

ICFRE NEWSLETTER



Indian Council of
Forestry Research
and Education

CONTENT

SIGNIFICANT RESEARCH FINDINGS:

Forest Research Institute, Dehradun:

- Compiled initial growth data of *Gmelina arborea* and *Embllica officinalis* of Dhaluwala majbata (Haridwar) and Fatehpur Pelio (Saharanpur). Analysis of initial soil samples from both sites Fatehpur Pelio (Saharanpur) and Dhaluwala Majbata (Haridwar) has been completed. Maintenance and monitoring of plantation of *G. arborea* and *E. officinalis* at both above sites under the project “Development of *Gmelina arborea* and *Embllica officinalis* based agroforestry models on degraded lands in Uttarakhand and Uttar Pradesh”. Analysis of initial soil samples from both sites Fatehpur Pelio (Saharanpur) & Dhaluwala Majbata (Haridwar) is in progress. Maintenance and monitoring of plantation of Kachnar, Bhimal and Kadam at both above sites under the project “Development of Kachnar (*Bauhinia variegata*), Bhimal (*Grewia optiva*) and Kadam (*Anthocephalus cadamba*) based agroforestry models on farmers land under rainfed conditions in Uttarakhand”. Principal Component Analysis (PCA) of 7 populations of *Rhododendron arboretum* and 5 populations of *Betula utilis* grown in the Uttarakhand forests was carried out with respect to their total flavonoid contents and total triterpenoid contents (TTCs), respectively. Different clusters of these populations were distinguished.

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- Specimens were collected from New Forest, Timli, Kalsi, Kempty and Sarhan in HP, pinned and labelled under the project “Taxonomic study of Tettigoniidae (Orthoptera) of India (AICOPTAX, MoEFCC)”.
- Observations were made on the galls of *Pistacia integerrima* in Chakrarta, Mussorrie (Uttarakhand) and Sarhan and Solan (Himachal Pradesh). In the identified patches of *P. integerrima* very few galls are noticeable on the trees. In Sarhan and Solan (HP) no gall was seen. 10 saplings of *P. integerrima* and 5 species of grasses in the habitat of *P. integerrima* were also collected and planted in pots. Seeds and other pests of the plant were also collected and reared under the project “Cecidology and nursery establishment of *Pistacia integerrima* for exploring possibility of in situ leaf gall production. (Dabur India Pvt Ltd)”.
- Ten insect samples were collected by sweeping method from Thano range Dehra Dun for screening of *Apanteles spp.* Five insect larval samples were collected from Thano and Dehradun for the emergence of *Apanteles spp.* from forestry trees including *Pongamia pinnata*, *Dalbergia sissoo*, and *Tectona grandis*. Slide preparation and species identification of *Apanteles spp.* are in progress under the project “Studies on taxonomy and host range of larval Parasitoids, *Apanteles spp.* (Hymenoptera: Braconidae) from Uttarakhand and Haryana”.
- Sixty insect samples were collected from different localities of districts: Meerut, Aligarh, Ferozabad, Agra, Jhansi and Kanpur in Uttar Pradesh for the screening of egg parasitoids. Eighteen insect egg samples were collected from above localities for the emergence of egg parasitoids from different forestry trees including *Pongamia pinnata*, *Dalbergia sissoo* and *Cassia fistula* under the project “Studies on diversity and host range of hymenopteran egg parasitoids from northern India (Haryana, Uttar Pradesh and Uttarakhand)”.
- Biology and rearing of *C. annularis* is continuing. Infested bamboo species were collected from the field, examined and caged in zinc, wooden, chimney and outdoor cages for rearing. Control experiments for the management of borer has been laid down using systemic and contact insecticides in the Insectary, FRI under the project “Epidemiology and management of *Chlorophorus annularis* Fab. (Coleoptera: Cerambycidae) –A major borer of cut and dry bamboo”.
- Butterfly sampling were carried out in Chakarta Forest Division on 4 transects in 12/C1a Ban oak Forest; 12/c1b Moru Oak Forest & 12/C1d western mixed coniferous forest spruce, blue pine, silver fir. Database on species of butterflies under different forest types was updated by adding 5 new species from the data on 30 species sampled during the tour,

to 174 species sampled so far. New specimens of butterflies captured during the survey were also stretched, preserved and identified. GIS based map of forest types was generated for Govind WL Sanctuary & Uttarkashi. One species of butterfly *Horaga onyx* was reared in the laboratory for studies on life history stages under the project "Butterflies associated with different forest types/sub-types in Uttarakhand".

- Data was recorded on incidence of kharsu oak borer *Rosalia lateritia* in Deoban, Chakarata Forest Division. Larvae and adults of the pest were collected along with infested logs and brought to the laboratory in FRI for experiments on the life cycle of this borer besides one parasitoid of the borer. 22 species of moths were also collected from ban oak forests in Chakarata using a moth screen at night and were preserved for identification. Larvae of 11 species of Lepidoptera were also collected from ban oak trees and reared for life history studies, from which three species of moths emerged while the others are in pupal and larval stages. Borer infested Kharsu oak logs collected from the Chakarata earlier in June are being kept in the laboratory for rearing experiments on the life cycle of the borer *Xylotrechus basifuliginos* for which data was recorded on larval stages. Database on insect pests of western Himalayan oaks was updated by adding information on 3 species of Lepidoptera under the project "Insect pests of Western Himalayan Oaks and their Control".
- 630 species of beetles in cabinet nos 47, 48, 53, 54, 55, 57 (part), 58, 65 and 66 (partly) were digitized and about 1500 photographs of these species were edited and stored. Database was updated for editing species holding data in the database. Description of a new eulophid species of genus *Selitrichodes Girault* was finalized; key to the 15 species under this genus was formulated under the project "Digitization and enrichment of National Forest Insect Collection (NFIC) of Forest Research Institute, Phase-II (minute insects)".
- Study on Biology of poplar leaf defoliator, *Clostera cupreata* has been carried out on ten poplar clones for tolerance study. Artificial leaf defoliation experiment for assessment of wood production loss was conducted under the project "Screening of poplar clones for tolerance against poplar leaf defoliator, *C. cupreata*".
- Recorded data reveals higher CO₂ emissions from soils in Sal vegetation as compared to Chirpine vegetation cover. The higher values of carbon dioxide emission correspond to the higher soil temperature and soil moisture. Slightly higher organic carbon was observed in Chirpine vegetation as compared to the Sal vegetation cover. However, the level of significance is yet to be statistically checked and validated.
- While estimating most probable number of bacteria in soil samples of Muktsar and Kaithal districts of Punjab and Haryana respectively, pinkish colour colonies of bacteria were observed in few of them which might be of *Halobacterium* sp. (a salt loving bacteria). Identification is in process.
- Preliminary data on 'Post fire impact on soil nutrients and microorganisms in Chirpine and Oak forests of Uttarakhand'

suggest that there is slight increase in soil pH, decrease in EC, SOC (SOM), available Nitrogen, Phosphorus and Potassium after forest fires in summer season.

- In Kempty watershed (Mussoorie) 1112 mm rainfall was recorded in the month of July against 291 mm evaporation, which is 46% of annual rainfall. Suspended solid concentration measured in the stream was 67.3 mg l⁻¹ and EC was 383 μ S. Concentration of total dissolved solids was 290 mg l⁻¹. Concentration of Sodium, Potassium and Calcium was measured as 0.9, 0.6 and 20.9 ppm respectively.
- The soil temperature and soil moisture were dominant controlling factors of soil CO₂ emission in Kempty watershed. Maximum soil CO₂ efflux was measured at 15°C soil temperature whereas, above this soil temperature, soil respiration was controlled by soil moisture dominantly. The soil CO₂ efflux was maximum during rainy season and minimum during winter season.

Arid Forest Research Institute, Jodhpur

- Important conservation measures identified through field survey and people interactions are (i) endorsement of community reserves (ii) enhancing water, fodder and shading to the wild life (iii) Formation of committee or groups of people for protections and management (iv) construction of rescue centers appropriately (v) regular visit of forest guard/forest officials in the area (vi) providing a toll free emergency mobile number for effective communications (vii) Effective plantation activity to increase green cover, enhance fodder availability and habitat for the animals and (viii) developing grass lands and enhancing its productivity.
- Species preference for their use in restoration and wildlife conservation includes khezri (*Prosopis cineraria*), ber (*Zizyphus mauritiana*), ker (*Capparis decidua*), Jaal (*Salvadora oleoides*), kumatha (*Acacia senegal*), Kankera (*Mytenus emarginata*), rohida (*Tecomella undulata*), neem (*Azadirachta indica*), deshi babul (*Acacia nilotica*), fog (*Calligonum polygonoides*) and murali (*Lycium barbarum*) etc. Most preferred species is khejri.
- 84 Strains of Rhizobium have been isolated from soil collected from 90 place of 26 districts of Rajasthan. The biochemical studies show that 14 strains were able to tolerate upto 3% NaCl. 3 strain showed phosphate solubilizing activity. Thus, it is observed that the strains can not only fix atmospheric nitrogen but is also capable to solubilize phosphorus. Moreover, 3 strain showed positive chitinase activity which is a characteristic feature of biological control agents as it can degrade cell wall of pathogenic fungus which is made up of chitin.

Himalayan Forest Research Institute, Shimla

- In the field trial laid in cold desert area at Tabo, Lahaul & Spiti, the survival per cent of seedling of *Juniperus polycarpus* has been found to be more than 90%. This indicated that this species could be successfully established artificially in cold

desert region and may be taken up by the HPSFD for afforestation activities in the area.

VISITS ABROAD:

Name of Personnel	Institute	Purpose of Visit	Duration	Place
Dr. Anil Kumar Sethy, Scientist-D	IWST, Bengaluru	Training on "Wood based Panels"	10 - 14 September 2018	Forest Research Institute, Yezin, Myanmar
Dr. Pankaj K. Aggarwal, Scientist-G	IWST, Bengaluru	Training on "Research Methodology"	17 - 21 September 2018	Forest Research Institute, Yezin, Myanmar

WORKSHOPS/SEMINARS/MEETINGS:

S.No.	Topic	Duration	Beneficiaries
Forest Research Institute, Dehradun			
1.	Essential Oils, Perfumery & Aromatherapy	5 - 9 September 2018	cosmetologists, beauticians, scientists, doctors, aroma therapists, traders, entrepreneurs, industrialists



Training-cum-Workshop on Essential Oils, Perfumery & Aromatherapy at FRI, Dehradun

Rain Forest Research Institute, Jorhat

2.	REDD+ Working Group Meeting	6 September 2018	-
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Institute of Forest Genetics and Tree Breeding, Coimbatore

3.	2nd Research Scholars' Monthly Seminar	10 September 2018	30 JRF / SFR of IFGTB
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Himalayan Forest Research Institute, Shimla

4.	Managing insect- pest incidences in forest nurseries for development of healthy planting stock	28 September 2018	-
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Arid Forest Research Institute, Jodhpur

5.	Community Awareness for conservation and management of wildlife	5 to 15 September 2018	480 Villagers, SFD, NGOs and Farmers
6.	Strategies for conservation and management of wildlife	28 September 2018	100 Villagers, SFD, NGOs and Farmers



Training-cum-Workshop on Strategies for conservation and management of wildlife

TRAINING PROGRAMMES:

S.No.	Topic	Duration	Beneficiaries
Institute of Forest Genetics and Tree Breeding, Coimbatore			
1.	Hands on training on "Bioprospecting – Instrumentation methods and Phytochemical analysis"	19 - 20 September 2018	32 Under graduate, post graduate students of Biotechnology, Microbiology, Biochemistry, Agriculture Environmental Science, Ph.D scholars, Post Doctoral fellows, lecturers and R & D researchers
2.	Biological Diversity Act, 2002'	26 to 28 September 2018	36 Forest Department, Agriculture Department, Animal Husbandry Department, Fisheries Department , IFGTB-Technical Cadre Officers, Rural Development / Panchayath Raj institutions

Tropical Forest Research Institute, Jabalpur

3.	Insect Pest and Diseases in Forest Nursery and their Control Measure	26 September 2018	40 SFDs, Forester from Research & Extension Wing,, Seoni, Chhindwara
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Institute of Wood Science and Technology, Bengaluru

4.	Wood Protection	24-28 September 2018	16 trainees from Naval Dockyard, Visakhapatnam, INS, Shivaji, Lonavala, private working industries and Forest Academy, Chandrapur
5.	Value addition and marketing of NTFP (plant origin)-NTFP products /medicinal plants	17 Sep to 10Oct 2018	16 candidates participated in the training

Rain Forest Research Institute, Jorhat

6.	Vermicomposting Techniques and its uses	7 September 2018	15 farmers from Belonia, South Tripura
7.	Skill Development training	10 to 21 September 2018	20 Eri entrepreneurs & farmers



Training on vermicomposting at FRC-LE, Agartala



Training for Eri entrepreneurs & farmers at RFRI, Jorhat

Himalayan Forest Research Institute, Shimla

8.	Conservation and Development of Medicinal Plants and Benefits sharing with Local Communities	10 to 14 September 2018	24 IFS officers from thirteen different states of all over India
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Institute of Forest Productivity, Ranchi

9.	Green Skilled Development Training under the Programme of Govt. of India on Cultivation of Lac and Tassar	30 September 2018	13 students and progressive farmers
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RAJBHASHA NEWS:

- IFGTB, Coimbatore & FRC-LE, Agartala celebrated "Hindi Divas" on 14 September 2018.
- TFRI, Jabalpur observed Hindi Pakhwara from 14-27 September 2018. Various programmes were organized to promote the use of Hindi at work place.
- AFRI, Jodhpur observed Hindi Pakhwara from 14-20 September 2018.
- HFRI, Shimla observed Hindi Pakhwara from 14-28 September 2018.



HFRI, Shimla observed Hindi Pakhwara



AFRI, Jodhpur observed Hindi Pakhwara



RAG Meeting 2018 at AFRI, Jodhpur

RESEARCH ADVISORY GROUP MEETING:

- RAG Meeting 2018 was conducted on 26 September 2018 at AFRI Jodhpur. Five new Projects were presented during the meeting for approval. Also, Presentation of twenty three ongoing projects (ICFRE-17, EAP-6) were made during the meeting.

VISIT OF DIGNITARIES:

- Ms. Stefania Costanza, Consular General Italy, visited IWST, Bengaluru and AWTC for launch of one year Diploma course in Wood Working on 24 September 2018.

MISCELLANEOUS:

Institute	Special Day/ Theme	Duration
FRI, Dehradun	National Forest Martyrs Day	11 September 2018
RFRI, Jorhat	Swachh Bharat Abhiyan	13 and 27 September 2018
RFRI, Jorhat	World Bamboo Day 2018	18 September 2018
FRC-LE, Agartala		
FRI, Dehradun	World Ozone Day	18 September 2018

HR NEWS:

Retirement

Name of Officer	Date of Retirement
Dr. A.K. Sharma, Scientist- E, FRI, Dehradun	30.09.2018
Shri A.K. Khanduri, ACTO, FRI, Dehradun	30.09.2018
Shri M.K. Chanchal, Research Officer, IFF, Ranchi	30.09.2018
Smt. B.J. Kanthimathi, Under Secretary, IWST, Bengaluru	30.09.2018

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