

**PROCEEDINGS OF THE INSTITUTE LEVEL SEMINAR OF HIMALAYAN  
FOREST RESEARCH INSTITUTE, SHIMLA HELD ON 30.09.2020**

Monthly seminar on the topic “**Rhododendrons of North Western Himalaya- Diversity, Economic Value and Impact of Climate Change**” under the theme “*Managing Forests and Forest Products for Livelihood Support and Economic Growth*” was presented by **Shri. Vinod Kumar, Chief Technical Officer**, Genetics and Tree Improvement Division on **30<sup>th</sup> September, 2020**. All the Scientists, Forest officers, Technical Officers were present in the conference hall and other Research/ Technical staff of the institute joined through Google Meet.

The seminar was chaired by **Director, Dr. S. S. Samant, HFRI, Shimla**. Worthy Director and all present physically or connected through webinar were welcomed by **Dr. Rajesh Sharma, Group Coordinator Research** and apprised about the overview of the topic. He invited all the participants to actively participate in the discussion and provide valuable suggestions in fulfilling the objective of the seminar.

The presenter elaborated upon the background and distribution of Rhododendrons in North Western Himalaya, India and in the world. He explained that six species namely *R. arboreum* Sm., *R. campanulatum* D. Don, *R. anthopogon*, D. Don, *R. anthopogon* D. Don subsp. *hypeanthum* (Balaf f.) J.Cullen and *R. lepidotum* Wall. ex D. Don. distributed in the North Western Himalayas. The presenter elaborates about the conservational status and their economic importance and informed about the export and import of Rhododendron in India. He shared the revenue generation data of different agencies like HPMC, Minchey’s, Horticulture department and other stakeholders owned small scale industries. The aesthetic value of the species was well presented through Rhododendron Gardens developed and maintained by various counties all across the world. Sh. Kumar explained that the species is very subtle to change in climate, which can be easily observed through change in the phonological expressions of the species *viz.* early or late flowering. Various human developmental activities are jeopardizing the existence of the species; hence conservational strategies are required to avoid its extinction. He emphasized upon the propagation of species through seed, and other vegetative propagation methods like cuttings, grafting and cultivars. The presenter highlighted the current status of various research activities being carried out in the world, India and regionally.

Following points were highlighted for future research studies:

- Distribution maps of all the Rhododendron species of NW Himalayas

- Assessment of threats and analysis of the management practices at sites not presently under conservation
- Integration of climate change studies in biodiversity conservation and management
- Study to correlate the change in flowering pattern with change in climate.
- Modelling of biodiversity in response to climate change for suggesting adaptation strategy
- Establishment of Gene Banks for long term securing and sustainance of Rhododendron diversity
- Region High density regions of the species to be considered as Nature parks for Eco Tourism
- Establishment of Arboreta of different Rhododendron species for conservation and research
- Establishment of Rhododendron Societies to promote and strengthen futuristic works

**Dr. S. S. Samant, Director**, appreciated the efforts of the presenter on deliberation upon Rhododendrons, which are known for their aesthetic, economic and medicinal value. Further he informed that species has very good germination but survival is very low under natural conditions but if vegetative means are evolved for the propagation, it could give impetus to the conservation efforts for the sustenance of the species in the near future. He said that for maintaining good natural regeneration sustainable harvesting techniques may be developed.

**Shri Jagdish Singh, Scientist-F** suggested to correlate the studies of various insect-pest attack and pollination as climate change might have impacted the growth parameters of the species.

**Sh. Dinesh Paul, DCF** stated that the species has very much relevance to the regions and its juice is very beneficial in managing high blood pressure, heart and stomach related ailments. He shared his experience about the traditional medicinal use of the juice being used to treat nose bleeding.

**Dr. Joginder Chauhan, Chief Technical Officer** said that as the species is slow growing so plantation can be done through pricking of wildlings from dense natural regeneration places.

**Outcomes of the seminar were as follow:**

**A. Identification of research needs:** As a result of discussion, it was agreed that in future research must revolve around;

- Need for developing sustainable harvesting method
- Establishment of Rhododendron Parks and Arboretum
- Establishment of strong Rhododendron-based small-scale industry to generate employment
- Rhododendron plantation drives at panchayat level under joint forest management or other related projects like carbon sequestration

**B. Formulation of future strategies/ road map: It was decided that the institute needs to work on following topics:**

- Distribution and Regeneration Status of the Rhododendron species in NW Himalaya
- Standardization of vegetative propagation techniques
- Production of cultivars through hybridization
- Study of various seed parameters and seed storage method
- *In-situ* and *ex-situ* conservation of Rhododendrons
- Establishment of Gene Banks
- Promote Rhododendron as a study system in plant physiology, pathology, ecology, evolutionary biology, plant breeding, genetics, horticultural sciences, conservation biology, ethnobotany, and medicinal chemistry

**C. Networking research options identified:**

SFD, HIMCOSTE, GBPNIHESD, SKUAST, NBPGR, CSK HPKV, IHBT, SFRI, YSPUHF, and HPU

**D: Future research directions discussed for implementation and opportunities for funding:**

In collaboration with the aforesaid agencies and primarily State forest Department, the Institute can make endeavor by formulating projects on “**Distribution of Rhododendron of North Western Himalaya, standardization of seeds storage protocol, its propagation techniques and ex-situ conservation**”

In the end, **Dr. Rajesh Sharma GCR** thanked Dr. S.S. Samant, Director HFRI and Chairman, the Presenter, Forest Officers, Scientists, Technical Officers & staff and all the researchers for their active participation and inputs for making the seminar successful.

## Glimpses of Seminar



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