



Address by Director, FRI during training on marketing of agroforestry produces to technical assistants



Field visit during training



Scientist interact with participants in awareness programme



Scientist interact on Agroforestry during awareness programme



Presentation by Krishivan NGO in webinar



CALENDAR SHORTTERM TRAINING COURSES 2022



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FOREST RESEARCH INSTITUTE
(Indian Council of Forestry Research and Education)
DEHRADUN

Short Term Training Courses at FRI, Dehradun

Set in the sylvan surroundings of Doon Valley and having a history of about a century of forestry research is an ideal seat for learning in forestry. FRI contributes the research perspectives focusing on different aspects of forestry research to different stake holders. The manifold research programme related to enhancement of forest productivity through quality seed and planting material, agroforestry, medicinal & aromatic plants, eco-rehabilitation, afforestation techniques for stress sites, bamboo & bio fertilizers, evaluation & utilization of plantation timber to name a few.

Training as a part of extension is an important function of the institute towards capacity building. The institute organizes Short Term Training Courses (STTC) in different disciplines to keep managerial level officers, supervisory staff and field officers abreast with recent research developments in forestry and to transfer the latest technologies. In addition to Short Term Low-Cost Training Courses, the Institute also organizes courses provided separately in this brochure.

The faculty to impart these trainings consist highly qualified, experienced and skilled professionals and researchers. The Institute has a well-developed infrastructure of laboratories, computer center, library, herbarium, arboreta, nurseries and experimental field for conducting research and training programs. Excellent boarding & lodging facilities are available at the Scientists Hostel and Officers Rest House of the Institute, with adequate means of recreation.

Course Title & Contents

1. Extraction, quality assessment, value addition and applications of essential oils from aromatic plants.

- i. Overview of essential oils.
- ii. Techniques for extraction of essential oils.
- iii. Physicochemical assessment of essential oils for quality control.
- iv. GC-MS assisted analysis of chemical constituents.
- v. Value addition of essential oils.
- vi. Industrial applications of essential oils.

2. Integrated pest management of forestry: Forest Play a major role for the better status of human society and environment and unfortunately, the damage caused by insect pests is being neglected as an unnoticed area. The easiest method to control the insect pests is the use of synthetic chemicals. The unrealistic and injudicious use of pesticides for past several years has led to the environmental degradation. Soon after, there has been realization on the importance of non-chemical approach for managing the pest. One such approach is Integrated Pest

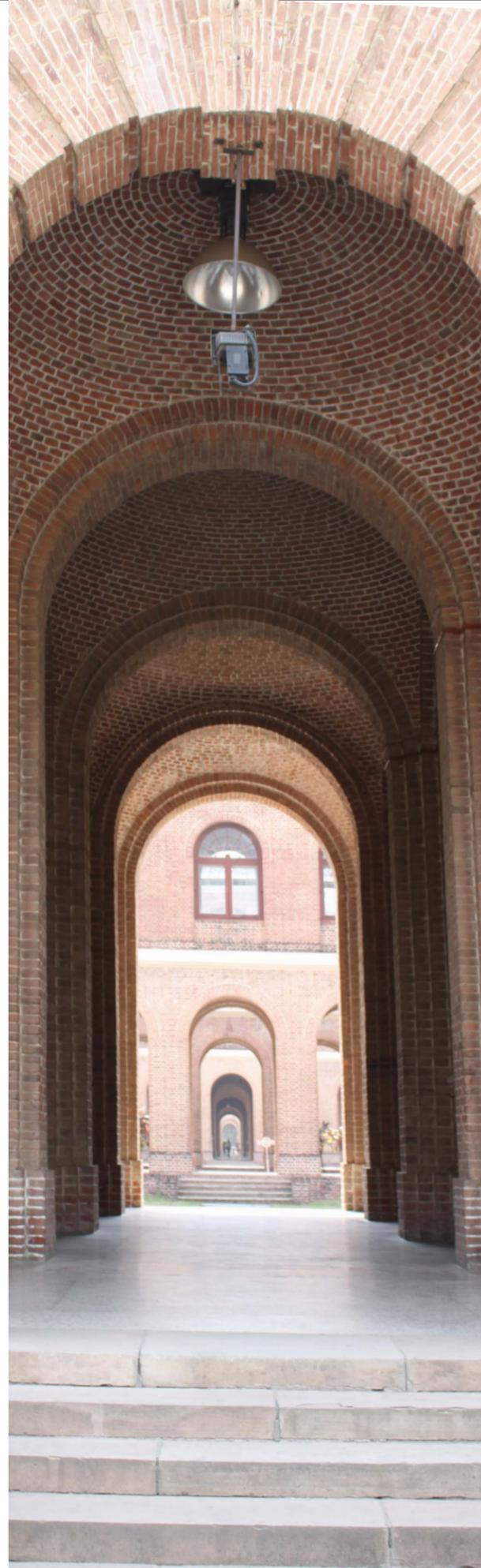
Management (IPM). IPM adopts the best alternatives, which are environmental friendly and also maximizes the effects and influencing the natural suppressive forces attack against pest, such as predators and parasites.

3. **Wood seasoning :** Importance of seasoning, equilibrium moisture content, Moisture content values and tolerances for end products; Influence of climate zones on moisture content; seasoning schedules, seasoning kilns (solar, steam, vacuum press drying, dehumidification drying etc.); other seasoning methods like chemical seasoning of plantation species like eucalyptus and poplar.
4. **Classification and grading of timber:** Testing of wood and classification of timbers for different end-uses, defects in wood, their measurement, and evaluation, visual grading of timber, machine grading of timber.
5. **Wood and bamboo preservative and its utilization:** Importance of wood preservation, Methods of treatments, Methods of testing and utilization of wood and bamboo.
6. **Plywood manufacture:** Plywood raw materials both wood and adhesive; Manufacture of veneer, plywood, black board and Flush doors, their properties and testing; preparation and testing of adhesives; Plywood, Laminated of adhesives, plywood, Laminated Veneer Lumber (L.V.L.); Compreg, Impreg and other panel products.
7. **Finger jointing for economic and efficient wood utilization:** The Finger jointing technique-uses, design aspects, adhesive aspect, machinery, structural and non-structural usages, glulams, strength aspects, role of moisture and seasoning, finishing aspects, hands-on practice.
8. **Herbarium techniques for plant diversity assessment and conservation :** Forest plant diversity overview, Dendrology; plant classification and nomenclature, importance of Herbarium types of Herbaria, Herbarium of India and World, role of Herbarium in Taxonomy and other discipline, Herbarium methodology (collection, processing and arrangement), Use of forest flora for identification, Identification of species in field, Collection of specimens, Herbarium's role and its methodology, Digitization of Forest Flora, Rare and Threatened species, field visits including DD Herbarium, Botanical Garden, Arboretum, Bambusetum etc.
9. **Application of remote sensing and GIS in forest resource assessment:** Remote Sensing (RS): Principles of remote sensing; Indian Remote Sensing Satellite Programs; Selection and procurement of satellite data, Digital image processing, interpretation and classification; Hardware and software issues; Recent technological trends. Licensed and open source software for RS-GIS. Installation of open source software on individual laptops. Demonstration of essential tools of licensed and open source software. Sources for free satellite data downloading. Hands on exercise for downloading and processing of satellite data. Basic image handling procedures for forest resource mapping. Geographical Information System (GIS): Introduction to GIS; Spatial and non-spatial database for GIS analysis; Spatial (Vector and Raster) and Non-spatial (Hierarchical, Network and RDBMS) data models; Coordinate systems, datum and projections; Digital elevation models and their applications; Recent technological trends in GIS. Global Positioning System (GPS): Overview and principles of GPS and other Navigation Systems: Surveying methods and field data integration with GIS. Application of RS-GIS: Forest Inventory; Forest cover mapping; Land use and Land cover mapping; Soil survey and mapping; Ecosystem analysis; Biodiversity characterization and management; Watershed characterization; Change detection and monitoring; Forest fire monitoring. Hands on training on Geo-referencing and geocoding; Sub setting and mosaicking; Digitization of boundaries of important features; Entry of spatial and non-spatial data; Land use and land cover classification; Multistage sampling for change detection; Transfer of GPS data in GIS database and Map composition.



Short Term Training Courses at Prayagraj

- 1. Lac cultivation for improving livelihood:** Overview of technologies for lac cultivation, relevance in agroforestry plantations, harvesting and processing techniques of lac, value addition & marketing of end products and general management for improvement of livelihood. .
- 2. Essentials of clonal forestry:** Concept of cloning, conventional and modern methods of clonal propagation procedures, clone development, deployment and testing.
- 3. Techniques for nursery and plantation management:** Designing of nursery; Types of containers in nursery; Raising of plants of important species in nurseries; Collection, processing and storage of seed; Macro propagation; Maintenance of plantation; Pre-sowing treatments for enhancing seed germination; Significance of Potting mixture in nurseries.
- 4. Cultivation, processing, value addition, marketing & certification of medicinal plants:** Nursery and plantation techniques of medicinal plants; introduction of good agriculture practices, collection, processing and storage of medicinal Plants. Value addition of different plant parts, marketing & certification of medicinal plants
- 5. Bioremediation of industrial waste and problematic soil sites:** Selection of Species; Sustainable reclamation including field study of affected sites; Plantation techniques with Microbial and Bio-solid treatments; moisture conservation techniques.
- 6. Bamboo Propagation, Management and Utilization:** Botany and taxonomy of Bamboo, its utilization and resource distribution; Propagation and silvicultural management of bamboos, Bamboo cultivation and Conservation of bamboo genetic resources; Techniques in bamboo management; Techniques in bamboo management; Marketing and Trade of bamboo; Bamboo based entrepreneurship.
- 7. Agroforestry for sustainable land use and livelihood improvement:** Tree crop combinations; site suitability of trees; procurement of quality planting material and other technical knowhow and marketing of end (timber & non timber) forest produce



Forest Research Institute, Dehradun Calendar of Short Term Training Courses - 2022

Name of the Course	Name of course Director & Division	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1. Integrated Pest Management in Forestry	Dr. Ranjeet Singh, Scientist- G & Officer-In-Charge, Entomology Discipline, Forest Research Institute, Dehradun Ph.No. 01352224206 E-mail: ranjeet62.mola@gmail.com										03-07		
2. Classification & grading of timber	Shri R. Ezhumalai, Scientist-D, Forest Product Division Ph. No. 0135 222 4432 E-mail: head_fp@icfre.org				04-08								
3. Wood and bamboo preservative and its utilization	Shri Azmal Samani, Scientist-F Forest Products Division Ph. No. 0135-2224445 E-mail: tripathis@icfre.org							18-22					
4. Application of remote sensing, GIS and GPS in forest resource assessment	Dr. Manoj Kumar, Scientist & In-Charge: GIS Centre, IT Discipline, Ph.No. 01352224235 Mob. 8077413164 E-Mail: head_silva@icfre.org									05-09			
5. Finger Jointing for Economic and Efficient Wood Utilization.	Dr. Sachin Gupta, Chief Technical Officer, Forest Product Division. Ph.No. 01352224443 E-mail sachin@icfre.org										10-14		
6. Wood Seasoning	Dr. N.K. Upreti, Scientist-G W.S. Dis. Forest Products Division, FRI Ph.No. 01352224432 E-mail upretink@icfre.org									12-16			
7. Extraction, Quality assessment, Value addition and applications of essential oils from aromatic plants.	Dr. Y.C. Tripathi, Scientist-F & Head, Cemistry & Bioprospecting Division Ph.No. E-mail:								22-26				
8. Harbarium Techniques for plant diversity assessment and conservation	Dr. Anup Chandra, Scientist-F Systematic Botnay Discipline, FRI Ph. No. 0135-2224490 E-mail : anup@icfre.org												18-22
9. Plywood manufacture	Sh. D.P. Khali, Scientist-G, C. W. Disc., Forest Products Division Ph. No. 0135-2224451 E-mail khalidp@icfre.org											14-18	
10. Lac cultivation for improving livelihood	Dr. Sanjay Singh, Scientist G, F.R.C.E.R, Prayagraj Ph. No. – 9430366286 Email: - anjay.drasingh@gmail.com				26-28								
11. Essentials of clonal forestry	Dr. Sanjay Singh, Scientist G F.R.C.E.R, Prayagraj Ph. No. – 9430366286 Email: - anjay.drasingh@gmail.com		07-09										
12. Techniques for nursery and plantation management	Dr. Anita Tomar, Scientist F F.R.C.E.R, Prayagraj Ph. No- 6386193844 Email: anitatomar@icfre.org									21-23			
13. Cultivation, processing, value addition, marketing &	Dr. Anita Tomar, Scientist F F.R.C.E.R, Prayagraj Ph. No- 6386193844 Email: anitatomar@icfre.org Email: anitatomar@icfre.org										11-13		
14. Bioremediation of industrial waste and problematic soil sites	Dr. Kumud Dubey, Scientist E F.R.C.E.R, Prayagraj Ph. No-9415214010 Email-dkumud_csfer@icfre.org					23-25							
15. Bamboo Propagation, Management and Utilization	Sh. Alok Yadav, Scientist E F.R.C.E.R, Prayagraj Ph. No: 9411166881 Email:alokyadav@icfre.org											09-11	
16. Agroforestry for sustainable land use and livelihood improvement	Dr. Anubha Srivastav, Scientist D F.R.C.E.R, Prayagraj Ph.no – 8299103348 Email:anubhasri_csfer@icfre.org												06-08

NOMINATIONS

Nomination letters for the courses to be conducted at F.R.I., Dehra Dun may be addressed to the Course Director of the concerned training and a copy may be sent to:

Head, Extension Division
Forest Research Institute
P.O. New Forest
Dehradun – 248 006 (Uttarakhand)
Phone: 0135 – 2758606
Fax: 0135 – 2756865

E-mail: headext@icfre.org Website: www.fri.res.in

The requisite course fees (through demand draft drawn in favour of the **Director, Forest Research Institute, Dehradun, and payable at Dehradun**) should reach on the above address at least 30 days before the commencement of the respective courses.

Participants are advised to commence their journey for the training only after getting confirmation about the course programme from the concerned Course Director at the telephone numbers.

COURSE FEES

Offline Mode

- The course fees for STTC (including boarding & lodging charges) per participant is as follows:
 - Rs. 11,000 for Indian nationals,
 - Rs. 22,000 for SAARC countries, and
 - Rs.40,000 for other foreign nationals.
- Course fee for "Low-Cost Short Term training courses only for farmers, artisans, etc. is Rs. 5,500 per course.
- Institutional charges @20% on course fees will be charged extra for each course.
- The minimum number of participants for each course must be 10 (ten).

Online Mode

- The course fees for STTC per participants is as follows :
 - Rs. 6,000/- for Indian nationals
 - Rs. 12,000/- for SAARC countries and
 - Rs. 20,000/- for other foreign nationals.
- Course fee for "Low-Cost Short Term training only for farmers, artisans etc. is Rs. 3,000/- per participant
- Institutional charges @20% on course fees will be charged extra for each course.
- Minimum number of participants for each course must be 10 (ten).

Low-Cost Short Term Training Courses for Field Staff, Farmers, Artisans,

The following Low-Cost Short Term training courses for Non-Gazetted staff, farmers, artisans, craftsman, gardeners etc, shall be conducted at FRI, Dehradun during 2021. These courses are designed as per the requirements of the sponsoring agencies.

1. Urban Tree Risk Management/Hazardous Avenue Tree:

Course Director : Dr. Amit Paney, Scientist-G, Forest Pathology Division
Ph. No : 0135-222 4226
Dates : 17 to 19 August, 2022
Course contents : Pathological and Entomological problems, Physiological stress & soil condition
Health categorization of trees, Risk assessment, Preventive and remedial measures, Field visit.

2. Edible/Medicinal Mushroom Cultivation:

Course Director : Dr. Shailesh Pandey, Scientist-D, Forest Protection Division, FRI.
Ph. No : 0135-222 4313
Dates : 10 to 12 October, 2022
Course contents : Benefits of mushroom consumption, Wild edible and poisonous mushrooms, Important commercially cultivated mushrooms in India and world. Different substrates for spawn (Edible/Medicinal), Media preparation, Sterilization, isolation, culture maintenance & preservation, subculturing, Mushroom cultivation: an agribusiness activity, status: world, national and state scenario, opportunities and constraints, Oyster and Ganoderma cultivation and medicinal uses, Hands on Spawn preparation, substrate treatment, bag preparation, spawn mixing, harvesting, utilization, Ophiocordyceps sinensis, its medicinal uses and importance, mushroom spawn: quality attributes, storage and transport, Mushroom processing and preservation (drying/dehydration, pickling and canning), Acquaintance with mushroom contaminants, Field/Museum visit.

3. AM Technology and its application in Forestry:

Course Director : Dr. Vipin Prakash, Scientist-F, Forest Pathology Division
Ph. No : 0135-2224314
Dates : 13 to 15 December, 2022
Course contents : Growth promoting microorganisms, Vesicular Arbuscular Mycorrhiza (VAM), soil mixture preparation, Mycorrhizal culture inoculation, age selection of planting material, Ideal application of mycorrhizal inoculums, ex vitro mycorrhizal, age selection planting material, Ideal symbiotic microbial association- Rhizobium, Azorhizobium, Frankia etc. and their isolation mass production and application, Field visit.

4. कृषिवानिकी एवं बाजारीकरण व्यवस्था |

Course Director : Dr. Charan Singh, Scientist-F, & Head, Extension Division
Ph. No : 0135-222 4355
Dates : 18 to 20 October, 2022
Course contents : कृषिवानिकी एवं कृषि वानिकी पद्धतियों के प्रकार, मुख्य कृषिवानिकी प्रजातियां एवं उनका कृषिवानिकी में स्थापन, कृषिवानिकी उपज आकलन एवं बाजारीकरण व्यवस्था |