

ICFRE NEWSLETTER

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Regional Research Conference



Regional Research Conference at AFRI, Jodhpur

AFRI, Jodhpur and TFRI, Jabalpur jointly organized Regional Research Conference on 'Forestry research in western and central India' on 25 August 2020. Many senior forest officers from different states of western and central India, scientists from ICFRE institutes, researchers and progressive farmers participated in this conference. This conference was comprised of five technical sessions on different aspects of forestry research.

Prakriti Programme

IFGTB, Coimbatore organized the "Online Knowledge Series" as part of "Prakriti Programme" for college students for the month of August 2020 on the topic; "Advances in Genomics: Implications & Perspectives".



Consultancy

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

Significant Research Findings

Forest Research Institute (FRI), Dehradun

- Growth data as height and girth of *Gmelina arborea* and *Embllica officinalis* were recorded in both 4x5m and 5x5m spacing at Dhaluwala (Haridwar) and Fatehpur Pelio (Saharanpur) experimental sites. Casualty replacement of Aonla (*E. officinalis*) was done at both sites. Soil samples were also collected from each experimental plot at above sites for analysis in the laboratory. Maintenance and monitoring of plantation of *G. arborea* and *E. officinalis* at above sites is in progress.
- Growth data of Kachnar, Bhimal and Kadam at both sites of Dhaluwala Majbata (Haridwar) were recorded. Soil samples were also collected from both sites for analysis in the laboratory. Casualty replacement of Kachnar, Bhimal and Kadam was done at both sites. Maintenance and monitoring of plantation of Kachnar, Bhimal and Kadam at above sites is in progress.
- Chemical treatment experiments (Thio-urea and urea) for fibre extraction have been completed and obtained 200gm fibre (approx) from each treatment. Eco friendly fibre extraction method using cow dung is under observation. Stock solution of the fungal spore suspension in potato dextrose broth (PDB) has been prepared with fungi, *Aspergillus niger* for treatment of *Grewia optiva* twigs for extraction of fibre. Experiment of fibre extraction, *G. optiva* twigs by treating with fungi *Aspergillus niger* has been completed.
- Morphometrics of apterous virginopare is in progress. Insect pests of seeds of *Pistacia integerrima* were processed for identification.
- Total Eleven samples of insect eggs were collected from Selaqui, Vikasnagar, New forest area and botanical garden Dehradun from different forestry trees: *Cassia fistula*, *Dalbergia sissoo*, *Mallotus philippensis*, *Morus alba*, *Pongamia pinnata* and *Populus deltoides*. Three egg parasitoids were emerged out from the collected egg samples two species of genus *Anastatus* of the family Euplemidae were emerged from the bug eggs on *Mallotus philippensis* and one species of genus *Aprostocetus* family Eulophidae was emerged out from Coridae bug egg on *Populus deltoides*.
- Field surveys were carried out in forest tracts for sampling butterflies in Chakrata and Deoban Reserve Forests in Chakrata Forest Division, Dehradun district in 12/C1a Ban oak forest; 12/C1d western mixed coniferous forest during monsoon season for 3 days. 32 species were sampled on 4 transects including on uncommon species Golden Emperor, *Dilipa morgiana*. GIS based maps were generated for 137 species of the family Nymphalidae from Uttarakhand.
- A Field survey was carried out in Deoban, Chakrata Forest Division, Dehradun district, Uttarakhand, for collection of data and insect material. Collections were made of the cerambycid borer larvae, *Xylotrechus basifuliginosus* and adults and eggs of *Rosalia lateritia* on Kharsu oak, *Quercus semecarpifolia* trees in Deoban RF, Chakrata Forest Division for carrying out experiments on their biology. 10 quadrates of each of 10 m x 10 m were laid out in the un-infested Kharsu oak forest for recording stand parameters i.e. GBH, density, tree mortality and vegetation composition and disturbance. Studies on the life cycle of 5 species of lepidopteran defoliators were carried out.
- Digitized 242 insect types and about 933 photos of these types were taken. Photographs were saved in Tiff, Jpeg and compressed forms. Edited photographs of 156 species of cabinet 137. Renamed the photographs of 42 wrongly accessioned species. Also renamed 156 un-accessioned species with newly allotted accessions. All the photographs in all the three formats were updated. Corrections in the database records of 1866 accessions/species in the cabinets 38 to 46 (part), based on the verification report prepared earlier by physically verifying each and every species in the collection, were done.
- Samples 38 in number collected and reared under laboratory conditions. Three pteromalid parasitoids collected from rearing/sweep net from different locations. Two pteromalid parasitoids identified as Eunotinae and Cephalata respectively. Ten pteromalid specimens were card mounted for proper identification.
- 30 pairs of Sal heart-wood borer were made from field collected adults and kept in laboratory for observing their biological parameters. 2 Pairs of adult were send to IWST, Bengaluru for EAG Studies. 2 pair of antennae, Both male & female were given to Chemistry and Bio-prospecting Division, FRI for chemoreceptors studies. One dead adult of *H. spinicornis* fully infected by fungus was given to for isolation of pathogen, if any. Field collected data on insect ecology, emergence and abundance, tree traps collection and health of trees in selected sites is digitized.
- Bioassay studies on attractancy of Hoplo adult both male & female with the help of olfactrometer with natural bast and odour extracted through solvent, is being undertaken in the laboratory. A digital poster on Identification of categories of Sal heart-wood borer (*Hoplocerambyx spinicornis*) attack with photographs have been prepared and printed.
- 43 species belonging to 43 genera and 9 families of heterocera sampled during 4 days in the 3C/C2a Moist Shiwalik Sal Forest in Nauri and Mundiapani areas of Lansdowne Forest Division, Kotdwar, Pauri Garhwal District, Uttarakhand were identified.
- Two populations of *Taxus baccata* found in Bhukkitop, Uttarkashi and Gheas, Badrinath, Chamoli were characterized for the contents of 10-Deacetylbaaccatin-III, the marker diterpenoid alkaloid, determined in their needles using HPLC.

- Extracts isolated from the needles of two populations of *Taxus baccata* found in Devban, Chakrata and Devitemple, Chamoli were purified using column chromatography for their 10-Deacetylbaccatin-III assisted screening.
 - Total phenolic content (TPC), total flavonoid content (TFC), total anthocyanin content (TAC) and vitamin C content in fruits of *Rubus niveus* were determined.
 - Data analysis pertaining to quantization of Aza-A, Aza-B, nimbin and salanin in neem seeds of selected progenies in connection with proposal for release of neem cultivars.
- Arid Forest Research Institute, Jodhpur**
- A quadratic relationship has been observed between diameter at breast height and total height of *A. tortilis* trees in IGNP area of western Rajasthan. The equation is in the form of $\text{Height} = 0.004X^2 - 0.151x + 9.522$, $R^2 = 0.406$.
 - Dry biomass of *A. tortilis* has been found related exponentially with diameter at breast height like $\text{Dry biomass} = 35.47 * E^{0.088DBH}$, $R^2 = 0.909$.
 - Findings of a project indicated that agroforestry contributes to improve livelihood of people of Rajasthan. Economic benefit was highest Rs. 86,018/ha in *D. sissoo* based system under irrigation, followed by *A. excelsa* Rs. 75,016/ha) and *T. grandis* (Rs. 73,600/ha) based system. Lowest benefit was Rs. 27236/ha recorded for *A. tortilis* and *A. senegal* (Rs. 27367/ha) based system. Gauva horti system provided highest return (Rs. 126653/ha/annum) in Sawaimadhopur district followed by grafted Ber (Rs. 106750/ha/annum) and pomegranate (Rs. 89503/ha/annum) in Barmer district.

Workshops/ Webinars/ Meetings

S. No.	Topic	Duration	Beneficiaries
Forest Research Institute, Dehradun			
1.	Agroforestry and Livelihood Generation	5 August 2020	Students of Colleges and Universities and Management Institutes, trainees of IGFA and CASFOS, Non Government Organizations, Self Help Groups, entrepreneurs and farmers
2.	Recent advances in integrated management of tree health problems caused by insect-pests and diseases	18 August 2020	-
			
Webinar on Recent advances in integrated management of tree health problems caused by insect-pests and diseases			
3.	Bamboo Genetic Improvement from Classical to Biotechnological Approaches	21 August 2020	Forest Departments of different States

Institute of Forest Genetics and Tree Breeding, Coimbatore

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|----|--|----------------------|---|
| 4. | Advances in Genomics - Implications and Perspectives | 7 August 2020 | Students from PSG College of Arts & Science, Coimbatore |
| 5. | Tree cultivation for increasing farm income | 13 to 27 August 2020 | Tree Growers and Other Stakeholders of Tamil Nadu |

Tropical Forest Research Institute, Jabalpur

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|----|--|----------------|---|
| 6. | Role of Insects and Fungi in Forest Ecosystem: Challenges & Future Perspective | 26 August 2020 | Participants from TFRI, FRC-SD, Chhindwara, Universities, HFRI, Shimla, IFB, Hyderabad, FRI Dehradun, HPU, Shimla and Central Agricultural University, Nagaland |
| 7. | Preparation of DPR to set up a Centre of Excellence for Sustainable Land Management | 26 August 2020 | Scientists |
| 8. | Regulatory Framework for Testing and Releasing of Trees Varieties/clones – An Analysis | 31 August 2020 | Participants from TFRI, Jabalpur, FRC-SD, Chhindwara and SFRI, Jabalpur |

Himalayan Forest Research Institute, Shimla

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| 9. | Sustainable Harvesting and Conservation of <i>Pinus gerardiana</i> (Chilgoza) for securing Livelihood in North Western Himalayas | 28 August 2020 | Scientists, Forest Officers, Technical Officers and other research staff |
|----|--|----------------|--|



Webinar on Sustainable Harvesting and Conservation of *Pinus gerardiana* (Chilgoza) for securing Livelihood in North Western Himalayas

Institute of Forest Biodiversity, Hyderabad

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|-----|--|---------------|--------------------|
| 10. | Eucalyptus Improvement and status in India | 4 August 2020 | officers and staff |
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Trainings Programme

S. No.	Topic	Duration	Beneficiaries
Rain Forest Research Institute, Jorhat			
1.	Bamboo Craft Work for Hand Made Water Bottles	10 to 14 August 2020	Tribal youths of Tripura and other artisans
2.	Skill Upgradation on Bamboo Based Utility Products and Entrepreneurship Development	23 to 31 August 2020	Stakeholders



Training on Bamboo Craft Work for Hand Made Water Bottles

Himalayan Forest Research Institute, Shimla

3.	Cultivation of Important High Value Temperate Medicinal Plants	5 August 2020	Farmers and frontline staff of HPSFD/ Haripur, Kullu
4.	Nursery and Propagation Techniques of <i>Trillium govanianum</i> (Nagchhatri)	6 August 2020	Farmers and frontline staff of HPSFD/ Haripur, Kullu



Training on Nursery and Propagation Techniques of *Trillium govanianum* (Nagchhatri)

5.	Sandal Wood: Seed handling nursery and plantation technology	21 August 2020	Farmers, researchers from ICFRE & other organizations
6.	NABL Training on Audit	25 August 2020	Researchers
7.	Development of Cross Laminated Timbers	31 August 2020	Wood based industries, researchers from ICFRE & other organizations

Publications

Following Extension Material (Pamphlets) were published by AFRI, Jodhpur and released by Director General, ICFRE during RRC organised on 25 August 2020 -

- आदर्श पौधशाला : आफरी
- उत्तर पश्चिमी राजस्थान में खेजड़ी (प्रोसोपिस सिनेरेरिया) मृत्युता: कारण, तीव्रता और उपचार
- रोहिड़ा : मारवाड़ का सागवान
- लाल चन्दन (रक्तचंदन) हरा सोना
- किसानों के लिए सफेद चन्दन की खेती हेतु मार्गदर्शिका
- अकाष्ठ वनोपजों के मूल्य संवर्धन द्वारा जीविकोपार्जन में वृद्धि
- Model Nursery AFRI
- Khejri (*Prosopis cineraria*) Mortality :Causes, Severity & Remedies in North-Western Rajasthan
- Tecomella undulata* (Rohida) : Marwar Teak of Rajasthan (A step Towards Genetic Improvement)
- Red Sanders (Lal Chandan) A Green Gold
- Farmer's Guide for White Sandalwood Cultivation
- Enhancing of Livelihood Generation through Value Addition on Non Timber Forest Products: NTFPs
- Casuarinas* : multipurpose Nitrogen Fixing Plants
- AFRI information booklet

Miscellaneous

Institute	Special Day/ Theme	Duration
IFP, Ranchi	National Handloom Day	7 August 2020

HR News

Appointments

Name of Officer	Date
Sh. Lakhi Ram Joshi, Under Secretary, ICFRE (HQ)	04.08.2020
Smt. Rekha Rani, Under Secretary, FRI, Dehradun	10.08.2020
Sh. Manoranjan Das, Under Secretary, RFRI, Jorhat	04.08.2020
Shri Hemant Gaggal, Under Secretary, AFRI, Jodhpur	04.08.2020
Dr. A. Balasubramanian, RO, IFGTB, Coimbatore	04.08.2020

Retirements

Name of Officer	Date
Dr. Mohd. Yusuf, Sci. -G, FRI, Dehradun	31.08.2020
Sh. G. Ravi Kumar, ACTO, IWST, Bengaluru	31.08.2020
Sh. Sangat Ram, Forest Range Officer, HFRI, Shimla	31.08.2020

Transfers

Name of Officer	Date	Transferred from	Transferred to
Dr. Arun Kumar Scientist - F	14.08.2020	TFRI, Jabalpur	IWST, Bengaluru

Patron:

Shri. A.S. Rawat, Director General, ICFRE, Dehradun

Editorial Board:

Dr. Sudhir Kumar, DDG(Extn.), Chairman
 Dr. A.K. Pandey, ADG (Media & Extn.), Honorary Editor
 Shri Ramakant Mishra, CTO, (M&Extn.), Member

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