



HIMALAYAN e-NEWSLETTER

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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.



RESEARCH ARTICLES

Tinospora cordifolia (Giloy): An Important Source of Medicine for Rural and Tribal Communities of India

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Introduction

Since times immemorial medicinal plants have been used by humans as a source of medicines. Currently approximately 70%–80% people of the world are using plant-based medicines for better health, because these plant-based medicines have no side effects and has better compatibility with the human body. *Tinospora cordifolia* (Willd.) Miers ex Hook.f. & Thomson is a shrubby climber of medicinal importance which belongs to family Menispermaceae. It is commonly known as Giloy which is a Hindu mythological term that refers to the heavenly elixir that has saved celestial beings from old age and kept them eternally young. It has heart-shaped leaves, hence also known to be Heart-leaved moonseed. It is common plant of tropical and sub tropical region of India and grows on shrubs and trees as climber. This plant has been known for immunomodulatory, hypoglycaemic, antioxidant, anti-hyperglycaemic, antiallergic, anti-inflammatory, antidiabetic and hypoglycemia properties.



Due to high medicinal value this plant is widely used in Indian System of Medicine to cure many diseases because it has rejuvenating effect and contributes in youthfulness, vitality and longevity. It is one of the most versatile rejuvenating herbs, it promotes longevity hence called Vayastha. Its efficacy has been also recognised by the Modern System of Medicine. Generally, stems, leaves, and roots are used in medicine but stem and root are high in medicinal constituents. *Tinospora* species are one of the most commercially exploited plants in pharmaceuticals and the estimated consumption by domestic herbal industry is 3782.67 MT/year and rural households by 2331.92 MT/year. As rich source of bioactive compound with antioxidant potential it has huge potential in production of new herbal formulations, which may be better and promising over conventional one.

Vernacular Names

English	Tinospora Gulancha / Indian Tinospora
Hindi	Giloya, Guduchi
Sanskrit	Guduchi, Madhuparni, Amrita, Chinnaruha, Vatsadaani, Tantrika
Nepal	Garjo
Punjabi	Gilo
Kashmiri	Gilo

Synonyms

Menispermum cordifolium Willd.

T. cordifolia var. *congesta* Mujaffar, Yasin & Solanki

T. fosbergii Kundu

Morphology

It is a large deciduous, extensively spreading climbing shrub with several elongated twinning branches. The bark is creamy white to grey and stem contains rosette like lenticels. Leaves are simple, alternate, and exstipulate heart shaped having long, roundish, and pulvinate petioles. Flowers unisexual, small and greenish-yellow appears when plant is leafless. Inflorescence racemose panicle where male flowers are clustered, and females are solitary. It has six sepals in two series having three in each where outer ones are smaller than inner and six petals, smaller than sepals, is membranous and obovate. Fruit are fleshy, single-seeded, ovoid smooth drupelets on thick stalks with subterminal style scars, scarlet or orange-colored, aggregates in clusters. Seeds are white, bean-shaped, and curved, while embryo also turns into curve shape later. Seed set and germination is poor in natural conditions but propagated easily through cuttings.

Habitat and Distribution

It is distributed mainly in the rainforest, tropical and subtropical regions of North Africa, West Africa, South Africa, Australia, Bangladesh, Borneo, Philippines, Pakistan, Vietnam, Srilanka, China, Myanmar, Malaysia, Indonesia, India and Thailand. It is widely distributed throughout tropical regions of India up to 1200 meter above mean sea level but is abundant in the north western region including Jammu, Kumaun and Himachal Pradesh. It has greater adaptability and grows well in a wide range of acidic to alkaline soil with a moderate amount of moisture.

Active components

Different kinds of active components such as alkaloids, steroids, diterpenoid, lactones, aliphatics, glyceroides, berberine, photoberberine, palmatine, magnoflorine tinosporone, tinosporic acid, cordifolisides A to E, syringin, berberine, giloin, gilenin, crude giloininand, arabinogalactan polysaccharide, picrotene, bergenin, gilosterol, tinosporol, tinosporidine, sitosterol, cordifol, heptacosanol, octacosanol, tinosporide, columbin, chasmanthin, palmarin, palmatosides C and F, amritosides, cordioside, tinosponone, ecdysterone, makisterone A, hydroxyecdysone, magnoflorine, tembetarine, syringine, glucan polysaccharide, syringine apiosylglycoside, isocolumbin, palmatine, tetrahydropalmatine, jatrorrhizine are derived from the different parts of plant.

Nutritive Composition

It contains fibre (15.9%), protein (4.5%-11.2%), carbohydrate (61.66%), and fat (3.1%). Its nutritive value is 292.54 calories per 100 g.

Medicinal Importance

Its therapeutic strength lies in its rejuvenating and strengthening properties and it also detoxifies and cleans the organ system, especially liver. It is widely used as anti-bacterial, analgesic, spasmotic, antipyretic and also for the treatment of diabetes, jaundice, visceral obstructions, leprosy, rheumatoid arthritis, fever, snake bite, body heat problem, stress, mental problem, scorpion bite, cancer, malaria, skin diseases, scabies, eye problems, dyspepsia, bleeding piles, seminal weakness, itching, urinary diseases, irritability of stomach, heart diseases, anemia, helminthiasis, chronic diarrhea, dysentery, bone fracture, microbial infections, Parkinson's disease, bronchitis etc. Starch obtained from the plant is known as

which is highly nutritive as tonic and also used to In its distribution range it among the local communit-satva obtained from Giloy *Azadirachta indica* (Neem) and more efficacious and is the medicinal value of veda and Yunani system of in preparation of many Guduchyadi churna, Dashmoolarishtha, Sanja-



avleha, Chyavanaprasha, Guduchi satva, Stanyashodhana, kashya churna, Guduchi ghrita, Sat Giloe, Arq Giloe, Arq Maul Laham, Mako Kashiwala, Amritashtaka churna. According to the 1918 United States Dispensatory, the plant has a long history of use in India as a medicine and in the preparation of a starch known as 'Gilaeka-sat or as Palo'. In folk and tribal medicine powdered root and stem bark, decoction of root and stem, juice of the root, juice or paste of the leaves, and stem of *T. cordifolia* is used to treat diseases mainly fever, jaundice, diarrhoea, dysentery, general debility, cough, asthma, leucorhea, skin diseases, fractures, eye disorders, bites of poisonous insects and snake.

Conclusion

T. cordifolia is a native climbing shrub of India with numerous health benefits. Since time immemorial, due to its high pharmacological properties this plant is used to cure many ailments by rural and tribal communities living in its distribution ranges. Presence of high bioactive compounds and macro and micro nutrients make this species potential medicinal species. It can be consumed as powder, decoction or juice, paste and tonic. Because of high medicinal benefits it is now used in preparation of various value-added food products like ready to serve drinks, cookies, squash, syrups, beverages), etc. It is also used extensively in other nonfood products like wound healing creams and health supplements. Recently during COVID-19 pandemic, it had risen up its popularity and importance as immunity booster and this species attained attention of people and researchers throughout world. It is also believed that the plant has effective properties against Swine flu H1N1 virus, although researches are in progress for proving this scientifically. Due to its high medicinal uses its market demand has been increasing tremendously, therefore there is a lot of scope in this medicinal plant for health and livelihood security of people.

Fiddlehead Fern (Lingad): Traditionally used Wild Edible Plant

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Himachal Pradesh is a treasure trove of forest resources. The forests in Himachal Pradesh provide the people with a variety of goods, including fodder, medicinal plants, and firewood etc. Many natural edible products like wild fruits, wild vegetables, spices, etc. are found in the forests of Himachal Pradesh which are very important for adopting a healthy lifestyle. Himachal Pradesh forests have a rich plant biodiversity which host an array of numerous edible plant species for the locals to forage and cook with great enthusiasm. Natural food products are especially significant in the contemporary world where individuals habitually consume products containing dangerous chemicals. Natural products are chemical free and have many medicinal properties and are rich in nutrients. Plants have been used by humans as food and medicine since time immemorial. Although the use of wild food products is decreasing at a rapid pace, but the use of wild plants is still prevalent in many parts of the world. Similarly, one of the many natural food products found in Himachal Pradesh is "Fiddlehead Fern" locally called as *Lingad*. *Diplazium esculentum* and *Pteridium aquilinum* members of the family Ploypodiaceae are among the most popular wild edible ferns of state. Locally it is also known as Lingad, Lingdu, Kasod in different parts of Himachal. It is commonly known as a wild vegetable in Himalayan and sub-Himalayan communities.



Leaves and Fronds of Fiddlehead Fern

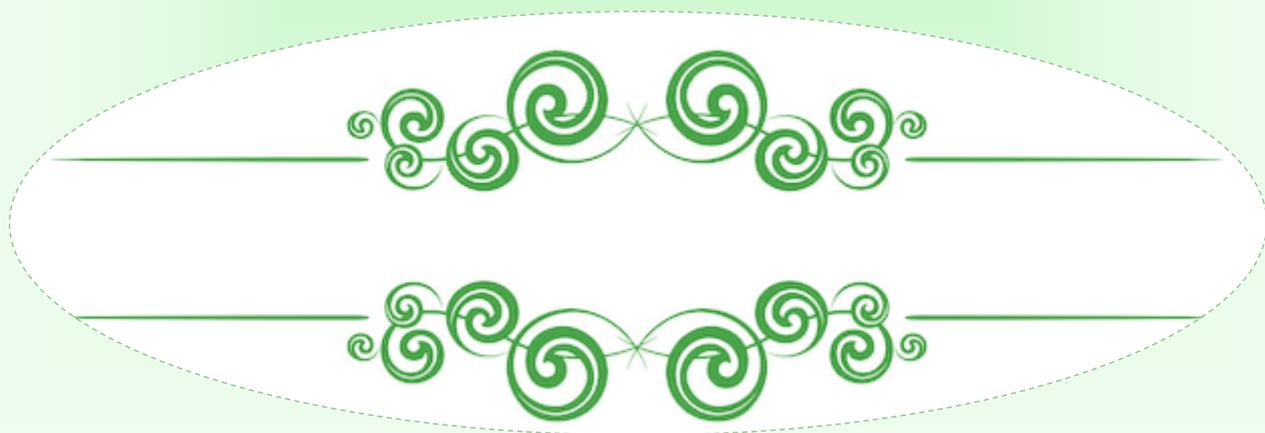
Lingad, a seasonal fern, is usually found at an altitude of 1300 to 1900 meters above sea level (masl) in cool, shady and moist places near fresh water sources. As soon as the weather starts getting warmer after winter, small, black-green colored new leaves start emerging in the form of fronds in this plant. When the frond becomes 15 to 20 cm long, it can be collected and consumed as vegetable. As long as the fronds and stalk are soft, they can be used as vegetable. After this stage, the terminal coil starts straightening and the leaves also lose their softness and start becoming woody. Lingad is very popular among the nomads as well as the local people and is used as a traditional vegetable in the Himalayan communities. This fern is extremely nutritious and tastes slightly grassy. Finding Lingad in the markets gives the feeling of arrival of spring season. It is consumed in many forms by Himachali people, traditionally prepared Lingad/Lingri pickle can also be found in local markets.

Popular dishes of Himachal like Dum and Madhra are prepared from Lingad. Its new leaves can also be cooked and used as salad. These days, Lingad vegetable is getting recognition as a traditional vegetable in the hotels and restaurants of Himachal Pradesh.

Lingad is rich in nutritional elements and exhibit numerous medicinal properties. Hundred grams of fresh lingad contains 91.3 grams of moisture, 1 gram of protein, 100 mg of fat, 1.4 grams of fiber, 600 mg of minerals. They also contain 0.98 mg/100 grams of beta carotene. This vegetable is also considered a low-calorie food. Lingad is highly rich in antioxidants, omega-3 fatty acids and fiber. Lingad is a good source of electrolytes in spring because it contains low amounts of sodium and rich amounts of vitamins A and C, niacin, potassium, phosphorus, iron and magnesium. They contain B complex vitamins which are very beneficial for our health.

According to literature analysis around the world, it has been traditionally used for the prevention or cure of many diseases such as diabetes, smallpox, asthma, diarrhea, arthritis, dysentery, headache, fever, wounds, pain, measles, hypertension, constipation, oligospermia. Lingad is unique in that it hasn't been cultivated yet; instead, it's exclusively harvested from forests.

Collecting Lingad from the forests is a very difficult task as Lingad grows in odd and difficult places. Lingad is a good source of earning for rural women of Himachal Pradesh. Lingad is sold in all the big and small markets of Himachal Pradesh. Lingad worth lakhs of rupees are sold every year in the vegetable markets of the cities of Himachal Pradesh and per Kg price in market is approximately 50-60 rupees. Unlike other useful plants harvested from the forests, there has been no decline in the natural population of Lingad. It has been placed in the least concern category under the International Union for Conservation of Nature (IUCN). The main reason for this could be that it is removed by cutting instead of digging, due to which its natural regeneration remains unaffected. In the present situation, due to lack of information related to the use and nutritional values of natural products like Lingad among the people, there is a need to run an awareness campaign so that its marketing strategies can be prepared in future.



Debregeasia saeneb: Distribution, Uses and Challenge

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Debregeasia saeneb (Forssk.) Hepper & J.R.I.Wood, commonly known as Himalayan paper mulberry, is a species of flowering plant native to the Himalayan region of Asia. Belonging to the family Urticaceae, it is renowned for its versatile uses in traditional medicine, fiber production, and as an ornamental plant. The origin of the species is believed to be in the Himalayan region of Asia. This region encompasses a diverse range of ecosystems, including subtropical forests, temperate forests, and montane habitats, where it is naturally distributed. The species likely evolved and adapted to these environments over time, developing characteristics that allow it to thrive in various altitudes and climatic conditions found within the Himalayas. The species has been historically utilized by local communities in the Himalayan region for



its medicinal properties, fiber production, and other traditional uses. Its cultivation and propagation have also led to its introduction in other regions where it is valued for its economic and cultural significance. While the precise origins of species within the Himalayas remain uncertain, its distribution and importance throughout the region underscore its historical association with this biodiverse and ecologically rich area. The plant typically grows as a shrub or small tree, reaching heights of up to 5 meters, with distinctive heart-shaped leaves that are serrated along the edges. The species produces small, inconspicuous flowers followed by spherical fruits that ripen to a reddish-purple hue. It thrives in moist, well-drained soils and is often found in forests, along streams, and in disturbed areas. Culturally significant, various parts of the plant are used in traditional medicine across its native range. The fibers from its bark are also harvested for making paper, ropes, and textiles. Despite its economic and cultural importance, populations of *Debregeasia saeneb* face threats from habitat loss, overharvesting, and land degradation. Conservation efforts aimed at protecting its habitat and promoting sustainable use of its resources are essential for the conservation of this valuable species.

Distribution

Debregeasia saeneb, is primarily distributed in the Himalayan region of Asia. Its range spans across several countries in South Asia and Southeast Asia. The overview of its distribution has been outlined below:

1. **Nepal:** It is found in various regions of Nepal, particularly in the central and eastern parts of the country. It occurs in the foothills of the Himalayas and extends into higher elevations along riverbanks and forested areas.
2. **India:** In India, It is distributed in the northeastern states of Sikkim, Arunachal Pradesh, and parts of Himachal Pradesh. It is often found in subtropical and temperate forests, growing alongside other vegetation in mountainous terrain.
3. **Bhutan:** The species is also present in Bhutan, where it occurs in the southern foothills of the Himalayas. It can be found in mixed deciduous forests and riparian habitats.
4. **China:** It is reported to occur in southwestern China, particularly in the Yunnan province. It is found in subtropical forests and montane regions.
5. **Myanmar (Burma):** The species is known to occur in Myanmar, where it is found in the northern and eastern parts of the country. It grows in forested areas and along riverbanks.
6. **Thailand:** In Thailand, It is reported to occur in the northern regions of the country, particularly in areas bordering Myanmar and Laos. It is found in forests and hilly terrain.
7. **Vietnam:** There are records of the species occurring in northern Vietnam, particularly in the mountainous regions near the border with China. It is found in montane forests and along streams.

Overall, *Debregeasia saeneb* is primarily distributed in the Himalayan region, but it also extends into adjacent areas of South Asia and Southeast Asia where suitable habitats are present. Its distribution is influenced by factors such as altitude, climate, and vegetation types, with the species typically occurring in forested areas and riparian habitats.

Habitat

Debregeasia saeneb, exhibits a preference for specific habitats and environmental conditions conducive to its growth and development. Here are the preferred habitat and habit characteristics of the species are:

1. **Montane and Subtropical Forests:** The species thrives well in montane and subtropical forests, where it can be found growing in the understory or along the edges of forested areas. These forest habitats provide the necessary shade, protection from harsh sunlight, and moisture levels that are conducive to the growth of this species.
2. **Riparian Zones:** It is commonly occurs along riverbanks, streamsides, and other riparian zones. These habitats offer ample moisture and nutrient-rich soils, which are favorable for the growth of the plant.
3. **Elevational Range:** The species is typically found at moderate to high elevations, ranging from foothills to montane regions within the Himalayas. It can occur at elevations ranging from 1,000 meters to 3,000 meters above sea level.
4. **Well-Drained Soil:** While it prefers moist soil conditions, it also requires good drainage to prevent waterlogging, particularly in areas with heavy rainfall. Well-drained soils with a loamy or sandy texture are ideal for its growth.
5. **Partial Shade to Dappled Sunlight:** The species flourishes in habitats with partial shade to dappled sunlight. It prefers locations where it receives filtered sunlight throughout the day, rather than being exposed to intense, direct sunlight for prolonged periods.
6. **Temperate Climate:** The species is adapted to temperate climates characterized by distinct seasons, with warm summers and cool winters. It may tolerate occasional frost but prefers milder temperatures overall.

Disturbed Areas: While it primarily occurs in natural forest habitats, it can also tolerate disturbed areas such as forest edges, clearings, and abandoned agricultural lands. However, it is less competitive in heavily disturbed or degraded habitats.

Overall, *Debregeasia saeneb* demonstrates a preference for montane and subtropical forest habitats with moist, well-drained soils, partial shade, and temperate climatic conditions. Understanding

Uses

Debregeasia saeneb, commonly known as Himalayan paper mulberry, possesses a variety of traditional and modern uses, making it an economically and culturally important plant in the regions where it is found. Some of the uses of species include:

1. **Fiber:** One of the primary uses of the species is fiber production. The inner bark of the plant contains strong and flexible fibers that are traditionally used to make paper, ropes, twine, and textiles. These fibers are extracted through a process of soaking, beating, and drying the bark, resulting in a durable and versatile material.
2. **Traditional Medicine:** Different parts including the leaves, roots, and bark, are used in traditional medicine systems across its native range. The plant is believed to possess various medicinal properties and is used to treat ailments such as fevers, coughs, skin diseases, and gastrointestinal disorders.
3. **Livestock Feed:** In some regions, the species is utilized as fodder for livestock, particularly goats and sheep. The leaves of the plant are palatable to animals and are consumed as part of their diet, providing nutrients and roughage.
4. **Erosion Control:** The extensive root system of the species helps stabilize soil and prevent erosion, making it useful for slope stabilization and soil conservation efforts in hilly and mountainous areas.
5. **Ornamental Plant:** It is cultivated as an ornamental plant in gardens and landscapes for its attractive foliage and unique appearance. It is valued for its large, heart-shaped leaves and ornamental fruits, which add aesthetic appeal to outdoor spaces.
6. **Environmental Benefits:** The dense growth habit of this species provides habitat and food sources for various wildlife species, including birds, insects, and small mammals. It also contributes to the overall biodiversity of forest ecosystems.
7. **Cultural Significance:** It holds cultural significance in many communities where it is grown. It is used in religious rituals, ceremonies, and traditional practices, symbolizing prosperity, protection, and spiritual beliefs.
8. **Agroforestry:** It is sometimes incorporated into agroforestry systems, where it is planted alongside other crops to provide shade, windbreaks, and additional sources of income.

Overall, *Debregeasia saeneb* plays a multifaceted role in the livelihoods, cultures, and environments of the regions where it is cultivated and utilized, highlighting its importance as a versatile and valuable plant species.

Challenges:

Debregeasia saeneb, like many plant species, faces several threats and conservation issues that can impact its populations and habitats. Some of these threats and issues include:

1. **Habitat Loss and Degradation:** Clearing of forests for agriculture, urbanization, infrastructure development, and other human activities can lead to the loss and fragmentation of its habitats. Habitat degradation caused by logging, mining, and other extractive industries further exacerbates this threat.
2. **Overharvesting:** It is often exploited for its bark fibers, which are used for making paper, ropes, and textiles. Overharvesting of the plant for commercial purposes can deplete populations and dis-

rupt ecosystems, especially if unsustainable harvesting practices are employed.

1. **Invasive Species:** Invasion by non-native plant species can pose a significant threat to the species by competing for resources, altering habitats, and disrupting ecosystem dynamics. Invasive species can out compete native plants, reducing the availability of suitable habitat and other native species.
2. **Climate Change:** Climate change, including shifts in temperature, precipitation patterns, and extreme weather events, can negatively impact its populations and habitats. Changes in climate can alter habitat suitability, disrupt phenological cycles, and increase the frequency and intensity of natural disasters such as droughts and storms.
3. **Illegal Harvesting and Trade:** Unregulated harvesting and trade of the species for its bark fibers or other uses can threaten the species' survival, especially if populations are targeted indiscriminately or without proper management measures in place.
4. **Fragmentation and Isolation:** Habitat fragmentation resulting from land-use changes can isolate its populations, leading to reduced genetic diversity, limited gene flow, and increased vulnerability to stochastic events such as disease outbreaks or environmental catastrophes.
7. **Lack of Awareness and Conservation Efforts:** Limited awareness about the ecological importance of *Debregeasia saeneb* and its conservation needs can hinder efforts to protect the species. Insufficient resources, funding, and institutional support for conservation initiatives further compound the challenges faced by this species.

Conclusion

Debregeasia saeneb, holds significant cultural, economic, and ecological importance in the regions where it occurs. The plant has been utilized for generations by local communities for various purposes, including the production of fibers for ropes, baskets, and textiles, as well as for its edible fruits and medicinal properties. However, the continued exploitation of species for its fibers, coupled with habitat loss and degradation due to agricultural expansion, urbanization, and deforestation, poses significant threats to its survival. To ensure the long-term viability of its populations, concerted conservation efforts are needed, including the protection of its natural habitats, sustainable management practices, and community-based initiatives that promote its conservation while supporting local livelihoods. Additionally, further research into the plant's biology, ecology, and genetic diversity is essential for developing effective conservation strategies tailored to the specific needs of the species and the ecosystems it inhabits. Addressing these threats and conservation issues requires collaborative efforts involving government agencies, conservation organizations, local communities, researchers, and other stakeholders. Conservation measures may include habitat restoration, protected area management, sustainable harvesting practices, invasive species control, climate change adaptation strategies, and public education and outreach programs aimed at raising awareness about the importance of conserving the species and its associated ecosystems. By tackling these challenges and implementing proactive conservation measures, we can work towards safeguarding the future of *Debregeasia saeneb* and preserving its invaluable cultural heritage and ecological contributions for generations to come.

Grewia optiva (Beul) - A multipurpose tree from Mid Himalaya of Himachal Pradesh

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Introduction:

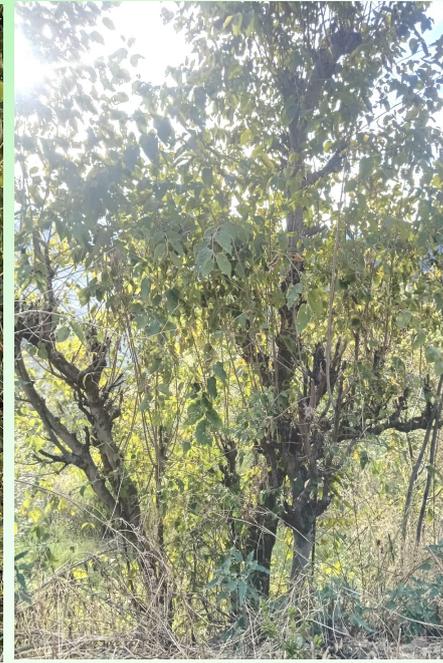
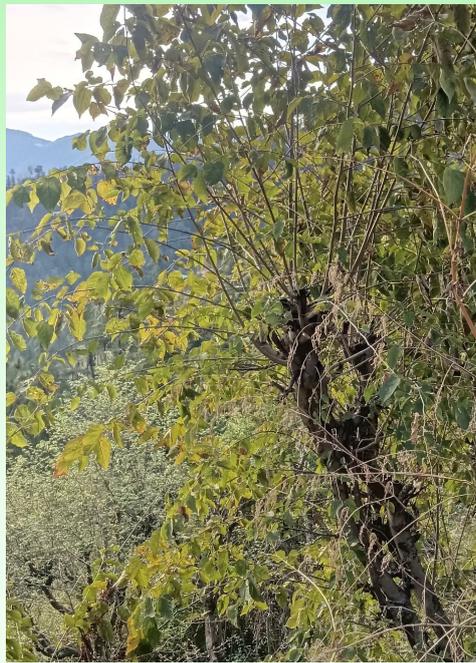
Beul is a deciduous or semi-deciduous small to moderate-sized multipurpose tree (Fig-1) of Western Himalayas. It is extensively used as fodder, fuel and material. Its multifarious traditional uses includes; ripe fruits are eaten by birds; wood employed for making cot frames and tool handles; Infusion of leaves and bark used as shampoo; shoots are used as torch and bark-fibre is employed for ropes, nets, sacs, brush making.

Family: Tiliaceae **Synonym:** *Grewia optiva*

Common Name: Bhimal, beul, bhiunal, dhaman, Beul

Local Name: Beul, Beul (ब्यूल)

Distribution Beul is very commonly seen growing in and around villages, at margins of fields, along road-sides, pathways and foothills of the Western Himalayas in state of Himachal Pradesh, Uttarakhand and UTs of Jammu and Kashmir from elevations of 500 to 2100 metres amsl. It succeeds best in most soils, though prefers a moist, sandy loam. Beul usually grows in subtropical climate, where day temperatures ranges between -2°C and 38°C and was where summer and autumn months. It can also survive Himalayan frosts in autumn and winter. Beul thrives on sandy loam with adequate moisture but can still grow on a variety of soil. It propagates through seeds.



Uses of Beul

Beul is a multipurpose tree for the local people of Western Himalayas. It is harvested for fodder, fuel, food, fibre (Fig-2) and material but quite often cultivated for both personal and commercial uses.

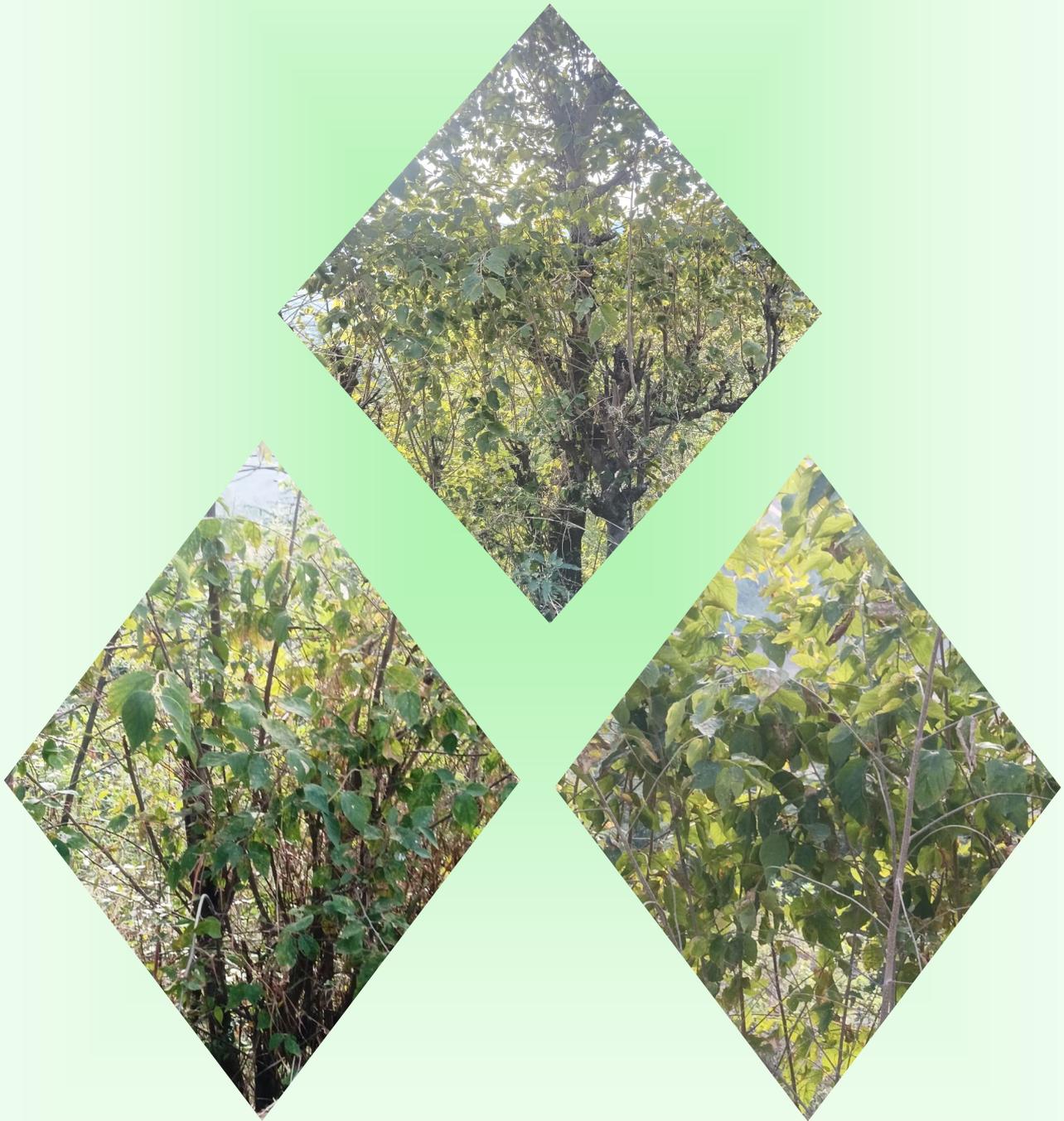
1. Beul leaves are heavily lopped as fodder in the winter season when usually no other green fodder is available. Fresh leaves constitute about 70 % of the total green weight of branches. Since the leaves and edible green twigs of this tree species are palatable, easily digestible, and contain a significant amount of protein and mineral nutrients, they are categorized as good quality fod-



der trees in the Himalayan region. Additionally, they can profitably replace concentrates when fed with straw or other inferior dry roughage.

1. The leaf fodder consists of up to 21% crude protein, 20 % crude fiber and 6% fat content and other nutrients like Mn, Zn, Ca, Cu and Mg and do not contain tannins. Beul is highly rated as good fodder, it is considered best for milch cattle.
2. Beul is a very good source of fiber for the local peoples. The bast fiber is extracted from the cut twigs of the tree by the process called retting. Firstly, the green leaves from the freshly cut twigs are removed and the twigs are bundled in small packets. After that the bundles are completely drenched in the near nallahas/ khads for about 30 to 45 days. After the said period the outer bark of the twigs get softened and fiber is extracted by beating the twigs. The fiber extracted is used for making ropes, fancy articles like slippers and bags, etc.

3. The tree bark is crushed into a powder after being dried in the sun or in a drier, and it is com-mixed with the powders of shikakai and amla to make hair shampoo.
4. Bark of Buel has long been used to treat a broad range of illnesses, including eczema, smallpox, diarrhea, fever, typhoid, and dysentery and the medicinal properties of the tree accounts to the presence of Grewialin, optivanin, B-sitosterol, stigmasterol and luperol, etc.
5. The stem, lopped branches and twigs after removal of green fodder are sundried and preferred as fuel wood by local peoples.



Bombax ceiba Linn: An Important Multi-Purpose Tree of Himalayan Region

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Introduction:

Bombax ceiba Linn is a deciduous, fast-growing multipurpose tree that attains a height of up to 20-25 m. It is commonly known as the Silk Cotton Tree or Simbal or Semal. It belongs to the family Bombacaceae. It is mainly found in the tropical and sub-tropical parts of Asia, Africa, and Australia. In India, it is found at altitudes up to 1400-1500 m above msl. In peninsular India, the tree is commonly seen in dry and moist deciduous forests and also near rivers. It has an erect stem that develops buttresses when mature and an umbrella-shaped crown. The young stem as well as branches bear conical spines during young stage which later on disappears in older trees. The trees have palmate leaves with 7-9 leaflets radiating from tip of petiole and are leathery and bright green. The leaf size ranges from 12-15 cm in length and 6-10 cm in breadth. The petiole is up to 20-25 cm long. The flowers are cup-shaped and deep red in colour.



The pods are oblong-oval in shape and are brown-colored and contain silky hairs laden with seeds.

The plants are an important source of medicines. Its medicinal usage has been reported in the traditional systems of medicine such as Ayurveda, Siddha and Unani. The different parts of the plant VIZ., root, stem bark, gum, leaf, prickles, flower, fruit, seed and heartwood are used by local communities and forest dwellers for the treatment of a variety of ailments. The plant possesses astringent, cooling, stimulant, diuretic, aphrodisiac, and demulcent properties.

Habitat and Distribution:

It is a plant of the tropical, sub-tropical regions and humid lowlands. It grows best in areas where annual daytime temperatures lie in the range of 28 - 42°C, though it can tolerate 5 - 49°C. It can resist occasional light frosts, with new growth being killed at -1°C, but dormant growth being tolerant down to -3°C. It grows best in sunny locations. It prefers a deep, rich, well-drained soil. The plants are drought tolerant, and can also withstand occasional inundation of the soil. It prefers a pH in the range of 5.5 - 6.5. It is a light-demander and fast-growing tree. In Himachal Pradesh, it grows in deep sandy loams and well-drained soils in the regions that receive 1200-1800 mm annual rainfall. It is found in subtropical areas in Shimla, Mandi, Kullu, Solan, Sirmaur, Bilaspur, Hamirpur, Kangra, Chamba and Una districts of Himachal Pradesh.

Flowering and Fruiting:

The 8-10-year-old trees start bearing flowers. The flowers appear from March- April of the calendar year. The pods mature in the month of May or June depending upon the site condition. The mature pods immediately burst and seeds fall on the ground.

Time of seed collection:

The best time for seed collection is just before the bursting of pods. The mature pods are collected



from the trees during May -June. Thereafter, seeds are extracted from the pods and dried in the shade under ambient room temperature.

Nursery Technique:

The seedlings of *Bombax ceiba* are raised in the nursery through seeds. The seeds after collection from the field are sown in the nursery beds or the polybags containing potting media at 1.5 cm depth. The nursery beds or polybags are kept moist during the germination stage. The germinants having 3-4 leaves raised in the germination beds are transplanted into individual containers/polybags filled with good potting media for further growth of the seedlings and production of nursery stocks. The seedlings get ready for planting after 1-1½ years of growth in the nursery.

Plantation Technique:

Before planting, 30cm x 30cm x 30cm pits are made in the field in the plantation area. Around ¼ portion of pits are filled with well-worked soil and thereafter, 1-1½ year old nursery raised seedlings are planted in 30cm x 30cm x 30cm pits in the field at a spacing of 5m x 5m during the rainy season. The seedlings containing pits are properly filled with soil and irrigated immediately after planting. The soil around the pits is compacted so that water does not stagnate around it.

Medicinal Uses:

The various parts of plants like flowers, shoots, roots, leaves, and bark have medicinal properties and are used in the treatment of various diseases like cholera, fractures, toothache, coughs, urinary problems, influenza, and snake bites. The flowers are edible and are highly valued as a curry vegetable. The young leaves are also edible and eaten as a vegetable. The seeds yield edible oil. The decoction of the bark is given orally to combat fever and bark juice is given to reduce stomachaches. The flowers are



astrigent and refrigerant. They are used to treat cutaneous troubles. The young roots are diuretic and tonic. They are used in the treatment of cholera, tubercular fistula, coughs, urinary complaints, abdominal pain due to dysentery, and impotency. The gum is astrigent, demulcent and tonic. It is used in the treatment of dysentery, pulmonary complications, influenza, and menorrhagia. The leaves are hypotensive and hypoglycemic. A decoction of the shoots is used to treat ulcers of the palate, syphilis, leprosy, and spider or snake bites. The bark is used against, pleurisy, stings and as a diuretic. It is used as bandages during fractures of bone.



Other Uses:

The flower buds and young fruits of Simbal tree are used to prepare different eatable items. It is considered a seasonal delicacy. A pickle is also made from Simbal buds. It has economic value and is a good source of income for the local communities. The seed floss is used as a stuffing material for pillows and cushions as it is considered to be vermin-proof and waterproof. It is also used as a filling material in life jackets and as an insulating material in refrigerators. A transparent gum that contains tannins exuded from the bark of the tree is called the 'Gum of Malabar'. An oil obtained from the seed is used to make soap and for illumination purposes. It can be used as a substitute for cottonseed oil. The fibrous bark is used for making ropes. Its timber is used to make packing cases, toys, matches, pencils, and shuttering planks.

Many household items are prepared from the wood of the Simbal tree. Its wood is specially used to prepare "**Ved**"- a pyramid-type wooden structure made during marriage ceremonies for performing marriage rituals in lower areas of Himachal Pradesh. The local communities can earn extra income by selling these "**Veds**" during marriage ceremonies.

Role in Agroforestry:

It is traditionally grown as live fences in the north-



western Himalaya region to prevent entry of livestock and other animals in agricultural fields. It is an important agroforestry species that has tremendous potential in the lower hill regions of Himachal Pradesh. It can be planted in field bunds and wastelands to enhance tree

cover and forest productivity.



A note on ethnobotanical uses of *Euphorbia royleana*: a lesser known succulent shrub of mountains

Joginder Singh and Jagdish Singh
Extension Division, HFRI, Shimla

Introduction

Euphorbia royleana is commonly known as Sullu Spurge, Churee, Suru, Suruanth belongs to family Euphorbiaceae. It is an erect, deciduous, flowering shrub or small tree with whorled, succulent, segmented branches and a stout trunk. Branches have short prickles along its length. Plant has cactus-like appearance, although it is unrelated to cactus. The stems have ribs angles more or less undulately winged with rounded teeth. Leaves are clustered and large and comes during the moist season and fall soon after appearance. Spines are pointed in pair with broad flat faces. The sap of the plant can irritate skin and eyes of human being. Latex of plant has purported molluscicidal properties. Plants are also used as a living hedge to control livestock in some parts of northern India. Fruits of the species are subglobose, trigonous with three compressed, obtuse cocci, 6–9 mm in diam., glabrous, greyish-green. Seeds sub-globose, 2–2.5 mm in diam., brown to pale black.



The plants of *E. royleana* grows across the Himalaya Mountains from Pakistan, India, Bhutan, Myanmar, Nepal to western China.

It prefers dry and rocky slopes having well-drained soil and full sun. The range of distribution varies from 600 to 1500 m amsl, but also can grow up to 2000 meters. Flowering and fruiting of the species occurs is in spring to early summer i.e. March–July and seeding is in June–October.

Ethnobotanical Importance: The ethnobotanical information about the species was collected from local people of the Kiran Pargana, Chopal, district Shimla, Himachal Pradesh through informal discussion and semi-structured interviews. People were queried about its utility and mode of use. Twenty people from four villages were queried about its ethnobotanical uses. People for semi-structured interviews for gathering information were selected after referral by other people of villages, who consider them knowledgeable about the plants. The uses reported by people are summarized as follows. All people queried had knowledge about ethnobotanical uses of this plant. However, people were not aware about its medicinal uses. Succulent stems of plants are used as feed for goats in Kiran Pargana and other parts of Chopal, Shimla district and in adjacent areas of Uttarakhand. Succulent stem are lightly roasted and chopped into small pieces, which is given to goat as feed. Goats like eating of succulent stems of the plant. In natural habitats also, goat grazers cut the

stem, which are eaten by goats. Fishermen use latex of plants for killing fishes and subsequently catching fishes from small rivulets. Besides, plants help in binding of soils in its habitats i.e. open



E. royleana plant stems with prickles



Inflorescence in *E. royleana* plant prickles

spaces having ample sunlight. Plant is sometime cultivate ornamental plant. Milky sap of plant causes dermatitis and injurious to the eyes.



Significant Research Findings

- ◇ A study was conducted at Jagatsukh, Kullu district of Himachal Pradesh India to investigate the field



growth performance of male and female genotypes of *Populus ciliata* provenances viz., Khanola, Pahnala, Nashala, Solangnala and Gaganshil. The trial was established in a Randomized Block Design with three replications to find out suitable provenance for integration in agroforestry systems and afforestation programs in high hill temperate region of Himachal Himalayas. The growth traits demonstrated stability over different provenances except for crown width in different provenances. Maximum GBH (56.01 cm) was observed for Khanola provenance, however highest total height (19.04 m) and clean bole height (6.34 m) were recorded for Gaganshil provenance. Solangnala provenance demonstrated largest crown width (5.60 m) and survival percentage (75.00 %). Females performed better for GBH (54.70 cm), total height (17.83 m), crown width (4.40 m) and males performed better in terms of clean bole height (6.10 m) and survival percentage (63.33 %).

- ◇ Mass inoculum of *Trichoderma asperellum* was successfully produced on the dropped out needles of *Pinus roxburghii*. *Trichoderma asperellum* exhibits significant antifungal properties against a variety of phytopathogens. It is prerequisite to grow the bioagent on suitable substrate to get desired spore/propagule population, retain viability for longer duration and substrate should be cheap and easily available. *T. asperellum* cultivation on pine needles will serve two purposes: turning forest waste into biopesticide formulation and reducing the availability of pine needles for forest fires.



Mass inoculum of *Trichoderma asperellum*

Workshops Organized

- ◆ HFRI organized Regional Research Conference in collaboration with ICFRE-FRI, Dehradun (online) on 28 August, 2023 in which DG, ICFRE, Directors of the Institutes, Scientists and Representative of State Forest Department of HP, J&K UT, Uttarakhand, Haryana, Punjab, Delhi, Uttar Pradesh and Ladakh UT participated in the Conference. The theme of the conference on Eco restoration of Degraded Lands.
- ◇ ICFRE-HFRI, Shimla oorganized a workshop on “वानिकी एवं कृषि में एकीकृत कीट प्रबंधन अपनाकर सतत उत्पादन” at HFRI Conference Hall, Shimla on 10th July, 2023 for Progressive farmers of Pujarli Panchayat, Mahila Mandal and Himachal Pradesh University Students.
- ◇ HFRI, Shimla organized a workshop on “Agro-forestry Interventions for Livelihood Enhancement of Rural Community on 20th July, 2023 for Progressive farmers of Baragaon, Rajhana Panchayat, Shimla, (HP).
- ◆ Director, HFRI, Shimla, Officers, Scientists, Technical Staff and Administrative Staff attended a lecture on “Investor Awareness Programme” organized by SEBI at HFRI, Shimla on 27 September 2023.

हिन्दी कार्यशाला

- ◆ संस्थान द्वारा दिनांक 14 सितम्बर 2023 को राजभाषा हिन्दी को बढ़ावा देने हेतु डॉ. संदीप शर्मा, निदेशक, हिमालयन वन अनुसंधान संस्थान, शिमला द्वारा हिन्दी दिवस आयोजन के साथ-साथ दिनांक 14-29 सितम्बर 2023 तक हिन्दी पखवाड़ा का आयोजन किया गया । इस कार्यक्रम में सभी वैज्ञानिकों, प्रभागाध्यक्षों, कर्मचारियों एवं शोधार्थियों को हिन्दी में कार्य करने व निर्धारित लक्ष्य की प्राप्ति के लिए प्रतिबद्ध रहने हेतु प्रेरित किया गया । इस दौरान हिन्दी राजभाषा पर विभिन्न प्रतियोगिताओं का आयोजन भी किया गया तथा दिनांक 29 सितम्बर 2023 को समापन समारोह पर विजेताओं को संस्थान के निदेशक डॉ. संदीप शर्मा द्वारा पुरस्कार भी वितरित किए गए । मुख्य अतिथि डॉ. पंकज ललित, निदेशक, भाषा एवं संस्कृति विभाग, हिमाचल प्रदेश ने हिन्दी में कार्य करने व निर्धारित लक्ष्य प्राप्ति के लिए प्रतिबद्ध रहने हेतु सभी को प्रेरित किया गया ।
- ◆ हिमालयन वन अनुसंधान संस्थान, शिमला में दिनांक 14 दिसम्बर, 2023 को हिन्दी कार्यशाला का आयोजन निदेशक, डॉ. संदीप शर्मा की अध्यक्षता में किया गया, जिसमें संस्थान के सभी वैज्ञानिकों, अधिकारियों एवं कर्मचारियों ने भाग लिया । कार्यशाला के आरम्भ में सहायक निदेशक राजभाषा, डॉ. बालकृष्ण तिवारी ने हिन्दी कार्यशाला के उद्देश्य एवं विषय वस्तु से सभी प्रतिभागियों को अवगत करवाया, तदुपरान्त निदेशक- प्रभारी, डॉ. संदीप शर्मा ने कार्यशाला में अपने अध्यक्षीय भाषण में हिन्दी के क्षेत्र में संस्थान की उपलब्धियों से प्रतिभागियों को अवगत करवाया । इस कार्यशाला के प्रमुख वक्ता श्री दिनेश पॉल, वन मण्डलाधिकारी, वन विभाग, हिमाचल प्रदेश ने राजभाषा हिन्दी का प्रशासनिक कार्या में महत्व पर व्याख्यान दिया ।

Glimpses of Workshops Organized



हिन्दी कार्यशाला की झलकियां



MONTHLY RESEARCH SEMINAR

During the period ICFRE-HFRI, Shimla organized Monthly Research Seminars, in which following Scientists/Officers and Technical Officers deliberation different aspect.

- ◆ Sh. Ashwani Kumar, CTO presented a lecture on “Forest Policy and Laws and preparation of Working Plans based on New Working Plan Code-2014” under the theme “Managing Forests and Forests Products for Livelihood Support and economic Growth”: on 28th July, 2023. Sh. Sanjeev Thakur, HPFS, HPIDP, Solan shared his views on the study.
- ◆ Smt. Shilpa, CTO presented a lecture on “Biodiversity Conservation and Management” under the theme “Biodiversity Conservation and Ecological Security” on 29 August, 2023 at HFRI, Shimla. Dr. Avinash Jain, Scientist TFRI, Jabalpur also presented his views on above mentioned topic.
- ◆ Sh. Dushyant Kumar, Sr. Technical Officer made a presentation on “Carbon Dynamics in Forest Ecosystem” under the theme “Biodiversity Conservation and Ecological Security” on 27 September 2023. Dr. Mohinder Kumar Brahma, Department of Forest Products, Neri, Hamirpur, Himachal Pradesh also attended the seminar virtually and delivered a talk on the topic.
- ◆ Dr. Balkrishna Tiwari, Scientist-B made a presentation on “Studies on genetic improvement of poplars in the North Western Himalaya: Current status and future prospects” on 27 October, 2023.
- ◆ Dr. Pravin Rawat, Scientist-B made a presentation on “Seed Traits and Soil Seed Bank Dynamics in Forest Ecosystems: Implications for Forest Biodiversity Conservation” on 30 November 2023.
- ◆ Smt. Deep Shikha, IFS, Dy. Conservator of Forest made a presentation on “Private Forest: An Experience Sharing from the Sate of Goa” on 22 December 2023.



WORKSHOP ATTENDED

- ◆ Sh. P. S. Negi, Scientist-D attended two days virtual workshop on “Conservation Assessment and Management Plan” under FGR organized by ICFRE-AFRI, Jodhpur on 5 - 6 September 2023.
- ◆ Dr. R.K. Verma, Scientist-G, HFRI, Shimla attended the workshop on “Sensitization on sustainable land management for combating degradation and collaborative development of training module” organized by Centre of Excellence for Sustainable Land Management, ICFRE, Dehradun from 11 to 12 September 2023 at ICFRE, Dehradun.
- ◆ Dr. Ashwani Tapwal, Scientist-F attended a consultation session with World bank team under the chairmanship of Director General ICFRE on “Capacity building & strengthening of Forest sector in India” on 13 September 2023.
- ◆ Dr. R.K. Verma, Scientist-G, HFRI, Shimla attended the online webinar on Understanding Forest Phenology using Pheno Cam organized by Environment Management and Policy Research Institute, Bangalore on 5 September 2023.
- ◆ Dr. Sandeep Sharma, Director, HFRI alongwith Dr. R.K. Verma, Scientist-G, Dr. Jagdish Singh, Scientist-G, Dr. Ranjeet Kumar, Scientist-F and Sh. P.S. Negi, Scientist-D attended one-day virtual workshop on “Carbon Credits and Accredited Compensatory Afforestation under Changing Legal Scenario” organized by Biodiversity and Climate Change Division, ICFRE-Dehradun on 26 September 2023 at Arnya Bhavan, Gandhinagar, Gujrat.
- ◆ Dr. R.K. Verma, Scientist-G, HFRI, Shimla attended the online seminar/ webinar on Soil Nutrient Depletion and its Replenishment on 12/10/2023. At Forest Ecology and Climate Change Division ICFRE-Forest Research Institute, Dehradun
- ◆ Dr. Mohd. Ibrahim, Scientist-D, HFRI, Shimla attended a workshop on “Impact of FCA Amendments on Development of North East and People’s Right” held on 6 October 2023 organized by ICFRE-Rain Forest Research Institute, Jorhat, Assam.
- ◆ Dr. Vaneet Jishtu, Scientist-E as Session Chair and Lead Speaker, attended the ‘National Seminar on Locational Perspective of Evaluation of Culture, Knowledge and Wisdom in India’ on 03 & 04 November 2023 organized by CSRD, School of Social Sciences, Jawaharlal Nehru University, New Delhi. Dr. Jishtu also delivered an invited lecture on ‘Role of Traditional and Cultural Practices of Plant Conservation in the Trans-Himalayan Cold Deserts of Ladakh’; during the National Seminar.
- ◆ Dr. Ranjeet Kumar, Scientist-F attended the Consultation workshop for National Collaborative Scheme on Forest Fire Management on 29 November 2023 at ICFRE-FRI, Dehradun.

- ◆ Dr. Swaran Lata, Scientist-D and Sh. P.S. Negi, Scientist-D HFRI, Shimla participated virtually in divisional webinar on “Role of insect pollinators and indicator species in Biodiversity Conservation and Management of Forest Ecosystems” organised by Forest Entomology Branch, Forest Protection Division, ICFRE-Forest Research Institute, Dehradun on dated 29th November, 2023.
- ◆ Dr. Swaran Lata Scientist-D participated in International seminar cum workshop on “Communicating Health, Happiness & Longevity for Sustainable Growth” jointly organised by ICFRE-HFRI Shimla and Govt College Ani, Distt Kullu, Himachal Pradesh on dated 27th December, 2023.
- ◆ Dr. Jagdish Singh and Dr. Vaneet Jishtu, scientists of ICFRE-HFRI, Shimla, H.P. attended the National Seminar on “Plant Biodiversity for Food, Nutrition and Health Security in North- West Himalayas, organized jointly by Indian Society of Plant Genetic Resources (ISPGR) New Delhi, Shoolni University, Solan and ICAR-National Bureau of Plant Genetic Resources (NBPGR), New Delhi at Shoolini University, Solan, H.P. During the technical session of the seminar as an invited lecture Dr. Jagdish Singh talked on "Status and role of Agroforestry in the Himalayan Agriculture Production system" while Dr. Vaneet Jishtu delivered a lecture on " Conservation of native arboreal flora of N-W Himalayas: status and challenges and prospects".



MEETING ORGANIZED

- ◆ Dr. R.K. Verma, Nodal Officer-FRIDU, Shimla Centre organized RAC Meeting for conducting of Synopsis Submission Seminar of Ph.D. Research Scholars, Mr. Brij Bhushan, Mr. Chaman Lal, Ms. Tamana and Ms. Divya Arora registered with FRIDU, Dehradun presented and submitted their synopsis;
- ◆ HFRI, Shimla organized a meeting of Research Advisory Committee on 9 August, 2023 in which Ms. Ritika Gangotia, Ph.D. Scholar submitted her Pre-thesis. The meeting was attended by all scientists and Research Staff of the Institute
- ◆ The 24th Research Advisory Meeting (RAG) of ICFRE-HFRI, Shimla was organised on 6 October, 2023. Dr. Sandeep Sharma, Director, HFRI, Shimla has chaired the RAG meeting. He explained the various mandates of the institute. Briefing the RAG Members about the milestones achieved. He made the gathering aware about the 5 varieties of medicinal plants released by ICFRE-HFRI (two varieties of *Valeriana jatamansi* and two varieties of *Picrorhiza kurroa*, one variety of *Podophyllum hexandrum*) at ICFRE-IFGTB, Coimbatore. Besides this, ICFRE-HFRI Shimla also released one product of Bio-fertilizer (Him Mrida Sanjeevani-1) and two products of Bio-pesticides. In this RAG Meeting, total Six (06) New Research Proposals were presented by Scientists of the Institute.



Glimpses of Meetings Organized



MEETING ATTENDED

1. Dr R.K. Verma, Scientist-G, HFRI, Shimla attended a meeting for deliberation on refinement of strategies develop in Himachal Pradesh for implementation of Benefit Sharing provisions under the Biological Diversity Act, 2002 on 04/07/2023 at Department of Environment, Science Technology and Climate Change Paryavaran Bhawan, US Club Shimla. About 18 participants from different departments of Himachal Pradesh attended this meeting.
2. Dr R.K. Verma, Scientist-G, HFRI, Shimla attended a Review Meeting of AICRP-22 online on 20 July, 2023. About 35 participants were present in this Review Meeting.
3. Dr R.K. Verma, Scientist-G; Dr. Ashwani Tapwal, Scientist-F and Dr. Pawan Kumar, Scientist-F, HFRI Shimla attended a review meeting of AICRP-31 on 21 July, 2023.
4. Dr. Sandeep Sharma, Scientist-G and Director, HFRI, Shimla participated in First meeting of Wood Industries Committee of India (ICFRE-WINCOIN) on 24 July, 2023 through online mode.
5. Dr. Sandeep Sharma, Scientist-G and Director, HFRI and Dr. Bal Krishana Tewari, Scientist-B, ICFRE-HFRI, Shimla participated in the 16th Meeting of jktHkk"kk dk;kZUo;u lfefr dk;kZy;-2 at Sutlej Jal Vidyut Nigam, Shanan, Shimla on 24 July, 2023.
6. Dr. Ashwani Tapwal, Scientist-F, HFRI Shimla, attended a review meeting of "All India Coordinated Research Project on *Dalbergia sissoo*" on 27 July, 2023.
7. Dr. Ashwani Tapwal, Scientist-F, HFRI Shimla, attended a meeting of "Board of Studies" held on 26 July, 2023 in Shoolini University, Solan.
8. Dr. Sandeep Sharma, Scientist-G and Dr. Pravin Rawat, Sci-B attended a "Review Meeting of Establishment of Fodder Availability and Quality to reduce unsustainable grazing in the Forest" on 19 July, 2023.
9. Dr. Sandeep Sharma, Scientist-G and Director, Dr. Ranjeet Kumar, Scientist-F, Dr. Vaneet Jishtu, Scientist-E, Sh. P.S. Negi, Scientist-D and Dr. Bal Krishna Tewari, Scientist-B attended 6th six monthly review meeting of CAMPA funded project reviewed by the Project Evaluation Group (PEG), ICFRE, Dehradun on 13 July, 2023.
10. Dr. Ranjeet Kumar, Scientist-F, HFRI, Shimla attended a Review Meeting of AICRP-7 online on 18 July, 2023 about 30 participants were present in this Review Meeting.
11. Dr. Ranjeet Kumar, Scientist-F, HFRI, Shimla attended a Review Meeting of AICRP-14 online on 19 July, 2023 about 28 participants were present in this Review Meeting.
12. Dr. Ranjeet Kumar, Scientist-F, HFRI, Shimla attended a Review Meeting of AICRP-13 online on 19/07/2023 about 30 participants were present in this Review Meeting.
13. Sh. P. S. Negi, Scientist-D attended one day meeting organized by the Divisional Forest Office, Kinnaur with representatives of Tidong Hydropower Project and Rarang & Akpa Panchayat to assess the loss to the Chilgoza Trees to be lopped/pruned during the laying of Transmission lines of Tidong Hydropower Project on 5 July, 2023 at FRH, Akpa, Kinnaur.

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14. Dr. Sandeep Sharma, Director and Dr. Jagdish Singh, Head Extension division, ICFRE-HFRI, Shimla participated in the 'Brainstorming Workshop' on "Strengthening Forestry education System in India" on 14 July, 2023.
 15. Sh. P. S. Negi, Scientist-D attended 6th 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 19th July, 2023.
 16. Dr. R.K. Verma, Scientist-G and Sh. P.S. Negi, Scientist-D attended 6th six monthly 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 Project Evaluation Group (PEG), ICFRE, Dehradun on 21 July, 2023.
 17. Dr. Jagdish Singh, Scientist-G, Dr. Vaneet Jishtu, Scientist-E and Dr. Swaran Lata Scientist- D participated in six monthly progress review meeting of AICRP- 29 "Sustainable Management of NTFPs through conservation and value addition" under the chairmanship of DDG (Research), ICFRE, Dehradun on dated 31st July, 2023.
 18. Dr. Sandeep Sharma, Scientist-G and NPC of AICRP-27 presented the six-monthly progress report before PEG (Project Expert Group) under the chairmanship DDG (Res.) ICFRE, Dehradun.
 19. Sh. P. S. Negi, Scientist-D attended the quarterly progress review meeting of CAMPA funded project "National Programme for Conservation and Development of Forest Genetic Resources" reviewed by NPC, Dr. H. S. Ginwal, Scientist-G, FRI, Dehradun, on 1st August, 2023.
 20. Sh. Akhil Sharma, Chief Technical Officer virtually attended National Conference on "Youth Agripreneurship and Startups" organized by Career Point University, Hamirpur (H.P.) on 2-3 August, 2023.
 21. Dr. Swaran Lata, Sci- D attended meeting of "Standing Committee on Government e-Marketplace (SCoGeM)" under the chairmanship of Under Secretary, GoI organised by AS&FS, MoEF&CC, New Delhi on dated 4 August 2023. 65 Number of participants joined the seminar.
 22. Dr. Ashwani Tapwal, Scientist- F, attended 94th meeting of Himachal Pradesh State level Expert Appraisal Committee in the Conference Hall of Department of Environment, Science & Technology, Paryawaran Bhawan near US Club Shimla on 7-8 August, 2023.
 23. Sh. P. S. Negi, Scientist-D, Dr. Swaran Lata Scientist- D, Mrs. Savita Banyal, Chief Technical Officer and Sh. Akhil Sharma, Chief Technical Officer virtually attended an online seminar on "Agroforestry Extension - Issues and Challenges" on 11-8-2023 organized by ICFRE-Forest Research Institute, Dehradun.
 24. Sh. P. S. Negi, Scientist-D and Dr. Swaran Lata Sci- D attended the virtual Regional Research Conference on "Nursery Technology for Propagation of Difficult Tree Species" organized by ICFRE-TFRI, Jabalpur on 18th August, 2023.
 25. Sh. P. S. Negi, Scientist-D attended the quarterly review meeting of CAMPA funded project "Developing seed testing and seed storage protocols of selected forestry species from diverse forest types (AICRP-10)" reviewed virtually by NPC, Dr. Manisha Thapliyal, Scientist-G, FRI, Dehradun on 23rd August, 2023

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26. Dr R.K. Verma, Scientist-G, Dr. Swaran Lata, Sci- D, Dr. Balkrishna Tiwari, Scientist- B, Dr. Pravin Rawat, Scientist-B and Mrs. Savita Banyal, Chief Technical Officer attended divisional seminar on “Tree Translocation in India” organised by ICFRE-Forest Research Institute, Dehradun on dated 24th August, 2023. 130 Number of participants joined the seminar.
 27. Scientists of the Institute virtually attended the RRC jointly organized by ICFRE-IFGTB and ICFRE-IWST on 25 August, 2023.
 28. “AICRP- 22 Pre-release Consultation meeting of Forest Soil Health Card for Tamil Nadu”
 29. Dr R.K. Verma, Scientist-G, HFRI, Shimla attended the online AICRP- 22 Pre-release Consultation meeting of Forest Soil Health Card for Tamil Nadu on 28 August, 2023. 35 Number of participants joined the Consultation meeting.
 30. Dr R.K. Verma, Scientist-G, HFRI, Shimla attended the Expert Discussion online meeting on Loss and Damage due to recent Incidents in HP on 29 August, 2023. 25 Number of participants joined the meeting.
 31. Dr R.K. Verma, Scientist-G, HFRI, Shimla attended the Meeting of the Executive Committee of HP Council for Science Tech. and Environment on 30 August, 2023. 30 Number of participants joined the seminar.
 32. Variety release meeting was attended by Director (ICFRE-HFRI, Shimla) and Head, Extension Division at ICFRE-IFGBT, Coimbatore. ICFRE-HFRI, Shimla proposed 05 varieties of three important high value temperate medicinal plants viz. *Picorhiza kurroa* (Kutki/Karu; 02 no.'s i.e. HFRI-PK-1 and HFRI-PK-2;), *Valeriana jatamansi* (Muskbala/ Sugandhwala 02 no.'s; i.e. HFRI-VJ-1 and HFRI-VJ-2) and *Sinopodophyllum hexandrum* (Bankakri/ Himalayan May Apple; 01 no. i.e. HFRI-SH-1). The developers from ICFRE-HFRI, Shimla,
 33. Dr. Sandeep Sharma, Director, HFRI alongwith Dr. Jagdish Singh, Scientist-G, Sh. P.S. Negi, Scientist-D and Dr. Swarnlata, Scientist-D attended the National Level Meeting regarding Research Outcomes of Completed Research projects on 15 September 2023 under the Chairmanship of Deputy Director General (Extension), ICFRE Dehradun.
 34. Dr. Sandeep Sharma, Director, HFRI attended the Meeting of Programme Advisory Group (PAG) on 15 September organized by Carrier Point University. Hamirpur on 15 September 2023.
 35. Dr. Ashwani Tapwal, Scientist- F, attended 95th meeting of Himachal Pradesh State level Expert Appraisal Committee in the Conference Hall of Department of Environment, Science & Technology, Paryawaran Bhawan near US Club Shimla on 26 September 2023.
 36. Dr. Swaran Lata, Scientist-D participated in the meeting of Himachal Pradesh State Biodiversity Board to evaluate the concept note/proposal submitted by different Technical Support Group (TSG) for updation of Peoples Biodiversity Registers (PBRs) in 1211 Local Bodies in Himachal Pradesh on dated 26th September, 2023.
 37. Sh. Kuldeep Sharma, IFS, CF and Head, Facility & Services attended the Meeting of the Standing Consultative Committee for approval of Working Plans of various Forest Divisions of Himachal Pradesh held on 3 November 2023 under the Chairmanship of the PCCF (HoFF) HP in the Conference Room of O/o the PCCF (HoFF), Himachal Pradesh Forest Department, Shimla..

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38. Dr. Ashwani Tapwal, Scientist-F, ICFRE-HFRI, Shimla as a Expert member attended the Multi Sectoral expert Committee meeting held on 9 November 2023 under the Chairmanship of the Chairman-cum-Member Secretary, HPSPCB in the Conference Hall of Department of Environment, Science and Technology & Climate Change, GoHP, Paryavaran Bhawan, Shimla.
 39. Dr. Ashwani Tapwal, Scientist-F, ICFRE-HFRI, Shimla as a Expert member attended the Multi Sectoral expert Committee meeting held on 15 November 2023 under the Chairmanship of the Chairman-cum-Member Secretary, HPSPCB in the Conference Hall of Department of Environment, Science and Technology & Climate Change, GoHP, Paryavaran Bhawan, Shimla.
 40. Sh. Kuldeep Sharma, IFS, CF and Head, F&S attended the Meeting of the Standing Consultative Committee for approval of Working Plans of various Forest Division of Himachal Pradesh held on 24 November 2023 in the Conference Room of O/o the PCCF (HoFF), Himachal Pradesh Forest Department, Shimla
 41. Dr. Ashwani Tapwal, Scientist- F attended 96th meeting of Himachal Pradesh State Level Expert Appraisal Committee in the Conference Hall of Department of Environment, Science & Technology, Paryawaran Bhawan near US Club Shimla on 29 November, 2023.
 42. Dr. Ashwani Tapwal, Scientist-F, ICFRE-HFRI, Shimla as a Expert member attended the Multi Sectoral expert Committee meeting held on 30 November 2023 under the Chairmanship of the Chairman-cum-Member Secretary, HPSPCB in the Conference Hall of Department of Environment, Science and Technology & Climate Change, GoHP, Paryavaran Bhawan, Shimla.
 43. Sh. P. S. Negi, Scientist-D attended 7th six monthly review meeting of CAMPA funded project reviewed by Project Evaluation Group (PEG), ICFRE, Dehradun on 7 December 2023.
 44. Sh. P. S. Negi, Scientist-D attended 7th six monthly review meeting of CAMPA funded project reviewed by the Project Evaluation Group (PEG), ICFRE, Dehradun on 8 December 2023.
 45. Dr. Ashwani Tapwal, Scientist- F, attended 97th meeting of Himachal Pradesh State level Expert Appraisal Committee in the Conference Hall of Department of Environment, Science & Technology, Paryawaran Bhawan near US Club Shimla on December 7-8, 2023.
 46. Sh. P. S. Negi, Scientist-D attended 7th six monthly 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 Project Evaluation Group (PEG), ICFRE, Dehradun on 14 December 2023.
 47. Dr. Swaran Lata, Scientist-D participated in 7th six monthly review of the AICRP project “Sustainable Management of NTFPs through conservation and value addition” held on dated 15 December 2023 under the chairmanship of Dr. Ratnakar Jauhari, DDG Research, ICFRE, Dehradun.
 48. Dr. Pawan Kumar, Scientist-F attended the review meeting of Ecological Monitoring and GIS mapping of Microlepidoptera diversity of Deodar (*Cedrus deodara*) Forests of Himachal Pradesh on 21 December 2023.

TRAINING ORGANIZED

- ♦ Himalayan Forest Research Institute, Shimla in collaboration with Forest division Keylong organized a one day training program on 10 September 2023 at Keylong (L&S) on “Forestry for productivity Enhancement and Livelihood” . Forty officials from front line staff of forest deptt. participated in the training program.
- ♦ Himalayan Forest Research Institute, Shimla organized a one day training program on 12 September 2023 for various stakeholders on “Nusery and plantation techniques of *Juniperus polycarpus* and Cultivation of Important Cold Desert Medicinal Plants for Increasing Income of Villagers” at Sowa Rigpa National Research Institute, Leh.
- ♦ HFRI organized a training programme on “Nursery and plantation techniques of *Juniperus polycarpus* and Cultivation of Important Cold Desert Medicinal Plants for Increasing Income of Villagers” at Leh on 12 September 2023
- ♦ ICFRE-HFRI Shimla organized a 5 days compulsory training programme on “Insect pest management in Forest nurseries, Plantation and Natural forest” from 18-22 September 2023 at Shimla. The training course was offered to the officers of Indian Forest Service (IFS) and was Sponsored by Ministry of Environment, Forests and Climate Change (MoEF & CC), Govt. of India. Dr. Pawan Kumar, Scientist-F was the Training coordinator of this Training program.
- ♦ ICFRE- Himalayan Forest Research Institute, Shimla organized a 03 days training program on “Cultivation of Important Medicinal Plants: An Option for Diversification and Additional Source for Rural Income” under the Scheme “Forestry Training and Capacity Building” of Ministry of Environment Forest and Climate Change, New Delhi for other stakeholder viz. Eco Task Force Battalion comprising of Officers and Soldiers, Kufri, Himachal Pradesh, *vaidyas*, SHGs, Gram Panchayat Representatives, NGO, Ayurvedic Doctor, School Principals, Teaching staff, Newspaper reporters from 6 to 8 November 2023. Dr. Joginder Chauhan, CTO, Extension Division was the Training Coordinator for this training programme.
- ♦ ICFRE- Himalayan Forest Research Institute, Shimla organized 05 days training program on “Forestry and Silviculture of Important Forestry Species” for the Eco Task Force Battalian comprising officers and Soldiers of Jammu and Kashmir Light Infantry and Dogra Regiment from Jammu & Kashmir Union Territory and Himachal Pradesh from 20 to 25 November 2023. Sh. Pitamber Singh Negi, Scientist-D, Silviculture & Forest Management Division was the Training Coordinator of the above mentioned training program.
- ♦ ICFRE- Himalayan Forest Research Institute, Shimla organized a three day training program for Other Stakeholders funded by Ministry of Environment, Forest and Climate Change, Govt. of India, titled “Application of Bio-Fertilizers and Bio-Pesticides in Forestry Practices” from November 22-24, 2023 in the Conference Hall of the Institute. Dr. Ashwani Tapwal, Scientist-F, Forest Protection Division was the Training Coordinator of the above mentioned training program. A total of 30 participants including Army officials from Eco Task force, Horticulture and Agriculture Department, HIMORD Organics, IARI, Shimla and Members from Gram Panchayat Pujarali participated in the training program.

Glimpses of Trainings Organized



Glimpses of Trainings Organized



TRAINING ATTENDED

- ⇒ Dr. Ranjeet Kumar, Scientist-F, Forest Ecology & Climate Change Division attended the DST Sponsored five days training programme organized by Centre for Disaster Management (CDM), Lal Bahadur Shastri National Academy of Administration, Mussoorie, Uttarakhand from 11 to 15 September, 2023 at Mussoorie.
- ⇒ Dr. Swaran Lata, Scientist - D participated in online training on 'Central Nodal Agency (CAN)' organized by Government of India, Ministry of Aayush under Central Sector Scheme on dated 6 September, 2023.
- ⇒ Sh. Mohd Ibrahim, Scientist-E, ICFRE-HFRI, virtually attended the training programme on Cyber hygiene and security organized by ICFRE on 2 November 2023.
- ⇒ Smt. Deepshikha, IFS, DCF and Drawing and Disbursing Officer attended One Week Compulsory IFS training Course on "Alternate Energy Sources and "Solid Waste Management" organized at Mahatma Gandhi Institute of Rural Energy & Development (MGIRED) Bengaluru from 06 to 10 November 2023.



MEMORANDUM OF UNDERSTANDING

- * ICFRE- Himalayan Forest Research Institute, Shimla, Himachal Pradesh signed a MoU with



Shoolini University, Solan, Himachal Pradesh which has the distinction of being ranked number one Research University (Citation per Paper) in India, for pursuing quality research and building a new generation of highly skilled human resource and livelihood opportunities, etc. on 27 July 2023. Dr. Sandeep Sharma, Director HFRI, Shimla and Dr. P.K. Khosla, Chancellor signed the MoU in the presence of witness Dr. Jagdish Singh, Scientist-G & Head Extension and Dr. Ashwani Tapwal, Scientist-F from HFRI and Dr. Sunil Puri, Registrar and Dr. Dinesh Kumar, Dean PG, from Shoolini University, Solan.

- * ICFRE-Himalayan Forest Research Institute, Shimla, H.P., signed a MoU with Himalayan Research



group, Shimla on 9 August, 2023 to work together to ensure active participation of local communities in forestry innovations and technology transfer in an eco-friendly manner and be partner in bringing their prosperity.

ACTIVITIES OF AZADI KA AMRIT MAHOTSAVA

- ICFRE-Himalayan Forest Research Institute, Shimla organized a medicinal herbs plantation drive program under the Theme - “**वैद्युत शक्ति मेरे देश के नाम-वीरों के वन्दन**”. It was organized with the help of Eco Club and NSS Unit of the School in which more than 50 volunteers participated and planted 450 number of medicinal plants viz. *Valeriana jatamansi*, *Angelica glauca*; *Thymus serpyllum* and *Bergenia ciliata* etc.



- Van Vigyan Kendra, Manali organized a mission LiFe programme at GSSS Jagatsukh Manali Kullu and during this programme students were educated about the advantages of utilizing public transportation to conserve energy and promote environmental sustainability on 3 October 2023.
- VVK Longni organized the "Mission LiFe programme" at GPS Longni. During this, teachers and students were enlightened about the importance of maximizing the use of public transportation and adopting judicious practices when using electronic appliances to conserve energy and environment conservation on 3 October 2023.
- The mission life program was conducted at Govt. High school in Marh by the VVK, Janipur. During the program, the participants learned about the practice of composting kitchen waste. Additionally, the students were introduced to the food waste composting and its associated benefits on 13 October 2023.
- Mission life awareness program was organized in GSSS, Leh (Girls) by VVK, Leh of ICFRE-HFRI, Shimla. Composting of kitchen waste or food scraps was discussed and its benefits were explained. Students were taught about the process of composting food waste and its benefits on 16 October 2023.



Activities under AKAM



ACTIVITIES UNDER VAN VIGYAN KENDRA

- ◆ Celebrated Van Mahotsav with the participation of 15 students of Government Senior Secondary School Jagatsukh, Manali. About 39 saplings of nine tree species such as Khirak, Ban, Wild Jamun, Chuli, Salix, Rakhal, Rai, Deodar and Kainth were planted on 3 July, 2023
- ◆ Celebrated Van Mahotsav at VVK cum Forest Research Station, Badami Bagh, Leh celebrated. About 50 saplings of Salix, Poplar and Juniper were planted near Government Girls Senior Secondary School, Leh. Forty students participated in plantation programme on 7 July, 2023
- ◆ Celebrated Van Mahotsav at VVK Janipur, Jammu. Twenty Six saplings of five tree species (Harad, Baheda, Neem, Arjun and Amla) were planted with the participation of 25 students of Government High School, Udaiwala, Jammu on 26 July, 2023
- ◆ Under Mission LiFE Program, ICFRE-HFRI sensitizes school children and farmers of Shankoo village in Suru Valley of Kargil, Ladakh UT on Himalaya Day. Dr. Vaneet Jishtu, Scientist-E along with his team organized programme with school children and farmers of Shankoo on 7 September 2023. Total 70 nos of participants were present during the programme.
- ◆ Mission LiFE@ ICFRE-Himalayan Forest Research Institute, Shimla organized a program on Forest and Environment Conservation in which 50 students of Shankoo, Kargil participated in the program on 08 September 2023.
- ◆ Front line staff of Forest Deptt, Keylong Forest division was apprised about mission life activities during a training programme on “Forestry for productivity Enhancement and Livelihood organized at Keylong on 10 September 2023.
- ◆ Under Mission LiFE Program ICFRE-HFRI, Shimla organized an event under Mission LiFE on “Green habits for Green Future” at Government Senior Secondary School (Girls), Leh, Ladakh UT on 11 September 2023. A total of 82 students and faculty of the school and HFRI staff participated.
- ◆ ICFRE-Himalayan Forest Research Institute, Shimla organized an awareness programme on environment and medicinal plants conservation at GSSS (Girls) Leh in which 82 students participated in the program. Dr Vaneet Jishtu, Scientist delivered lecture on the topic and interacted with students on 11 September 2023
- ◆ Fifteen volunteers of NCC from Government Senior Secondary School, Jagatsukh visited Van Vigyan Kendras cum Regional Research Station, Jagatsukh, Manali, Kullu HP. They were given information about the cultivation and uses of various medicinal herbs like Karu, Patish, Chora and Vanakkadi. Apart from this, they were also made aware about the importance of environmental protection (Mission LiFe), Amrit Sarovar Scheme and afforestation on 22 November 2023
- ◆ Twenty Four students of MSc. Microbiology visited Van Vigyan Kendra cum Field Research Station, Jagatsukh, Manali of ICFRE-HFRI, Shimla. They were apprised about various ongoing research activities at the station. They were also apprised about Mission Life and Amrit Sarovar Scheme on 5 December 2023.

GLIMPSES OF ACTIVITIES UNDER VAN VIGYAN KENDRA



PRAKRITI PROGRAMME AND MISSION LIFE

- ◆ Nineteen students from Government Senior Secondary School, Jagatsukh students visited VVK nursery Bhrundhar. They were informed about importance and uses of various medicinal plants and trees grown at nursery. They were also made aware about the utility of shed house, poly house and vermicompost installed in the nursery. They were also made aware of different themes of mission LiFE on 3 July, 2023
- ◆ Students of Government Girls Senior Secondary School, Leh were apprised about nursery and plantation technique of Juniper and various medicinal plants. Practical demonstration of planting technique of Juniper was given to the student. Information was also provided about utility of shade-house, underground poly tunnel, poly house established in VVK Badami Bagh, Leh nursery. They were also made aware of different themes of mission LiFE and advised them to contribute at individual level to protect environment on 7 July, 2023
- ◆ Students from Government High School, Udaiwala, Jammu, were made aware about the plantation technique of important forestry tree species and benefits of tree plantation. They were also informed about Mission LiFE and benefits of urban forestry. Motivated the students to join Mission LiFE and make it a part of their day to day activities. During this, saplings of five tree species (Harad, Baheda, Neem, Arjun and Amla) were planted by the students on the vacant land near the school on 26 July, 2023
- ◆ Students of Govt. Senior Sec. School of Narkanda, Shimla were made aware of importance medicinal plants and a plantation drive of medicinal plants was organized on 01 September 2023.
- ◆ An awareness programme on environment and medicinal plants conservation was organized for students of GSSS (Girls) Leh. 82 students participated in the program on 12 September 2023
- ◆ During a visit of NCC Volunteers from Government Senior Secondary School to Jagatsukh Van Vigyan Kendras cum Regional Research Station, Jagatsukh, Manali, Kullu HP were apprised about herbal plants and environment protection on 22 November 2023
- ◆ Students of GSSS Beolia, Shimla were apprised about environment conservation on 23 November 2023
- ◆ # Prakriti @ Mission LiFE # A group of thirty students of BSc. Botany Students from Centre of Excellence, Government College, Sanjauli, Shimla visited ICFRE-HFRI Shimla on 07 December, 2023. They were apprised about research and extension activities of the Institute through power point presentation by Dr. Swaran Lata, Scientist-D. Further, Dr. Jagdish Singh Scientist & Head of Division briefly explained about the objectives of Mission LiFE and Amrit Sarovar Schemes and Importance of Urban Forestry.
- ◆ Forty one Forestry undergraduate students from College of Forestry Navsari, Agricultural University Gujarat visited ICFRE-Himalayan Forest Research Institute, Shimla on 16 December, 2023. Sh. Dushyant, STO, discussed about Himalayan ecosystem and role of Himalayan region in ecology and environment

ACTIVITIES UNDER PRAKRITI AND MISSION LIFE



Awareness and Demonstration Programmes

- ⇒ Dr. Vaneet Jishtu, Scientist-E conducted an Awareness Programme on Medicinal Plants in the Zaskar and Kargil regions of Ladakh UT in collaboration with the National Institute of Sowa Rigpa (NISR), Leh from 4 to 9 September, 2023. This awareness programme was part of the project funded by the NMPB (Ministry of AYUSH, GoI, New Delhi).
- ⇒ ICFRE-HFRI Shimla installed a stall in the Exhibition of Flying Shimla Fair at Glide Inn Junga, Shimla. Technologies and products developed by the institute and extension material were displayed in the stall on 12-13 October 2023.
- ⇒ Ms. Shilpa, CTO and Ms. Drishti Sharma, Technician under the Vigilance Awareness Week-2023 Programme organized by ICFRE-HFRI, Shimla at Pujarli Panchayat, Shimla delivered the lecture to the villagers at Gram Panchayat Pujarli on 31 October 2023.
- ⇒ Sh. Dushyant Kumar, STO and Sh. Kuldes Kumar, TO organized a PIDPI Awareness Programme organized by ICFRE-HFRI, Shimla at Pujarli Panchayat, Shimla on 31 October 2023.
- ⇒ As a part of the “Jan Jatiya Gaurav Divas” activity, ICFRE- Himalayan Forest Research Institute, Shimla conducted an awareness campaign at GSSS Beolia, Shimla. Dr. Vinod Kumar, the Chief Technical Officer, informed the students about various schemes that the Government of India and the State Government of Himachal Pradesh have launched for the welfare of the tribal people.



AWARDS



- ♦ भारतीय वानिकी अनुसंधान एवं शिक्षा परिषद, देहरादून द्वारा हिमालयन वन अनुसंधान संस्थान, शिमला को क” क्षेत्र में स्थित संस्थानों में राजभाषा हिन्दी के कार्यान्वयन में उत्कृष्ट प्रदर्शन के लिए वर्ष 2022-23 के लिए “राजभाषा प्रोत्साहन पुरस्कार” से नवाजा गया ।

Popularizing Forestry through All India Radio/ Doordarshan

Dr. Parveen Rawat, Scientist-B delivered a talk on “**Krishi Darshan: Pashu Palkon Ke Liye Chara Prbandhan**” on Doordarshan Channel, Shimla on 12 July, 2023. **Link: <https://www.youtube.com/watch?v=ok8i30nGD6U>**.

- ♦ A radio talk on “Agroforestry and scope of commercial plantation of Poplar species of Himachal Pradesh” was delivered by Dr. Balkrishna Tewari, Scientist-B on 5 September, 2023 on DD Himachal Channel.

SPECIAL DAYS CELEBRATED

- ◆ Celebrated Himalayan Day in which 30 participants from ICFRE-HFRI, Shimla as Scientists, Forest Officers, Technical Officers, staff and research staff participated in the program. A presentation on the theme of **Himalayan Day-2023** "Himalaya and Disaster" was also made by Dr. Lal Singh, Director, Himalayan Research Group, Shimla on 09 September, 2023
- ◆ The Institute was organized a lecture on **Vigilance Awareness on Cyber Crime** in Government Offices on 20 September 2023 at 03.00 PM in the Conference Hall of HFRI, Shimla. A presentation/ talk on the above subject was given by Sh. Rohit Malpani, IPS Officer of H.P. Police Department. The programme was attended by the Director, Officers, Scientists, Technical Staff and other ministerial staff of HFRI, Shimla.
- ◆ An **Investor Awareness Program** was organized at ICFRE-HFRI, Shimla. Miss Vipin Bindra, a representative from SEBI, gave a detailed presentation on financial planning, management and investments for long-term gain and various risks involved in the mutual funds on 27 September, 2023. About 30 participants comprising Scientists, Officers, Staff and Research Scholars took active part in the program.
- ◆ Director HFRI paid tribute to Mahatma Gandhi and informed the employees and officers of the institute about his teachings on dated 02 October, 2023.
- ◆ During the mission life activities organized at VVK of the institute, participants were also made aware of Amrit Sarovar Scheme, Urban forestry and plantation activities to increase forest cover 03, 13 and 16 October, 2023.
- ◆ ICFRE-Himalayan Forest Research Institute, Shimla observed "**National Unity Day**" with enthusiastic involvement of 90 participants, including scientists, officers, employees, and researchers of the institute. Dr. Sandeep Sharma, Director administered the National Unity Day Pledge to all present and informed participants about importance of this occasion. Dr. Vinod Kumar, Chief Technical Officer, delivered a lecture on Unity in Diversity and highlighted the role of Sardar Balabh Bhai Patel, iron man of India in national integration. Dr. Jagdish Singh, Scientist-G & Head Extension, addressed the house and discussed about Khadi Mahotsav and advised all to include khadi products in their life on 31 October 2023.
- ◆ Sh. Anil Kumar Goel, Deputy Chief Vigilance Officer, SJVN Shimla delivered talk on '**Ethics and Governance & Systems and Procedures of the Organization with reference to vigilance awareness**' on 8 November, 2023 in the conference hall of the Institute. He deliberated upon ethical practice organizational integrity and accountability, rules and procedures of the organization, corruption and its causes and consequences, types of vigilance, external monitoring procedure, PIDPI resolution and process of complaint filing under PIDPI.

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- ◆ On occasion of celebration of **3rd Janjatiya Gaurav Divas-2023** from 15 to 26 November 2023, Dr. Jagdish Singh (Scientist-G & Head Extension Division) gave a power point presentation on topic: Traditional Herbs and Medicinal Knowledge of Tribal Communities. Besides, following other activities were also organized by Dr. Mohd. Ibrahim, Scientist-E as Nodal Officer, during the celebration of the Janjatiya Gaurav Diwas-2023.
 - ◆ ICFRE-HFRI, Shimla celebrated the Indian **Constitution Day** with honour and respect on 26 November 2023
 - ◆ **Celebrated International Mountain day (IMD) 2023** on the theme: “Restoring Mountain Ecosystem” on 11th December 2023 at the institute. Dr. Jagdish Singh, Head Extension briefed about the importance of the IMD and highlighted the measures to reduce the carbon footprints for sustainable development for the Himalayan Mountain System. Dr Vaneet Jishtu, Scientist-D also delivered a lecture on ‘Traditional and Cultural Practices of Sustainable Plant Conservation from the Ladakh Mountains’; during the *United Nations International Mountain Day 2023*, on 11 December, 2023 organised by ICFRE-HFRI, Shimla. He specifically discussed about role of mountain people in sustaining Himalayan ecosystem on 11 December 2023

Glimpses of Special Days Celebrations



सतर्कता जागरूकता सप्ताह

- हिमालयन वन अनुसंधान संस्थान, शिमला में दिनांक 30 अक्टूबर से 5 नवम्बर 2022 के मध्य “सतर्कता जागरूकता सप्ताह-2023” का आयोजन किया गया। इस अवसर पर दिनांक 30 अक्टूबर 2023 को संस्थान के निदेशक महोदय द्वारा सभी अधिकारियों एवं कर्मचारियों को शपथ भी दिलाई गई। इस वर्ष की थीम भ्रष्टाचार का विरोध करें, राष्ट्र के प्रति समर्पित रहें है। इस अवधि के दौरान विभिन्न प्रतियोगिताओं का भी आयोजन किया जा रहा है।
- संस्थान द्वारा दिनांक 14 सितम्बर, 2023 को राजभाषा हिन्दी को बढ़ावा देने हेतु डॉ० संदीप शर्मा, निदेशक, एच०एफ०आर०आई० द्वारा हिन्दी दिवस मनाने के साथ-साथ दिनांक 14-29 सितम्बर, 2023 तक हिन्दी पखवाड़े का आयोजन किया गया। मुख्य अतिथि डॉ० पंकज ललित, निदेशक, राजभाषा एवं संस्कृति विभाग, हिमाचल प्रदेश ने कार्यक्रम में उपस्थित संस्थान के सभी वैज्ञानिकों, विभागाध्यक्षों, कर्मचारियों एवं शोधार्थियों को हिन्दी में कार्य करने व उत्तरोत्तर लक्ष्य की प्राप्ति के लिए प्रतिबद्ध रहने हेतु प्रेरित किया गया। इस दौरान हिन्दी राजभाषा पर विभिन्न प्रतियोगिताओं का आयोजन भी किया गया तथा दिनांक 29 सितम्बर, 2023 को समापन अवसर पर विजेताओं को संस्थान के निदेशक डॉ० संदीप शर्मा द्वारा पुरस्कार भी वितरित किए गए।

स्वच्छता अभियान

- भा०वा०अ०शि०प०-हिमालयन वन अनुसंधान संस्थान, शिमला द्वारा निर्धारित समय की अवधि में संस्थान व इसके क्षेत्रीय अनुसंधान केन्द्रों में स्वच्छता अभियान का आयोजन किया गया, जिसमें संस्थान के भवन, क्षेत्रीय अनुसंधान केन्द्रों, प्रयोगशालाओं व कार्यालय के परिसर के आसपास के क्षेत्र सम्मिलित किए गए। इसमें संस्थान के वैज्ञानिकों, अधिकारियों, कर्मचारियों और अनुसंधान स्टाफ द्वारा सक्रिय रूप से भागीदारी की।



HR NEWS

- ◆ Appointment letters were issued to the following candidates in the occasion of 7th ROZGAR ME-LA organized by the Income Tax Department on the behalf of Govt. of India on 22.07.2023 at Gaiety Theatre, Shimla and all of them subsequently joined at ICFRE-HFRI, Shima.



Sh. Naveen Kumar - LDC



Sh. Punit Chauhan - LDC



Praveen Kumar – MTS

- ◆ Dr. Mohd. Ibrahim, Scientist-D after his transferred from ICFRE-AFRI Jodhpur, joined ICFRE-HFRI, Shimla during the month of September 2023.

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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 Protection 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

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