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ICFRE NEWSLETTER

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Significant Research Findings

Forest Research Institute, Dehradun

- Survey and collection was carried out in Uttar Pradesh, Punjab and Haryana states. Day and night collection of tettigonids were done at Hastinapur (UP), Pathradi, Mahendragarh, Jind, Bithmeda, Morni Hills (HR), Firozpur, Harike, Pathankot and Hoshiyarpur (PB). Adults were photographed live, killed, stretched and pinned. Immature katydids were reared in the cages.
- Survey was conducted in Haridwar and Dehradun and twenty one samples of insect larvae/cocoons (*Cyana coccinea*, *Eutectona machaeralis*, *Hyblaea puera*, Geometrid semi-looper, Pyralid semi-looper, *Clostera fulgurita*, *Clostera cupreata*, and *Apanteles* cocoons on *Hyblaea puera* larva) were collected from Thano range, Rishikesh (Dehradun) and Haridwar in different forestry trees *Tectona grandis*, *Murraya koenigii*, *Populus* sp., *Dalbergia sissoo*, *Ficus religiosa*, for their laboratory rearing which was continued for emergence of *Apanteles* spp. Fourteen *Apanteles* spp. (near *Apanteles ruidus*) were emerged out from collected parasitized larvae and 50% parasitization was recorded. Slide preparation and identification are in progress.
- In a survey, total thirty seven samples of insect eggs were collected from districts: Dehradun and Yamunanagar in different forestry trees: *Cassia fistula*, *Cladrastis kentukea*, *Helicteres isora*, *Holoptelea integrifolia*, *Lagerstroemia speciosa*, *Melia dubia*, *Populus deltoides*, *Ricinus communis*, *Syzygium cumini* and *Tectona grandis*. Two egg parasitoids emerged out from the collected egg samples: *Trichogramma* sp. from the egg of *Catopsila pomona* on *Cassia fistula* and *Baryconus* sp. from wheel bug eggs on *Lagerstroemia speciosa*. Ten egg parasitoids were identified up to species level which were sorted out from the previous collected sweeping samples: *Aphelinoidea gwalioensis*,

Chaetogramma (near *hisarensis*), *Duta* sp., *Haeckeliana singularis* sp.nov., *Haeckeliana* sp., *Lathromeroidea deoriaensis* sp. nov., *Lathromeroidea indica* sp., nov., *Leptomastix* sp., *Microterys* sp. and *Tumidiclava* sp. Photography and slide preparation are in progress.

- A field survey was carried out in Deoban RF, in Chakarata Forest Division, Dehradun district during late post monsoon season. Sampling was carried out on 5 transects in 2 forest sub-types namely (12/C1a Ban Oak Forest; 12/C1d Western Mixed Coniferous forests). A total of 27 species were sampled and 6 specimens of uncommon butterfly species were collected and preserved. Herbarium specimens of 2 species of tree and shrubs were also collected from different forest sub-types for identification from these sites. Larval host plant database was updated and 13 herbarium specimens were prepared and identified for the database for the previous tour and GIS based false colour composite maps of sampled points and Forest Sub-types were prepared for the upper Kumaon region of Pithoragarh & Bageshwar districts.
- A field survey was carried out on Kharsu, *Q. semecarpifolia* oak, Forests in Deoban RF, Chakarata Forest Division, in Dehradun District of Uttarakhand for recording new pests and their extent of damage during monsoon season by laying down 20 quadrates (10mx10m) for recording tree GBH, density & vegetation composition, incidence and infestation percentage. Larvae of four species of moths were also collected from Banj oak forests which were reared in the laboratory on Ban oak. 2 borer infested Kharsu oak logs were also collected from infested trees and brought to the lab for

- experiments. One species of hymenopteran parasitoid was collected from infested oak trees from the field. Experiments on biology of cerambycid borer *Xylotrechus basifuliginosus* on Ban & Kharsu oak logs brought from the Deoban RF, Chakrata earlier were continued in the laboratory. Morphometric studies on the adults of Kharsu oak borer, *Xylotrechus basifuliginosus* were also done. Database on insects attacking Western Himalayan oaks was updated by adding information for 5 species of coleopteran. Life-cycle of *Choreutis* Hübner, [1825] sp. [Lepidoptera: Ditrysia: Sesioidea: Choreutidae] infesting young shoots of *Quercus lanata* Smith, 1819 (Fabaceae) in Kumaon region, was studied for the first time.
- Digitized 106 types of insect species with about 700 photos. Verified names of 3387 number of species in cabinets 83-103 Checked cabinets 35 to 56 and 63 to 82 for final storage of images in three formats, JPEG, Tiff and reduced. Digitization and enrichment of National Forest Insect Collection (NFIC) of Forest Research Institute, Phase-II (minute insects) is under progress.
- Hierarchical Cluster Analysis (HCA) of the volatile constituents identified in hexane extracts of nine populations of *Valeriana jatamansi* distributed in Arunachal Pradesh by GC-MS allowed differentiation of these populations into three main clusters of four, three and two populations.
- Methanol extracts of lyophilized needles of 25 accessions of population of *Taxus baccata* occurring in the Kedarnath Wildlife Sanctuary of Chamoli Forest Division, Uttarakhand for their marker assisted chemical screening were isolated.

Institute of Forest Genetics and Tree Breeding, Coimbatore

- Release of farmer friendly Mobile App for Yield estimation in Casuarina Plantations.
- Biomass table for plantations of *Casuarina equisetifolia* was prepared by sampling 200 trees from 69 Casuarina plantations in Tamil Nadu. The age of the sampled plantations varied from 2 to 7.5 years with the girth ranging from 8.5 to 29.5 cm and total height ranging from 4.5 to 14.6 m. Using the best-fit regression model developed from these field data, a farmer's friendly mobile app has been developed and released on 22 October 2019 in the Tree Growers Mela organized by IFGTB at Jayamkondam. This mobile app is a farmer's friendly

as only 5% of sampling farmers need to do just by measuring only girth of every 20 trees in his field by walking all along the tree rows so that entire plantation is covered and representative trees are measured for estimation of yield of standing crop using this Mobile App. This yield estimation in the standing plantations facilitates the farmers for better negotiation for selling his plantations to the buyers/middleman. This mobile app is now available in Google Play Store as "CYCUS" – which stands for Casuarina Yield Calculating Utility Software.

Institute of Wood Science and Technology, Bengaluru

- Biological degradation and weathering behavior of wood polymer composites
Natural weathering of wood polymer composite for one year resulted in loss in mechanical strengths of the composite material. The loss in flexural strength was in the range of 6% to 15% and the loss in tensile strength was in the range of 10% to 18%. Studies on fungal resistance indicated significant weight loss (upto 18%) in composites at 60% wood content indicating the need for fungicide in the composition. The composites were free from any termite attack in multi-locational termite exposure.

Arid Forest Research Institute, Jodhpur

- During visit to Rajbhavans of Jaipur and Mt. Abu, leaf damage by insect recorded in many plants. Galls formations were observed on some of the trees. Sooty mold disease was recorded on Pipal (*Ficus religiosa*) and Mango (*Mangifera indica*) tree at Jaipur, whereas leaf blight and spots were identified on some extent at both the sites. Rust disease was observed at Mt. Abu area.

Himalayan Forest Research Institute, Shimla

- Collected 20 wild mushroom specimens from Tissa forest range Chamba district. Six mushrooms samples were identified up to species level viz. *Clavaria zollingeri*, *Trametes hirsuta*, *Amanita pantherina*, *Volvariella bombycina*, *Russula emetica*, *Helvella atra*.
- Diversity of arbuscular mycorrhizal fungi associated with temperate medicinal plants- *Angelica glauca* and *Valeriana jatamansi* were studied.
- 30 insect samples of major insect pests of *Quercus dilatata* Tisa Forest Range, district Chamba. *Chrysoperla* sp. – a predator of Lepidopteran larvae has been reared in the laboratory.



Release of farmer's friendly Mobile App for Yield estimation in Casuarina Plantations

Visit Abroad

Name of Personnel	Institute	Purpose of Visit	Duration	Place
Dr. Suresh Chandra Gairola, DG, ICFRE; Dr. V.P. Tewari, Sci- G; Dr. Sangeeta Gupta, Sci- G; Dr. Manisha Thapliyal Sci-F, Dr. B.N. Divakara, Sci-E	ICFRE, HQ, FRI, Dehradun, IWST, Bengaluru	XXV IUFRO World Congress	29 Sept to 5 Oct 2019	Brazilian Agricultural Research Corporation, Curitiba, Brazil
Dr. V. Jeeva, Scientist-F	ICFRE, HQ,	7 th International Wildland fire Conference	28 October to 1 November 2019	Brazil
Dr. Rekha. R. Warriar, Scientist-F	IFGTB, Coimbatore	Regional Forest Genetics Workshop	21 to 23 October 2019	Beijing, China
Dr. A. Nicodemus, Scientist-F and Dr. A. Karthikeyan, Scientist-F	IFGTB, Coimbatore	Sixth International Casuarina Conference	21 to 23 October 2019	Krabi, Thailand

Tree Growers Mela

Institute	Participated/ Organized	Duration	Place
IFGTB, Coimbatore	Tree Growers Mela	22 October 2019	Tiruvannamalai, Tamil Nadu



Tree Growers Mela at Tiruvannamalai, TamilNadu

Workshops/ Seminars/ Meetings

S.No.	Topic	Duration	Beneficiaries
Forest Research Institute, Dehradun			
1.	Himachal Pradesh Forest Department of Yamuna Catchment area for DPR preparation for Rejuvenation of River Yamuna	19 October 2019	Officials of Shimla Circle and Solan Circle

Institute of Forest Genetics and Tree Breeding, Coimbatore

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| 2. | Preparation of DPR for Rejuvenation of River Cauvery through Forestry Interventions | 16 October 2019 | PCCF & HoFF, TNFD |
| 3. | Research Advisory Group Meeting | 16 and 17 October 2019 | Officers, Scientists of IFGTB & Delegates |



Meeting on preparation of DPR for rejuvenation of river Cauvery through forestry interventions



Research Advisory Group Meeting

Institute of Wood Science and Technology, Bengaluru

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| 4. | Research Advisory Group Meeting | 22 October 2019 | RAG members comprising of subject matter experts from Forest Department, University, Industry etc. |
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Arid Forest Research Institute, Jodhpur

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| 5. | Proposed Environmental Awareness Centre | 8 October 2019 | ABBM, EAC and Institute |
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Himalayan Forest Research Institute, Shimla

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| 6. | First Consultative Meeting for Preparation of Detailed Project Report (DPR) for Rejuvenation of Sutlej River Basin through Forestry Interventions | 16 October 2019 | Officers from Agriculture, Horticulture, PWD, Disaster Management, Urban Development, Animal Husbandry Department, officers & staff of PAU, Ludhiana and Officers from State Forest Department, Punjab. |
| 7. | Two Consultative Meetings for preparation of Detailed Project Report (DPR) for Rejuvenation of Sutlej River Basin through Forestry Interventions | 23 and 24 October 2019 | Range Officers and Forest Guards of Kotgarh and Rampur Divisions |

8.	Research Advisory Group Meeting	24 October 2019	Officers, Scientists of HFRI
9.	Role of Insects as Bio Indicator in Forest Ecosystem	25 October 2019	Officers, Scientists, Technical Staff and Researchers
10.	Consultative Meeting for preparation of Detailed Project Report (DPR) for Rejuvenation of Sutlej River Basin through Forestry Interventions	30 October 2019	Officers and Staff from Kunihar Forest Division of HPSFD



Research Advisory Group Meeting



Meeting for preparation of DPR for rejuvenation of Sutlej river basin through forestry interventions

Institute of Forest Productivity, Ranchi

11.	DPR preparation for Rejuvenation of Mahanadi, Narmada and Godavari Rivers through Forestry Interventions	4 October 2019	Officers from the SFD, Agriculture, Water resource, Agriculture University, CGCOST and other key organizations associated
12.	Research Advisory Group Meeting	23 October 2019	Forest Officers, Scientists, Research Officers, NGOs and Progressive Farmers etc.
13.	IFP-KVK Collaborative Work and Extension	28 October 2019	Farmers



Research Advisory Group Meeting

Institute of Forest Biodiversity, Hyderabad

14. Detailed Project Report for Rejuvenation of Godavari, Narmada and Krishna Rivers through Forestry Interventions 10 October 2019 Stakeholders of Andhra Pradesh



Meeting on detailed project report for rejuvenation of Godavari, Narmada and Krishna rivers through forestry interventions

Training Programmes

S.No.	Topic	Duration	Beneficiaries
Forest Research Institute, Dehradun			
1.	Parataxonomy	30 September 2019 to 4 October 2019	Local Communities of Gangotri, Govind and Darma, Byans Valley
2.	Agroforestry for Livelihood Improvement	14 to 16 October 2019	Farmers, Forest officials, Entrepreneurs and Representatives of Wood based Industries



Training on Parataxonomy



Training on agroforestry for livelihood improvement

Institute of Forest Genetics and Tree Breeding, Coimbatore

3. Bioprospecting and Biopiracy 9 to 11 October 2019 Officers from Various Government Departments

4.	Development of Compost out of Waste Involving Tribal for their Livelihood Support	31 October 2019	Women Self Help Group of Thambampathy, Pollachi (TK), Coimbatore district
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Institute of Wood Science and Technology, Bengaluru

5.	Wood Science	3 October 2019	Forest Guard Trainees of Forest Technical & Administrative Training Institute, Kadugodi, Karnataka
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6.	Field Identification of Certain Important Timbers	14 to 17 October 2019	Bsc (Forestry) students College of Forestry, Ponnampet, Kodagu
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Tropical Forest Research Institute, Jabalpur

7.	Collection of data along Narmada River and its Tributaries to prepare DPR for Narmada River under River Rejuvenation through Forestry Interventions	4 to 22 October 2019	SDO, Ranger, Field staff
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8.	Lac Cultivation	14 to 18 October 2019	Farmers
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Rain Forest Research Institute, Jorhat

9.	Bamboo Charcoal Production and Briquetting under National Mission on Himalayan Studies	22 to 24 October 2019	Participants from selected villages of Karbi Anglong District of Assam
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10.	Bamboo Resource Development for Addressing Livelihood Concerns of Communities	29 to 31 October 2019	Agriculture, Animal Husbandry, Mizoram University, Forest Department Rural Development, Farmers, NGOs etc.
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Training on Bamboo Charcoal Production and Briquetting under National Mission on Himalayan Studies



Training on Bamboo Resource Development for Addressing Livelihood Concerns of Communities

Himalayan Forest Research Institute, Shimla

11.	Identifications, Cultivation of Medicinal Plants, Seed & Nursery Techniques, Instrumentation and DNA Extraction	13 August to 25 October 2019	B. Sc. Forestry Final Year students
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Institute of Forest Productivity, Ranchi

12.	Livelihood Generation through Lac Cultivation	18 October 2019	Farmers
13.	DPR preparation of Mahanadi River	25 and 26 October 2019	SFD, NGOs, Stakeholders, & Local People



Training on Livelihood generation through lac cultivation

Memorandum of Agreement

- IFGTB, Coimbatore entered into a contract agreement with SPIC – Agro Biotech Centre, a commercial tissue culture laboratory, for large scale production of clones of teak on 16 October 2019. IFGTB developed micropropagation protocols for large scale plantlet production of selected teak genotypes sourced from Kerala and Tamil Nadu. As part of this MoU, SPIC will commercially propagate teak clones developed by the institute which will be made available to the farmers through IFGTB.

Prakriti Programmes

- 177 students of KV ITBP, Dehradun led by their teachers visited FRI, Dehradun on 4 October 2019 under *Prakriti* programme. Dr. A.K.Pandey, Head, Extension Division, FRI welcomed all the students and their teachers. Thereafter, brief introduction about the institute and its contribution towards environment and society was given to the participants. Then students were also taken for a visit to Botanical garden, Bambusetum and various museums viz. Forest Pathology museum, Silviculture museum, Timber Museum, Forest Non Wood Forest Product Museum and Forest Entomology Museum in FRI. During the visit of different museums, queries raised by students were explained by concerned scientists/officers in museums.
- A group of 25 students of Nav Rachna Public School, Roorkee on 15 October 2019 led by their teachers visited Forest Research Institute, Dehradun. Scientists of Extension, Division, FRI welcomed all the students and their teachers. Thereafter, brief introduction about the institute and its contribution to the environment and society was given by the scientists of Extension Division, FRI, Dehradun. Then students were also taken for a visit to Botanical garden, Bambusetum and various museums.
- Students of Jawahar Navodaya Vidyalaya, Shankarpur, Sahaspur, Distt.-Dehradun, Uttarakhand were taken for trekking for bird-watching in sal forest areas near the school by Dr. Arun P. Singh, Scientist-F, FRI, Dehradun.

- IFGTB Coimbatore organized, a Sensitization Course on Biodiversity and its Conservation for refreshing the knowledge of teachers of Kendriya Vidyalayas in IFGTB on 23 October 2019, which was sponsored by Ministry of Environment, Forest and Climate Change, Govt. of India.
- A *Prakriti* programme was conducted to the school and college students by the IFGTB, Coimbatore. The theme of this month was the “Ethnology and Forest Conservation”. The ethnology section of Gass museum comprises of axes, saw, bows, arrows, guns. Students were explained the design and usage of the items displayed in this section with curiosity and came to know about the importance of sustainable forest management. There were 739 school children from 14 schools from the Coimbatore Educational District and 184 college students from 7 colleges of Coimbatore and Dindigul including Arts and Science, Engineering institutions participated in the program.
- Under *Prakriti* programme 18 students of B.Sc (Interior Design) from NITTE School of Fashion Technology and Interior Design, Bengaluru visited IWST, Bengaluru on 24 October 2019.
- TFRI, Jabalpur organized awareness programmes under *Prakriti* for students of class 10 and 12 in KV Narsinghpur on 14 October 2019. 75 students and 6 teachers participated in the programme.
- RFRI, Jorhat organised awareness programmes on Environment and Forest activities under *Prakriti* for 480 students of Jawahar Navodaya Vidyalaya, Sivasagar and Aizawl on 15 and 30 October 2019.
- प्रकृति छात्र-वैज्ञानिक मिलन कार्यक्रम” के अंतर्गत हिमालयन वन अनुसंधान संस्थान, शिमला ने केन्द्रीय विद्यालय, हमीरपुर के 10वीं, 11वीं और 12वीं के विद्यार्थियों के लिए वानिकी तथा पर्यावरण के बारे में जागरूक करने के उद्देश्य से दिनांक 03 अक्तूबर 2019 को एक जागरूकता कार्यक्रम का आयोजन किया गया ।
- IFB organized awareness Programme on Environment and Forest Activities in a Kendriya Vidyalaya, Samiti-UOH Campus, Gachibowli, Hyderabad on 25 October 2019 under *Prakriti* programme.



Student from JNV, Sibsagar, Assam



Student from KV, Hyderabad



Students visit Gass forest museum under Prakriti programme at IFGTB



Students from KV, Narsinghpur, Jabalpur

Awareness Programmes

- ENVIS Resource Partner on Forest Genetic Resources and Tree Improvement at IFGTB organized an awareness programme on celebration of Green Deepavali on 25 October 2019.
- ENVIS Resource Partner on Forest Genetic Resources and Tree Improvement at IFGTB organized Wildlife Week Celebration on 4 October 2019. The primary objective of the observance was to focus on the importance of wildlife conservation for a balanced and healthy environment.



Awareness programme on celebration of Green Deepavali



Wildlife Week Celebration

Visit of Dignitaries

- Honble Justice Mr. Mahesh Sonak, Judge High Court of Bombay visited FRI on 24 October 2019.

Consultancies

- ICFRE presently works on eleven consultancy projects, which are awarded by Tehri Hydro Development Corporation India Ltd; Himachal Pradesh Power Corporation Limited; Karnataka State Official Authority; MoEF&CC GoI, New Delhi; Coal India Limited, Kolkata; NTPC Ltd Noida; NMDC Ltd, Hyderabad; Singreni Collieries Company Ltd., Kothagudem; Chhattisgarh Forest Department, Raipur; Deptt. of Forest and Environment, Bhubaneswar and Khairaha UG Coal Mine of SECL M.P.

Miscellaneous

Institute	Special Day/ Theme	Duration
	150 th Birth Day of Mahatma Gandhi	2 October 2019
ICFRE and its Institutes	National Unity Day	31 October 2019
	Vigilance Awareness Week	October 2019



Celebrating 150th Birth Day of Mahatma Gandhi at FRI, Dehradun



National Unity Day at FRI, Dehradun



Vigilance Awareness Week at HFRI, Shimla

HR News

Appointment

Name of Officer

Shri Anurag Bhardwaj, IFS
Director (IC), ICFRE

Date

23.10.2019

Promotion

Name of Officer

Shri Amar Singh, Librarian
FRI, Dehradun

Date

04.10.2019

Obituary

The ICFRE Family deeply condoles the sudden and sad demise of Dr. Pankaj Agarwal, Scientist - G, IWST, Bengaluru on 8 October 2019 and prays for the peace of the departed soul.

Patron:

Dr. Suresh Gairola, Director General, ICFRE, Dehradun

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