet Kumar (Sci-F) delivered a TV talk on the topic ‘वन अग्नि और बचाव’ (विशेष कार्यक्रम) on 22 May 2024.

## SPECIAL DAY/THEME INCLUDING ACTIVITIES PERFORMED

### Celebration of International Biodiversity Day



ICFRE-HFRI, Shimla celebrated international Day of Biodiversity 2024 at HFRI, Shimla on 22 May, 2024. Dr Vaneet Jishtu Scientist through pictorial power point presentation apprised students about the biodiversity and theme of this year IBD.

### Awareness Programme

ICFRE-HFRI - Field Research Station, Shilaru organized an awareness programme in Government Senior Secondary School, Kot-Shilaru on 31 May, 2024 and made students aware about impact of forest fire, no to single use plastic, environmental protection and challenges related to it.

### World Environment Day

On occasion of world environment day on 5<sup>th</sup> June 2024, ICFRE-HFRI, Shimla organized various activities such as slogan writing, essay competitions focused on various themes of Mission LiFE for students of three colleges viz. Govt. Degree College Kotshera Shimla, Govt. College Sanjauli, Shimla and St. Bedes College Shimla.

### Combat Desertification and Drought

To celebrate World Day to Combat Desertification and Drought-2024 ICFRE-HFRI, Shimla, organized an awareness program for local students (20 no.) of Tabo on 17 June, 2024 at Field Research Station Tabo, Lahual & Spiti, HP.

### International Yoga Day

ICFRE-HFRI Shimla celebrated International Yoga Day 2024 in the premises of the institute on 21<sup>st</sup> June, 2024. Director, Scientists, Officers and Officials practised different Yoga Asana being taught by Shri Balwant Singh and Ms Bindu from Art of Living Foundation.



- ◆ The **75<sup>th</sup> Republic Day** was celebrated with great enthusiasm at the ICFRE- Himalayan Forest Research Institute, Shimla on 26<sup>th</sup> January 2024, in which scientists, officers, employees, researchers and their family members of the institute participated.
- ◆ ICFRE-Himalayan Forest Research Institute, Shimla celebrated **International Women's Day** on 8<sup>th</sup> March, 2024 in the institute. On this occasion, Dr. Jagdish Singh, Scientist G and Head Extension briefed about the background and importance of Women's day. He highlighted the significant contribution of women in all walks of life. Dr. Swaran Lata, Scientist-D talked about rights of women enshrined in various laws and told that all especially women must remain aware of their rights. About 60 participants comprising the students, faculty members of Odisha College of forestry and ICFRE- HFRI staff were present in the program.
- ◆ ICFRE-HFRI, Shimla celebrated **International Day of Forest** at Western Himalayan Temperate Arboretum, Potter Hill, Shimla on 21<sup>st</sup> March, 2024. Sh. Raaja Bhasin Historian and renowned writer was chief guest and keynote speaker. He talked about colonial impacts on flora of Shimla. Dr. Jagdish Singh talked about the ways to mitigate carbon foot prints to protect the environment. Dr. Sandeep Sharma encouraged students to involve in plantation of trees activities. Dr. Vaneet Jishtu deliberated upon the importance of green Spaces in mitigating climate change.
- ◆ ICFRE-Himalayan Forest Research Institute, Shimla celebrated **Earth Day** in the institute on 22 April, 2024. Dr. Jagdish Singh, Scientist-G and Head Extension division discussed about background, aims and objectives of Earth Day celebration. He also suggested ways to reduce the single use plastic. Dr. Sandeep Sharma, Director, HFRI Shimla told that plastic in landfills affect hydrological function.

## GLIMPSES SPECIAL DAY/THEME INCLUDING ACTIVITIES PERFORMED



## हिन्दी कार्यशाला

भा०वा०अ०शि०प०-हिमालयन वन अनुसंधान संस्थान, शिमला द्वारा दिनांक 28 फरवरी 2024 को हिन्दी कार्यशाला का आयोजन किया गया। जिसमें संस्थान के सभी वैज्ञानिकों, अधिकारियों, तकनीकी एवं प्रशासनिक कर्मचारियों ने भाग लिया। कार्यशाला में नराकास एवं सतलुज जल विद्युत निगम लिमिटेड, हिमाचल प्रदेश से आमंत्रित किए गए वक्ता श्रीमती मृदुला श्रीवास्तव, सदस्य सचिव, नराकास एवं डॉ० प्रवीण ठाकुर, सतलुज जल विद्युत निगम लिमिटेड ने राजभाषा हिन्दी के विभिन्न पहलुओं पर व्याख्यान प्रस्तुत किए।



## HR NEWS

### RETIREMENT:

- ♦ Rakesh Kumar, MTS retired on 31 May 2024 after serving ICFRE-HFRI for 33 years and 4 months.

### TRANSFERS:

- ♦ Dr. Vinod Kumar, Chief Technical Officer, transferred to ICFRE, Dehradun during June 2024
- ♦ Sh. Narinder Sain, Forest Range Officer, transferred to FRI, Dehradun during June 2024

### PROMOTIONS:

- ♦ Dr. Mohd. Ibrahim, Scientist-D got promotion in the grade of Scientist-E during the month of June, 2024 vide ADG (Education and RB), ICFRE, Dehradun .

# RESEARCH PUBLICATIONS

## RESEARCH PAPER PUBLISHED:

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- Jishtu, V.; Chauhan, A. and Bano, H. (2024). Floristic diversity and an account of traditional knowledge of Kukshow - a hidden hamlet in the Trans-Himalayan cold desert of Kargil, Ladakh, India. *Journal of Traditional and Folk Practices*; Vol. 10 (01 & 02) December 2022, 01-13; <http://jtfp.jntbgri.res.in>.
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- Lata, S.; Paul, S.; Chauhan, V. and Varsha (2024). Phytosociological Analysis of Functional Components in Silvopastoral Land Use Systems of Himachal Pradesh, India. *International Journal of Environment and Climate Change*, 14(2):675-685.
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- Negi, P. S.; Sharma, S. and Thakur, N. (2023). Effect of Container Type and Size on Growth Performance and Quality Parameters of *Juniperus polycarpus* C. Koch Seedlings under Nursery Condition. *Indian Forester*, 149 (12): 1201-1206.
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- Paul, S. and Lata, S. (2024). *Meconopsis aculeata* Royle an endangered and endemic medicinal plant in the Himalaya - A review. *Indian Forester*, 150(6): 538-542.
- Paul, S. and Samant, S.S. (2024). Population ecology and habitat suitability modelling of an endangered and endemic medicinal plant *Meconopsis aculeata* Royle under projected climate change in the Himalaya. *Environmental and Experimental Botany* 225: 105837 (Impact Factor: 4.5). <https://doi.org/10.1016/j.envexpbot.2024.105837>.
- Saddam, B.; Aquib, M.; Kumar, P. and Mahmood, M. (2024). Bio-pesticides: uses and importance in insect pests control: A review. *International Journal of Tropical Insect Science* (Accepted).
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- Kumar, P; Chauhan, V. and Jishtu, V. (2023). “औषधीय गुणों से भरपूर हिमालयन सरू (कप्रेसस टोरूलोसा)” in annual magazine of ICFRE (Taruchintan- 2023 Page no. 43-44)
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### Published Book Chapter:

- ♦ Ramola, G.C.; Singh, R. and Rawat, P. (2024). Forest Biodiversity Conservation Strategies. In Harishbhai, A.M.; Painkra, D.S.; Madiwalar, A.F. and Patil, P. (Ed). *Advances in Forestry and Agro-Forestry*. Stella International Publication: Pp. 59-101.
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### ABSTRACT PUBLISHED IN THE PROCEEDINGS:

- Jishtu, V.; Dev, D.; Bhushan, B.; Minakshi and Chauhan, M. (2023). *Arboreta and the Sustainable Developmental Goals – Case Study of the Western Himalayan Temperate Arboretum, Shimla*. In proceedings of the International Conference on Sustainable Natural Resource Management under Global Climate Change. 7-10, November 2023 at NASC Complex, New Delhi, India. Organized by Soil Conservation Society of India, New Delhi, India. Pp-51.
- Kumar, A. and Tapwal, A. (2024). Arbuscular mycorrhizal fungi-mediated enhancement of bioactive compounds in *Valeriana jatamansi*: A step towards sustainable cultivation practices. In National Conference on Innovative Trends in Science and Engineering held on 20-21 May, 2024 at Career Point University Hamirpur, Himachal Pradesh. Abstract Number: ITSE/0/033
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### INVITED TALK /Lectures delivered

- ◆ Dr. Pawan also Delivered an invited talk "Challenges of threats of insect pests attacks in Himalayan forests: ecofriendly mitigation strategy" on 15 February, 2024 during conference.
- ◆ Dr. Ashwani Tapwal, Scientist-F & Training coordinator delivered a talk on Application of mycorrhizal bio-fertilizers in organic farming in this training programme.
- ◆ Dr. Joginder Singh, CTO delivered a lecture to group of 30 other stakeholders trainees about Mission LiFE (E-waste and energy saved), during a MOEF&CC GoI sponsored training programme on Cultivation and Conservation of Important Cold Desert Plants for Livelihood Generation organized by ICFRE-HFRI Shimla at NISR Leh on 12<sup>th</sup> June, 2024.
- ◆ Dr. Jagdish Singh, Scientist-G delivered a lecture on Sustainable food system adopted theme of Mission LiFE to a group of 31 trainees comprising of farmers, members of mahila mandals during one day training programme on Cultivation and Conservation of Important Medicinal Plants organized by ICFRE-HFRI, Shimla at Chuchot Leh on 13<sup>th</sup> June, 2024.

### Pamphlets:

- ◆ Tiwari, B.; Sharma, S.; Kumar, M.; Sharma, N.; and Sharma, S. (2024) "Salix: Sheet Marusthal ki Jeevan Rekha".
- ◆ Jishtu, V. (2024) "Rare, Endangered and Threatened Medicinal Plants of Ladakh".

## ABOUT ICFRE-HFRI

ICFRE-Himalayan Forest Research Institute (HFRI) was initially established as High Altitude Conifer regeneration Centre in May 1977 and upgraded as Himalayan Forest Research Institute (HFRI) in 1998. The Institute has been declared as “Centre of Advanced Studies for Cold Desert Afforestation and Pasture Management” by ICFRE with the National mandate of eco-restoration of cold deserts. The mandate of the Institute is to undertake research on natural regeneration of coniferous and broad - leaved species; assess the populations of threatened, endemic and economically important species and develop Ecological Niche Model; standardize cost effective nursery techniques of various coniferous and broadleaved species; identify quality seed sources and planting material of various species and establish seed orchards; study ecological aspects of stress sites and cold deserts and work out models for their eco-rehabilitation; study diseases and insect pests of important tree species and suggest their control measures; study on mycorrhizal and other beneficial microbes, assess conservation status of important non-wood forest products in the region and standardize their cultivation techniques; develop suitable agro-forestry models for various zones of Himachal Pradesh state and J&K and Ladakh Union Territories; demonstrate the technologies in the Field Research Stations and educate the stakeholders; and build capacities of stakeholders and disseminate research findings to them.

The Institute has well developed infrastructure of laboratories, library, herbarium at its main campus and nurseries and experimental field areas of conducting research and training programmes in the state of Himachal Pradesh and Union Territories of Jammu & Kashmir and Ladakh. The faculty for imparting training by the institute consists of highly qualified, experienced, skilled professionals and researchers. The Institute has about 155 staff including Contractual and Research Staff at present, which is headed by a Director, who is assisted by a team of 11 Scientists having expertise in the field of Ecology, Biodiversity Conservation, Silviculture, Forest Genetics, Medicinal Plants, Forest Entomology, Forest Pathology and Agro-forestry & Extension, and supported by the Technical Staff. Research Coordination Division, coordinates the research activities of these research divisions under the guidance of Director of the Institute. The Institute has four *Van Vigyan Kendras*, *Six Field Research Stations* and *Two Demo villages*.



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