



Indian Council of
Forestry Research
and Education

ICFRE NEWSLETTER

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Significant Research Findings

Forest Research Institute, Dehradun

- GC-MS assisted chemical profiling of one population (VAL-SIK) of *Valeriana jatamansi* collected from Sikkim for volatile constituents of their rhizomes was done.
- Total saponin contents in the rhizomes of one population (PAR-SKM) of *Paris polyphylla* collected from Sikkim were determined.
- Total phenolics contents in the leaves of 28 accessions of the population of *Quercus semicarpifolia* occurring in the forests of Gopeshwar were determined.
- Project work on development of *G. arborea* and *E. officinalis* based agroforestry models at 4x5m and 5x5m spacing on fallow lands at Dhaluwala Majbata (Haridwar), Fatehpur Pelio (Saharanpur) and Kodapur (Prayagraj) is in progress. Growth of *G. arborea* and *E. officinalis* at the sites Fatehpur (Pelio), Dhaluwala Majbata (Haridwar) and Kodapur (Prayagraj) were recorded. Soil samples were also collected for analysis in the laboratory. At initial stage both *G. arborea* and *E. officinalis* are performing better along with agriculture crops.
- Growth of Kachnar, Bhimal and Kadam at both sites of Dhaluwala Majbata (Haridwar) were recorded. Soil samples were also collected for analysis in the laboratory. Initially, Kadam is performing better than Bhimal and Kachnar.

- Twenty two samples of insect larvae (*Catopsilia Pomona*, *Badamia exclamationis* and *Oraesia emarginata*) defoliating leaves of *Terminalia bellirica*; *Catopsilia pomonae* on *Cassia fistula*; *Hyblaea puera* and *Eutectona machaeralis* on *Tectona grandis*; *Clostera cupreata* and *Clostera fulgurita* defoliating *Populus deltooides*; *Hyposidra talaca* on *Tectona grandis*; *Phodina contigua* and *Achaea janata* on *Lagerstroemia speciosa* were collected for the emergence of *Apanteles* spp. from different districts: Dehradun and Haridwar in Uttarakhand and Yamuna Nagar (Kalesar) in Haryana.
- Forty nine samples of insect eggs were collected from different forestry tree: *Acacia* sp., *Anthocephalus cadamba*, *Callistemon* sp., *Cassia fistula*, *Dalbergia sissoo*, *Emblia officinalis*, *Eucalyptus* sp., *Haplophragma adenophyllum*, *Holoptelea integrifolia*, *Populus deltooides*, *Quercus leucotrichophora* and *Terminalia arjuna*. Nine egg parasitoids were emerged out from the collected egg samples : *Mirufens* sp. from eggs of *Oxyrachis tarandus* on *Cassia fistula*, Euplimid from eggs of bug on *Callistemon* sp., *Ooencyrtus* sp. from bug eggs on *Eucalyptus* sp., *Trissolcus* sp. from eggs of bug on *Eucalyptus* sp., Encyrtid from bug eggs on *Dalbergia sissoo*, Scelionid from eggs of bug on *Anthocephalus cadamba*, Encyrtid from bug eggs on *Quercus* sp. *Telenomus* sp. from eggs of bug on *Haplophragma adenophyllum* and Encyrtid from eggs of bug on *Dalbergia sissoo*.
- A 7 days field survey was carried out in Uttarkashi district of Uttarakhand (Sankri-Taluka-Ganghar-Osla-Harki-dun-Sema-Sidri; Sankri-Juda-ka-talab) during monsoon season. Sampling was carried out on 10 transects in 6 forest sub-types namely : 14/C1b West Himalayan Sub-

Alpine Birch Fir Forest; 14/1S2 Deciduous Sub-alpine Scrub Forest; 12/C1a Ban Oak Forest; 12/C2b West Himalayan Upper Oak/Fir Forest; 12/2S1 Low level Blue Pine Forest; 9/C1b Upper/Himalayan Chir Pine Forest. A total of 35 species were sampled and 20 specimens of uncommon butterfly species were collected and preserved. Herbarium specimens of 22 species of tree and shrubs were also collected from different forest sub-types for identification from these sites. A GIS based false colour composite map of the Harki-ki-dun catchment taken up for survey was also generated for selecting sampling sites.

- A field survey was carried out on Banj (*Quercus leucotrichophora*), Moru (*Q. floribunda*), Kharsu (*Q. semecarpifolia*) oak forests in Sankri Forest Division, in Uttarkashi district of Uttarakhand for recording new pests and their extent of damage during monsoon season by laying down 15 quadrates (10m x 10m) for recording tree GBH, density & vegetation composition, incidence and infestation percentage. Six species of moths were also collected from Banj & Moru oak forests besides their larvae which were reared in the laboratory on Moru oak. Experiments on biology of the cerambycid borer *Xylotrechus basifuliginosus* on Ban & Kharsu oak logs brought from the field previously were continued in the laboratory.
- Digitized 83 types & about 950 photos of insects were edited and stored. Verified information on the species and their images; cabinet and drawer wise with the data entered in the Database to check if species name or any other information on its image and location is rightly entered in the database. 17 cabinets were verified.
- Ten clones (except FRI) of poplar have been collected to study the biology of *Clostera cupreata*. Leaf area measurement of 10 clones of Poplar has been completed. Leaf weight was also taken of 10 clones of Poplar completed and data was recorded.
- Collected pteromalid parasitoids and their probable hosts from Shamli, Meerut in Uttar Pradesh and Haridwar in Uttarakhand. Several samples from infested twigs, leaves from gall infected plant parts were collected and also sweep net method was used for collection of parasitoids. Emergence of Pteromalid parasitoids along with other micro-hymenopteran parasitoids were observed, collected, preserved and duly recorded. Collection of gall infested leaves of *Ficus benjamina* and *Ficus religiosa* was done in FRI campus. *Ficus benjamina*, *Eupristina vitricellata* and *Walkerella* sp. were recorded and from the fruits of *Ficus religiosa* pteromalid female wasps (unidentified) were collected. Galled leaves of *Ficus religiosa* were also collected and reared in the laboratory, unidentified wasps were collected. Collection of unknown leaves infested with galls was done.

- Institute of Forest Genetics and Tree Breeding has been implementing comprehensive Tree Improvement programme of *Acacia mangium* since 1997. All improvement programme in India were based on genetic resources received from CSIRO, Australia during 1996. Recently Australian Tree Seed Centre has taken up internationally coordinated provenance trial program to expand the current genetic base of the *A. mangium* in Cambodia, Thailand, Vietnam, Malaysia, Indonesia, China and India. Institute of Forest Genetics and Tree Breeding has established International Provenance Trial of *Acacia mangium* in Ram Nagar, Dandeli, and Karnataka. The provenance trial was established with 15 new set of provenances in a row-coloum design planted at a spacing of 3x3 m in four replications and 16 trees per replication. It is expected that the new set of provenances will help in achieving higher genetic gain in terms of growth and wood properties of *A. mangium* and thereby increase overall plantation productivity and income to farmers and forest departments.

- Four on-farm genetic gain trials were established in East and West Godavari districts of Andhra Pradesh in collaboration with International Papers APPM Limited to identify the best clone to be promoted under the company's farm forestry programme for different soil types. In addition, the realized gain in terms of additional pulp wood production through the best clone can be quantified in comparison with the next best option (currently used clone / local seed source). This information will also be useful for the extension team of the company to provide authentic details to farmers about the yield from future plantations. These trials were raised in farmers' land so that they can be utilized as demonstration plots to popularize the clones among the farmers.

Early assessment of growth and survival was carried at the age of six months. The survival has been above 90% for all clonal and seedling accessions in all locations. This indicates the adaptability of the accessions in the test locations. Clones IFGTB-CH-2 and IFGTB-CH-5 have consistently performed better than other accessions in all four locations. These two clones recorded an average height of 2.4 m at the age of six months. Clones IFGTB-CH-1 and IFGTB-CH-3 have performed well in certain locations but not so in others whereas clone CH-4 showed consistent below-average performance in all locations. All the five hybrid clones released by IFGTB performed better than the currently planted clone and seedling accessions. The least growth was recorded by clone CJ-1 (now propagated by the company) with an average height of 1.4 m followed by local seed source recording 1.84 m. The best growth was observed in the tobacco area (Gopalpuram) with an average height of 2.55m. Clone CH-

5 showed a height close to 3 m in this location. The slowest growth was observed in the coastal site Shankaraguptam with an average height of 1.64 m. But CH-2 showed a height of 2.31 m in this location. Although these results are drawn from the six-months' growth of the trees, emerging trends are clearly visible. It is proposed to take up clone-site matching to raise future plantations based on the performance of the clones at the age of one year during October / November 2019.

Arid Forest Research Institute, Jodhpur

- Under floral diversity assessment in the project “Study of Flora and Fauna of Raj Bhavans of Rajasthan” there are 30

Consultancies

- ICFRE presently works on ten consultancy projects, which are awarded by Tehri Hydro Development Corporation India Ltd; Himachal Pradesh Power Corporation Limited; Karnataka State Official Authority; MoEF&CC Gol, New Delhi; Coal India Limited, Kolkata;

Kisan Mela

Institute	Participated	Duration	Place
IFP, Ranchi	Deoghar Shraoni Mela	12 and 13 August 2019	Shraoni, Deoghar

Workshops/ Seminars/ Meetings

S. No.	Topic	Duration	Beneficiaries
Forest Research Institute, Dehradun			
1.	Rejuvenation of Yamuna River through Forestry Interventions	6 August 2019	Various stakeholder departments, NGOs, Farmers, etc.
2.	Forest Landscape Restoration	7 August 2019	Scientists, Students and Farmers, etc.

herbs and grass species belonging to 12 families. These include one climber species *Coccinia grandis*. Dominant herbaceous species are *Acalypha indica*, *Achyranthes aspera*, *Acrachne ramosa*, *Cassia occidentalis*, *Coccinia grandis*, *Commelina benghalensis*, *Corchorus aestuans*, *Eragrostis minor*, *Euphorbia thymifolia*, *Setaria verticillata*, *Triumfetta rhomboidea* and *Verbesina encelioides* in Rajbhawan Jaipur area.

Himalayan Forest Research Institute, Shimla

- Attack of scale insect (sap sucker; order - Hemiptera, Suborder - Sternorrhyncha, Superfamily – Coccoidea) on *Cedrus deodara* has been recorded for the first time in Kalpa Forest Range, Kinnaur Forest Division.

NTPC Ltd Noida; NMDC Ltd, Hyderabad; Singreni Collieries Company Ltd., Kothagudem; Chhattisgarh Forest Department, Raipur; Deptt. of Forest and Environment, Bhubaneswar.



State level consultation meeting for stakeholders at Panchkula (Haryana) on DPR for Rejuvenation of Yamuna River

Institute of Forest Genetics and Tree Breeding, Coimbatore

3.	Production of Short films for “IFGTB and its Technologies” and “Clonal Forestry”	30 August 2019	–
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Tropical Forest Research Institute, Jabalpur

4.	Regional Research conference	23 August 2019	Stakeholders and Researchers
5.	Revival, modernization and integration of Indian traditional herbal medicine in clinical practice: Importance, challenges and future	29 August 2019	Researchers

Arid Forest Research Institute, Jodhpur

6.	NTFP species of Rajasthan and their Value addition	29 August 2019	Forest Department personnel
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Rain Forest Research Institute, Jorhat

7.	State Level Consultation Meeting: West Bengal, under Preparation of Detailed Project Report (DPR) for rejuvenation of river Brahmaputra through forestry interventions	6 August 2019	People of Brahmaputra Basin, Forest department, Researchers
8.	State Level Consultation Meeting: Nagaland, under Preparation of Detailed Project Report (DPR) for rejuvenation of river Brahmaputra through forestry interventions	27 August 2019	People of Brahmaputra Basin, Forest department, Researchers



State level consultation meeting at West Bengal



State level consultation meeting at Nagaland

Himalayan Forest Research Institute, Shimla

9.	Preparation of Detailed Project Report of Ravi River	2 August 2019	State forest department, NGO's, other line department, local people etc. of Chamba
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Preparation of Detailed Project Report (DPR) for rejuvenation of Sutlej river basin through forestry intervention

2 August 2019

HPSFD and stakeholders of different line departments including Ecotourism, Hydro Electric Power Projects Rampur HPS, Luhri HEP, NJPS Jhakri (HEPs), Agriculture, Horticulture, PWD, farmers



First consultative meeting for stakeholders of Himachal Pradesh

- | | | | |
|-----|---|----------------|----------------------------------|
| 11. | Preparation of Detailed Project Report (DPR) for Rejuvenation of Beas River through Forestry Interventions at Kullu | 5 August 2019 | Stakeholders of Himachal Pradesh |
| 12. | Preparation of Detailed Project Report (DPR) for Rejuvenation of Chenab River through Forestry Interventions at Keylong | 6 August 2019 | Stakeholders of Himachal Pradesh |
| 13. | Preparation of Detailed Project Report (DPR) for Rejuvenation of Chenab River through Forestry Interventions at Killar | 8 August 2019 | Stakeholders of Himachal Pradesh |
| 14. | Preparation of Detailed Project Report (DPR) for rejuvenation of Sutlej river basin through forestry intervention | 9 August 2019 | - |
| 15. | Preparation of Detailed Project Report of Sutlej River at Bilaspur | 17 August 2019 | Stakeholders of Bilaspur |



Consultative meeting at office of Dy. Director, Horticulture, Kinnaur



First consultative meeting for stakeholders of Bilaspur (HP)

16.	Preparation of Detailed Project Report (DPR) for Rejuvenation of Beas River through Forestry Interventions at Dharamshala	19 August 2019	Stakeholders of Himachal Pradesh
17.	Preparation of Detailed Project Report (DPR) for Rejuvenation of Beas River through Forestry Interventions at Punjab Forest Department	21 and 23 August 2019	Stakeholders of Himachal Pradesh at Hamirpur

Institute of Forest Productivity, Ranchi

18.	Strategy for quality seed production	23 August 2019	Officers, Scientists & Officials
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Training Programmes

S. No.	Topic	Duration	Beneficiaries
Institute of Forest Genetics and Tree Breeding, Coimbatore			
1.	VAM Bio-fertilizer Production Techniques	8 and 9 August 2019	SFD Officials of Karnataka Forest Department, Govt. of Karnataka, Ballari Research Circle, Ballari, Karnataka
2.	Characterization of Forest Genetic Resources and its Conservation	28 and 29 August 2019	Students/Research Scholars from various Colleges and Universities
3.	Bio-fertilizers – Importance, Production, Maintenance and Application in Nursery and Field under TNSPC funded Project	22 August 2019	SFD Officials, Women Self Help Groups, Farmers, Tree Growers, College and School Teachers, NGOs of Kolli Hills, Namakkal District, Tamil Nadu



Training on VAM Bio-fertilizer Production Techniques at IFGTB



Training on Characterization of Forest Genetic Resources and its Conservation at IFGTB

Institute of Wood Science and Technology, Bengaluru

4.	Bamboo propagation, value addition and marketing	26 to 28 August 2019	Farmers, small entrepreneurs and State Forest Departments
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Tropical Forest Research Institute, Jabalpur

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|----|---|--------------------|---|
| 5. | Forestry Sector in Disaster Risk Reduction and Climate Resilience | 5 to 9 August 2019 | Officers of Disaster Management cells, Scientist, IFS Officers, Officers from Paramilitary Forces |
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Rain Forest Research Institute, Jorhat

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| 6. | Skill Development Training under Van Vigyan Kendra, Assam, organized in collaboration with Sonitpur East Forest Division, Biswanath Chariali, Assam | 22 and 23 August 2019 | Frontline Staff, SHG, NGO, JFMC members |
| 7. | Awareness cum skill training programme under FRC-LE NMHS Project, 'Bamboo preservation, Joinery and Truss making for construction of Bamboo houses' | 27 and 28 August 2019 | - |



Skill development training under Van Vigyan Kendra, Assam



Awareness cum skill training programme under FRC-LE- NMHS Project

Himalayan Forest Research Institute, Shimla

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|----|--|----------------------|--|
| 8. | Conservation of Medicinal Plants and Benefits sharing with local communities | 26 to 30 August 2019 | 6 IFS officers from twelve different states participants |
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Prakriti Programme

- Forest Research Institute, Dehradun organized an exposure visit for students of Jawahar Navodaya Vidyalaya (JNV), Shankarpur, Sahaspur, Dehradun on 23 August 2019 under "Prakriti" programme. A group of 49 JNV students were taken into nearby forest area of botanical garden and bambusetum.
- The various groups of students in July 35 students of KV Khichripur on 22 August 2019, 54 students of KV AGCR colony on 23 August 2019, 44 students of KV Sainik Vihar on 26 August 2019, 50 students of KV Gole market on 27 August 2019, 54 students of KV NFC Vigyan Vihar on 28 August 2019, 44 students of KV Shalimar Bag on 29 August 2019 and 44 students of KV No.2 APS colony Delhi Cantt. on 30 August 2019 from New Delhi led by their teachers visited FRI, Dehradun under "PRAKRITI" programme. Students were also taken visit to Botanical gardens, Bambusetum and various museums of the institute.
- IFGTB, Coimbatore organized an awareness programme under "PRAKRITI" wherein 1763 school students and 656 college students participated at Education Centre, Gass Forest Musuem in the month of August 2019.

- IWST, Bengaluru organized the following activities under Prakriti programme during the month
 - 58 students of Class 10th from Kendriya Vidyalaya, Hebbal Campus, Bengaluru visited IWST, Bengaluru on 28 August 2019.
 - 24 B.Arch (7th Semester) students from Gopalan School of Architecture, Bengaluru visited IWST, Bengaluru on 7 August 2019.
 - 25 MSc (Life Science) students from Mount Carmel College, Bengaluru visited IWST, Bengaluru on 13 August 2019.
 - 69 students of Class 8th from Soundarya Central School, Bengaluru visited IWST, Bengaluru on 29 August 2019.
- HFRI, Shimla organized an awareness programme on Forestry and Environment for the 95 students of Class 6th to 12th of Jawahar Navodaya Vidyalaya, Reckong Peo, Kinnaur, Himachal Pradesh under Prakriti programme.
- IFP, Ranchi organized the following Forestry and Environment awareness programme under *Prakriti* during the month
 - Jawahar Navodaya Vidyalaya, Putto, Kodarma, Jharkhand on 21 August 2019.
 - Kendriya Vidyalaya School, Sevoke Road, Salugara, Darjeeling, West Bengal on 30 August 2019.



Students under Prakriti programme at IFGTB



Exposure visit for students of Kendriya Vidyalaya at FRI



Students of Jawahar Navodaya Vidyalaya, Kinnaur, HP



Awareness programme under Prakriti at IFGTB

Awareness and Demonstration Programmes

- An awareness programme on Skin and Organ donation was organized at IFGTB on 22 August 2019. Delivered a lecture detailing the importance of organ donation and about organs that could be donated while a person is alive and after his demise.
- An awareness program on Prevention of Sexual Harassment of Women at Workplace was organised by the Internal Complaints Committee (ICC) of the Institute of Forest Genetics and Tree Breeding (IFGTB), Coimbatore on 22nd August 2019.
- Health Awareness Camp was organized by FRC-SD Chhindwara on 26 and 27 August 2019 at Mahatma Gandhi Ayurveda College, Hospital and Research Centre, Salod, Wardha (MS) and Umri Gram Panchayat, Wardha (MS) under the ongoing research project entitled "Development of fast food products enriched with Moringaoleifera (Drumstick) leaves and skill up gradation training to rural women.
- Research and development activities of different divisions of RFRI, Jorhat, such as Nursery Management, Cultivation, Propagation & Value addition of Bamboo. Bamboo preservation techniques, Biotechnology and Tissue Culture, Lac Cultivation, Botanical Garden, Orchidarium, Vermicomposting etc. on 8,20,22,28 and 30 August 2019. Student of various school from Jorhat and forest guard trainees from Assam Forest Guard training school, Makum attended the programme.

HR News

Repatriation

Name of Officer	Date
Dr. Mohit Gera, IFS, Director, IFGTB	02.08.2019
Sh. N. Mohan, Karnat, IFS, CF, IWST	02.08.2019
Sh. Uma Ram Chaudhary, IFS, CF, AFRI	07.08.2019

Promotions

Name of Officer	Date
Sh. Chaman Lal, Section Officer, AFRI	21.08.2019
Sh. Sanjay Pandey, Section Officer, ICFRE	21.08.2019
Smt. N. Usha, Section Officer, IFGTB	21.08.2019
Sh. Ng. Sobhachandra, Section Officer, RFRI	21.08.2019
Sh. Dinesh K. Dhiman, Private Secretary, HFRI	21.08.2019
Smt. Bharti Anand, Section Officer, FRI	22.08.2019

Smt. Rajni Duggal, Section Officer, FRI	22.08.2019
Sh. Ajay Aggarwal, Section Officer, FRI	23.08.2019

Transfer

Name of Officer	From	To
Dr. Sumit Chakraborty	TFRI, Jabalpur	FRC-CE Visakhapatnam
Dr. Sanjay Singh, Sci,-F	IFP, Ranchi	FRC-ER, Prayagraj
Dr. Charan Singh, Sci,-E	FRI, Dehradun	FRC-SD, Chhindwara
Smt. Shalini Bhowte, Sci,-B FRI, Dehradun	FRI, Dehradun	FRC-SD, Chhindwara

Retirement/VRS

Name of Officer	Date
Sh. Raman Nautiyal, Sci-E, ICFRE	01.08.2019
Dr. Meena Bakshi, Sci-E, FRI	31.08.2019
Smt. Suman Kaushal, Under Secretary, HFRI	31.08.2019

Patron:

Dr. Suresh Gairola, Director General, ICFRE, Dehradun

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