

Heeng Cultivation in Ladakh UT, India: ----- a success story by Collaborative Efforts under UBA network by IIT Jammu

WORKSHOP CUM TRAINING ON
Heeng Cultivation
in **Kargil**

MARCH 5-6, 2024

JOINTLY ORGANISED BY

- CSIR-National Institute of Science Communication and Policy Research (NIScPR)
- CSIR- Institute of Himalayan Bioresource Technology (IHBT)
- Unnat Bharat Abhiyan (UBA) National Coordinating Institute, IIT Delhi
- Unnat Bharat Abhiyan (UBA) RCI IIT Jammu
- Vijnana Bharati (VIBHA)
- Govt. Degree College Kargil (UBA PI), Ladakh UT

VENUE Institute of Himalayan Bioresource Technology (IHBT), Palampur, Himachal Pradesh

Background:

Heeng is a herbaceous plant of the umbelliferae family. It is a perennial plant whose oleo gum resin is extracted from its thick roots and rhizome. The plant stores most of its nutrients inside its deep fleshy roots.

It is endemic to Iran and Afghanistan, which are also the main global suppliers of it. It is very popular in India and is used in cooking. It thrives in dry and cold desert conditions. The plant can withstand a maximum temperature between 35 and 40 degree, whereas during winters, it can survive in temperatures up to minus 4 degree. Regions with sandy soil, very little moisture and annual rainfall of not more than 200mm are considered conducive for heeng cultivation.

During extreme weather, the plant can get dormant. Heeng is not cultivated in India. India imports about 1,200 tonnes of raw heeng worth Rs. 600 crore from Iran, Afghanistan and Uzbekistan.

In 2017, IHBT approached the National Bureau of Plant Genetic Resources (NBPGR) with an experimental project idea to cultivate heeng in the Indian Himalayas. The agriculture ministry of Himachal Pradesh has identified four locations in the Lahul-Spiti valley and has distributed heeng seeds to farmers in the region and is working perfectly and has not yet matured as it takes five years to mature. Every year the sampling are grown and the scientists are expected the gum next year.

Kargil and Drass areas of Ladakh UT's climatic and soil conditions are similar to that of conditions Lahul-Spiti valley of Himachal Pradesh. Therefore to take up this task forward, the UBA family/Network took up this mammoth task of putting this into reality on Indian soil at Kargil.

The collaborative efforts among various institutions under the Unnat Bharat Abhiyan (UBA) Scheme, aimed at empowering rural communities like those in Kargil. Here's a summary of the collaborative efforts:

Initial approach was made by Govt. Degree College Kargil to RCI IIT Jammu: GDC Kargil being our Participating Institution (UBA PI) from Ladakh UT, who have shown interest in engaging in rural development activities facilitated by the UBA Scheme for the farmers of Kargil region.

Jointly organized by CSIR-NIScPR New Delhi, CSIR-IHBT Palampur, UBA-NCI, IIT Delhi, UBA-RCI, IIT Jammu and UBA-PI, GDC Kargil : Upon receiving the request from Govt. Degree College Kargil, the training program for Heeng cultivation of Kargil farmers at CSIR-IHBT Palampur was a joint effort involving several institutions, including CSIR-NIScPR New Delhi, CSIR-IHBT Palampur, UBA-NCI, IIT Delhi, UBA-RCI, IIT Jammu, and UBA-PI, GDC Kargil. This collaborative approach likely allows for the pooling of resources, expertise, and networks to ensure the success and effectiveness of the training program.

Training at CSIR IHBT Palampur: Thanks to the collaborative efforts of NIScPR, CSIR IHBT Palampur, and the coordination from IIT Jammu, a training program is organized for 9 farmers from Kargil in Heeng cultivation. The training takes place between 4th to 6th March at IHBT Palampur. This training likely covers various aspects of Heeng cultivation, including planting techniques, maintenance, and harvesting methods.

Coordination by UBA Staff: Mrs. Jeyoti Kaul, UBA staff at RCI IIT Jammu, takes on the role of coordinating the event. Supported by the RCI Coordinator and PI Coordinator at IIT Jammu ensured smooth communication and organization of the training program.

Through the collaborative efforts, the training program at CSIR IHBT Palampur becomes a reality, providing valuable knowledge and skills to the farmers of Kargil. Such initiatives play a crucial role in empowering rural communities and fostering sustainable development in the region. The sapling are getting ready at IHBT and will be travelled to Kargil in second or third week of April 2024 for cultivation as guided by the scientists at IHBT. The farmers are guided, how to prepare the land before that.

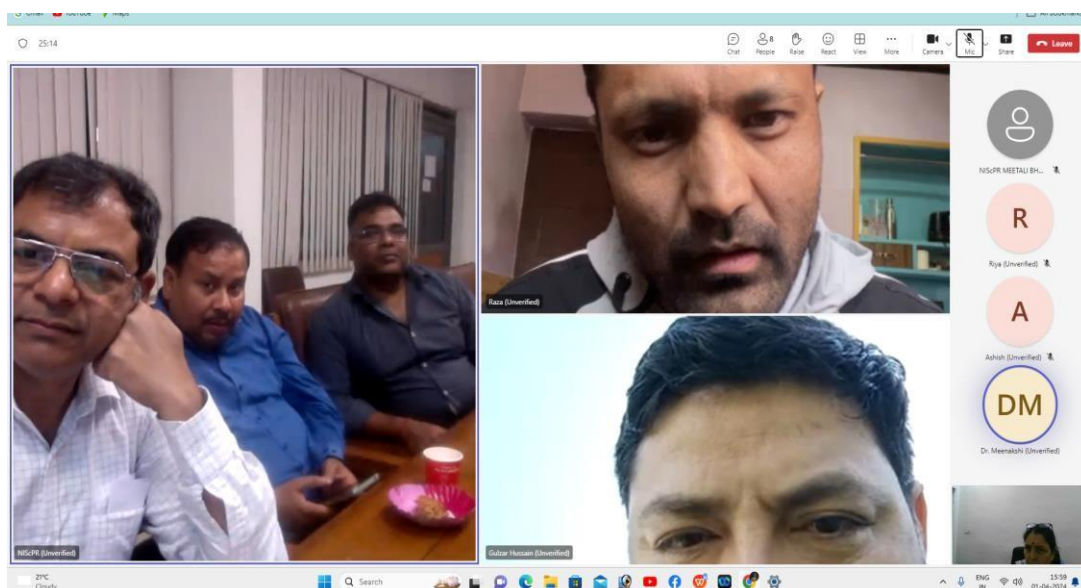


Post Heeng farmers training

An online meeting for 'Launch of Heeng Cultivation' in Kargil was held on 1st April 2024 .

After the successful training of Kargil based farmers in heeng cultivation at IHBT Palampur between 4th March to 6th March 2024. An online meeting between all the collaborative agencies was kept for the implementation / launch the Heeng (Asafoetida) cultivation in the UBA adopted villages of one of our PI GDC Kargil. This event marks a significant milestone in our efforts to promote sustainable agriculture and empower local farmers in the region. NIScPR Delhi under the

leadership of Prof Yogesh Suman and UBA NCI team motivated CSIR-IHBT Palampur for providing 300 heeng plants free of cost as part of training program for the launch to the farmers and farmers are supposed to carry the sampling from the IHBT Palampur before 4 to 6 days of launch. IHBT will issue the material after two signed copies of MTA. The Material Transfer Agreement (MTA) is to be signed between IHBT Palampur as first party and Government Degree College, Kargil as 2nd party, because the Govt. Degree College being a Participating Institution for UBA, who have initiated this event and will be the monitoring agency of the heeng cultivation till it gives a first crop. The meeting was attended by all the collaborative agencies and the farmers on 1st April 2024. The main agenda was to get the land ready for the cultivation as per the ration given during the training as well as in the meeting, the plants are to be planted at 1 x 1 m spacing. Therefore, space requirement will be approximately 300 sq.m. and for transportation the farmer representative need to bring plastic crates of standard size, one crate carries 12 plants. Accordingly, 25 crates will be required. It was decided that these saplings will be carried only in a heavy vehicle and the Kargil Manali road for heavy vehicles open in 1st or 2nd week of May. Thus we are planing accordingly.



Plantation or pre-launch of Heeng Cultivation at the adopted villages of GDC Kargil, a PI under RCI IIT Jammu

This is in continuation to the training of farmers of Kargil district of Ladakh UT. These farmers were trained at IHBT Palampur in March 2023. 300 free saplings was part of the training and were to be taken from IHBT Palampur to Kargil for plantation. These plants were designated for these trained farmers who belong to three adopted villages of Govt. Degree College Kargil (PI), marking a crucial step towards agricultural innovation and community development.

The initiative saw the active participation of 28 students from the Government Degree College Kargil. They were joined by the newly appointed Project In charge (P.I.) of Unnat Bharat Abhiyan, Mr. Syed Ali Mousavi. Together, they formed a dedicated team committed to the successful execution of the plantation drive as per the availability of the land with the trained farmers.

195 Hing saplings were planted in Kharul village with three farmers

50 were planted in Khundru village

55 in Handurman Village of kargil district

As per reports from the farmers, the plants are under dormancy stage as was told during the training, they are expected to grow up again in the month of January 2025.



Post Plantation:

From May to early November 2024, the plants demonstrated vigorous growth. Subsequently, in accordance with their established dormancy cycle, as confirmed by IHBT Palampur scientists, they entered a period of winter quiescence, characterized by leaf desiccation. The recent emergence of new sprouts signifies the successful completion of this dormant phase. This resumption of growth is a positive indicator of the plants' resilience and viability, and it is welcomed by all stakeholders involved in the project.



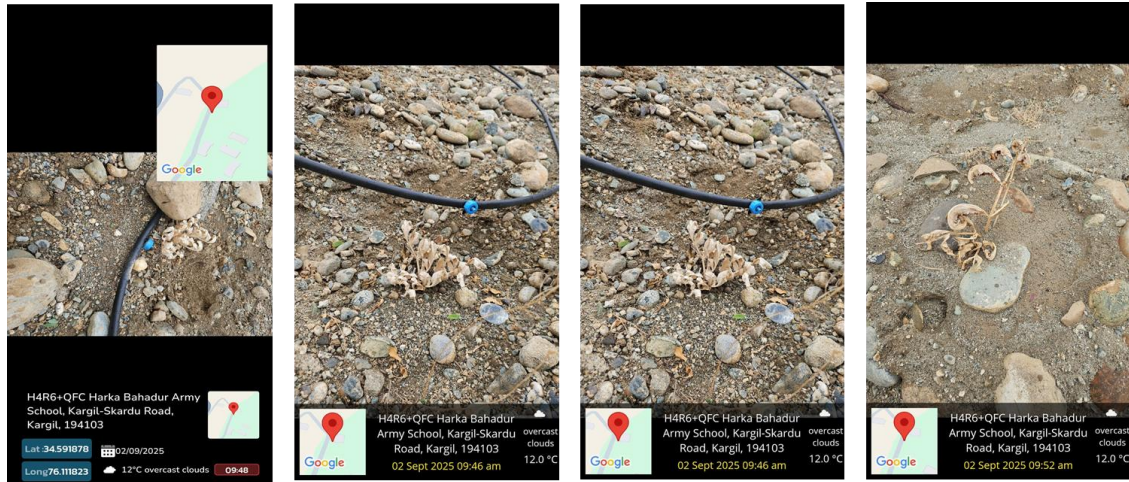


Google Images:

Dated: 2nd September 2025

Kharool village near Army School on Skardu highway.

The plants are in dormancy due to temperature rise



Pictures of 9th May 2026, The plant is in its 3rd Year, for 5 year cycle

