

## PROCEEDINGS OF THE INSTITUTE LEVEL MONTHLY RESEARCH SEMINAR HELD ON 28.06.2024

A Monthly Research Seminar on the title “**Diversity, Distribution, Usage Pattern and Cultivation Scope of Medicinal Plants in Cold Desert Regions of India**” was organized on **28<sup>th</sup> June, 2024** in the Conference Hall of Himalayan Forest Research Institute, Shimla. The scientists, officers, technical staff and researchers of the institute attended the seminar to share their viewpoints viz-a-viz identification of the research needs and implementation of strategies with specific reference to the topic as mentioned above. **Dr. Sandeep Sharma**, Director, HFRI chaired the proceedings of this research seminar.

**Sh. Pitamber Singh Negi**, Scientist- D made a detailed presentation on the above topic and highlighted the importance of the Cold Desert medicinal plants in the traditional health systems locally known as the “*Amchi System*” in Kinnaur, Lahaul & Spiti districts of Himachal Pradesh and the “*Sowa- Rigpa System*” of medicine especially in Ladakh Union territory. His presentation was focused on the diversity of medicinal plants and their distribution across different valleys of the Trans Himalayan region. He also deliberated on the usage pattern of important cold desert medicinal plants in the treatment of various human ailments and the cultivation scope of important medicinal plants in Cold Desert Regions of India. He pointed out that ICFRE-HFRI, Shimla has successfully developed agro-techniques for the important temperate and cold desert medicinal plants, especially *Aconitum heterophyllum*, *Angelica glauca*, *Picrorhiza kurrooa*, *Valeriana Jatamansii*, *Sinopodophyllum hexandrum*, *Trillium govianum* and also recently released 5 varieties of three medicinal plants viz., *Picrorhiza kurrooa*, *Valeriana Jatamansii*, *Sinopodophyllum hexandrum* for their adoption by the farmers of the temperate region.

He also talked about research works carried out in the past at the national and regional level on floral diversity of cold desert regions along with future agenda and research needs at the state and national level. The presentation was concluded by emphasizing the fact that research on the development of seed germination and storage behaviour of prominent medicinal plants along with Agrotechniques should be initiated in the future. During the discussion, Dr. Sandeep Sharma, Director enquired about the availability of *Rhodiola* species in other areas of the Himalayan region besides the cold desert region. In response, Sh. P. S. Negi, informed that *Rhodiola* species are also available in temperate Himalayan regions above 3000m asl. In the end, the Chairman thanked the speaker for making a nice presentation on medicinal plants of cold desert region.

### Outcomes of the Seminars:

- Documentation of unexplored medicinal plant species of the cold desert region having peculiar medicinal properties.
- Development of Agrotechniques of species viz., *Ferula jaeschkeana*, *Hyoscyamus niger*, *Swertia petiolata*, *Arnebia benthamii*, *A. euchroma*, *Orchis latifolia*, *Rheum australe*, *R. moorcroftianum*, *Rheum tibeticum*, *Rhodiola* spp., *Delphinium brunonianum* on priority basis.

- Development of site-specific cultivation practices of promising medicinal plant species of cold desert.
- Screening of high active ingredient content in prominent medicinal plants of high demand in the market.
- Establishment of germplasm bank of RET medicinal plant species of cold desert area for conservation purposes.

#### **Formulation of Future Strategies & Networking:**

- ❖ Changes in the Phenology of many of the wild medicinal plant species of cold desert regions have been observed due to changing climatic conditions owing to global warming and changes in snowfall/ precipitation patterns.
- ❖ Hence, research on phenological aspects of prominent medicinal plant species of cold desert regions needs to be taken to observe any variation due to changing climatic conditions.
- ❖ Seed germination behavior and storage protocols of important medicinal plant species of cold desert regions viz. *Ferula jaeschkeana*, *Hyoscyamus niger*, *Orchis latifolia*, *Picrorhiza kurrooa*, *Arnebia euchroma*, *A. benthamii*, *Delphinium brunonianum*, *Swertia petiolata* need to be standardized for raising quality nursery stock.
- ❖ Cultivation techniques of important medicinal plant species viz. *Ferula jaeschkeana*, *Hyoscyamus niger*, *Rhodiola* spp, *Swertia petiolata*, *Arnebia benthamii*, *A. euchroma*, *Orchis latifolia*, *Rheum australe*, *R. moorcroftianum*, *Rheum tibeticum*, *Delphinium brunonianum* and *Delphinium denudatum* need to be standardized for raising of planting stock.
- ❖ Collaboration can be done with other institutions like NISR, Leh, DIHAR, IIIM, CAZRI, J&K, HPKVV and IHBT Palampur for research on important medicinal plant species.
- ❖ Funding from NMPB, DST, DBT, and MoEF & CC and international organizations like JICA, GEF, can be sought for the execution of projects on cold desert medicinal plant species.
- ❖ Funding from the CAMPA fund of SFD/ UT Forest Division could be sought for the execution of research projects for documentation of medicinal plants of areas and for also developing propagation techniques and establishment of germplasm banks of prominent species.

In the end, **Dr. Sandeep Sharma, Group Coordinator Research** thanked the participants for their active involvement in this seminar and also for providing the best of their input for prioritizing the research needs and identifying the gaps for developing future strategies. He further added that the intent of the seminar has been achieved to a considerable extent.

## SOME GLIMPSES OF THE SEMINAR







