



चण्डीगढ़ के अध्यापको को प्रशिक्षण।



हन्डेसरा फील्ड में मृदा के नमूने एकत्रित करते हुए।



कृषि वानिकी में वर्माट्रेक (मीलिया कपोसिता)।



हिमालय दिवस पर फोटो प्रदर्शनी का उद्घाटन।

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*वृक्षों के कटने के कारण, धरती नित हो रही खाली।।
होता रहा अगर ऐसा तो, बच न सकेगी अब हरियाली।।*

Calendar

2012

Short Term Training Courses

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



*आओ हम सब प्रण करें, हम सभी वनों को बचाएंगे,
आओ हम सब मिलकर, अधिक से अधिक वन लगाएंगे।*

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 programmes related to enhancement of forest productivity through quality seed and planting material, agroforestry, medicinal & aromatics plants, eco-rehabilitation, afforestation techniques for stress sites, bamboo & bio fertilizers, evaluation & utilization of plantation timber to name a few.

Training as part of extension is an important function of the institute towards capacity building. The Institute organizes Short Term Training Courses (STTC) in twenty 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 this Short Term, Low-Cost Training courses will also be organized as 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 areas for conducting research and training programmes. Excellent **boarding & lodging** facilities are available at the Scientists Hostel and Officers Rest House of the Institute, with adequate means of recreation.

Course Contents

- 1. Hi-Tech Nursery and Plantation Management:** Choice of species for different industrial purposes, Seed certification & testing, Improved nursery tools & practices. Tissue Culture, Soil amendments & Nutrient management, Vermi-composting, Application of mycorrhizae, Plus tree selection, Identification of germplasm through molecular markers, Design & management of avenue plantations/Urban Forestry, Protection measures for nursery stock, Legal issues in plantations forestry & Field excursion.
- 2. Improved Seed and Nursery Technology:** Seed technology & Seed certification, Nursery technology & management, Nursery diseases & management, Management of important insects-pests of forest nurseries, Tree improvement in forestry challenges scope & strategies, Vegetative propagation of trees, Assembling hardware for clonal propagation, Landscape-cum-bio-aesthetic planning, Raw materials for paper & pulp industry, Forest certification in developing countries and role of medicinal plants in plantation forestry.
- 3. Tree Seed Technology:** Demonstration & Familiarization of Seed Testing Lab, Practical demonstration of Seed sampling, Purity, Seed moisture & Seed weight determination, Seed collection, Extraction & processing, Selection of Plus Trees, Hybridization, Seed dormancy & germination, Seed storage, Seed treatment & testing of germination, Viability tests, Seed physiology, Development of modern nursery, Seed pathology & Seed entomology.
- 4. Plywood Manufacture:** Plywood raw materials both wood and adhesives, manufacture of veneers, plywood, black board and flush doors, their properties and testing, preparation and testing of adhesives, plywood, Laminated Veneer Lumber (LVL), Impreg and compreg and other development in panel products.
- 5. 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.
- 6. Wood Seasoning:** Importance of Seasoning, Equilibrium moisture content, Moisture content values and tolerances for end products, Influence of climatic zones on moisture content, Seasoning schedules, Seasoning kilns (solar, steam, vacuum press drying, dehumidification drying etc.). Other seasoning methods like chemical seasoning and seasoning of plantation species like Eucalyptus and Poplar.
- 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 practices.
- 8. Wood and Bamboo Preservative & Utilization:** Importance of preservation, seasoning, products, composites, finishing; Working properties and appropriate utilization of wood and Bamboo.

- 9. Development of Green Belts:** Green belts in environmental amelioration, Selection of species, Pollution abatement through green belts, Use of MPTs, Green belts as buffer zone to Pas, Ethno botanical importance etc.
- 10. Bamboo propagation and clonal nursery management:** Introduction to Bamboos and their utilization in rural and urban society, Germplasm collection, Establishment and maintenance of genetic resources of bamboos, Infrastructure development for bamboo propagation, Mass multiplication of important bamboos through low cost clonal technologies, Farmers friendly technologies for bamboo multiplication, Management of bamboo clonal nursery etc.
- 11. Tissue culture of important forest trees, bamboos and medicinal plants:** Plant tissue culture principles, Fields of application, Progress and prospects with special reference to tree crops, Advantage of tissue culture, Tissue culture a non-conventional means of mass multiplication, Necessity of plant tissue culture etc.
- 12. Genetic Improvement for Enhanced Productivity:** Improvement of productivity through genetically improved planting, Application and impact of various genetic tools on enhanced productivity of plantation forests, Provenance selection, Plus tree selection, Seed production areas and seed orchards, Establishment and up-gradation and production population including Clonal and Seedling Seed Orchards, Judicious utilization of seed from production populations (SPA,CSO, SSO), Use of Molecular Markers.
- 13. Clonal forestry for higher economic returns:** Clonal forestry in modern tree improvement and higher productivity, Infrastructure and techniques for rejuvenation of trees and clonal propagation, Economics of clonal plantations and their role in industries, Nursery production, transportation and maintenance of clonal stocks, Successful case studies and replication in Indian context, Biotechnological tools for faster genetic improvement through clonal forestry.
- 14. Monitoring and evaluation of the health of urban trees and plantations:** Tree health surveillance, Diagnostics of tree health, Factors affecting tree health, Hazardous trees, Nutritional deficiencies, Pathological problems, Entomological problems, Manmade hazards, Remedial measure, Practical field demonstration.
- 15. Molecular tools for identification and variability of pathogenic and medicinally important fungal species:** Importance and scope of studying fungal variability, Disease resistance and molecular variability, Yield of bioactive principles by medicinally important fungi and their molecular variability, Breeding disease resistant germplasm, Molecular tools in identifying resistant host germplasm, Demonstration of RAPD-PCR, Amplification of ITS region of rDNA, Beta tubulin amplification and development of fungal species specific primers.
- 16. Practical approach for raising healthy nurseries and plantations in forestry:** The elements of nursery; basic of plantation; nursery and plantation practices; seed and seed health; symptoms and signs; biotic and abiotic problems and their management; important nursery and plantation diseases such as seedling blight in eucalyptus, etc. and their management, Insect pests of nursery and plantation such as insect in eucalyptus and their management.
- 17. Extraction, Quality, Assessment and Applications of Natural Dyes and Fragrant Oils:** Overview of natural dyes and fragrant oils, Introduction to dye and essential oil yielding plants, Techniques for extraction of natural dyes and their application on different fabrics, Evaluation and quality assessment of dyed fabric, Techniques for extraction of fragrant oils, Quality assessment of fragrant oils, Applications of fragrant oils, Live demonstration on extraction of natural dyes and fragrant oils.
- 18. Cultivation, Value addition and Marketing of Medicinal Plants:** Nursery and multiplication techniques, Cultivation techniques, Conservation and sustainable management of important medicinal and aromatic plants, Value addition, Quality analysis, Utilization and marketing, Field visits.
- 19. Assessment of soil quality Indicators:** Introduction on soil quality indicators, Soil Plant relationship, Physical indicators-Soil texture, Structure, Bulk density, Chemical indicators, Soil pH, Ec, Available Nitrogen, Available Phosphorous, Available potassium, Mineralogical properties of soil, Sand, silt and clay mineralogy and fertility status of soil, Biological indicators, Estimation of most probable number of soil bacteria, fungi and actinomycetia- and Estimation of microbial biomass carbon and Organic matter, Soil degradation, Waste land and soil erosion.
- 20. Handmade Paper making:** Introduction and history of Handmade paper, Raw materials for handmade paper, their fibre composition, anatomy, chemistry, Raw material preparation, Pulping, Washing, Screening, Beating/refining, Preparation of handmade papersheets, Handmade paper conversion, Machining, Equipment and project cost.

वन है धरती के श्रृंगार, करो न इनका तुम संहार।

पशु-पक्षी का है यहाँ आधार, जड़ी बूटी का है भंडार।

Calendar of Short Term Training Courses - 2012

NAME OF THE COURSE	NAME OF COURSE DIRECTOR & DIVISION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1. Hi-Tech Nursery & Plantation Management	Dr. Nav Bahar Silviculture Ph. No. 0135-2224611						11-15						
2. Improved Seed & Nursery Technology	Ms. Manisha Thapliyal Silviculture Ph. No. 0135-2224467								24-28				
3. Tree Seed Technology	Dr. Ombir Singh Silviculture Ph. No. 0135-2224469					07-11							
4. Plywood Manufacture	D.P. Khali Forest Products Ph. No. 0135-2224451							06-10					
5. Classification & Grading of Timber	Dr. Y.M. Dubey Forest Products Ph. No. 0135-2224395											19-23	
6. Wood Seasoning	N.K. Upreti Forest Products Ph. No. 0135-2224432								24-28				
7. Finger Jointing for Economic and Efficient Wood Utilization	Dr. Kisharn Kumar V.S. Forest Products Ph. No. 0135-2224441										15-19		
8. Wood and Bamboo Preservative & its Utilization	Dr. Sadhna Tripathi Forest Products Ph. No. 0135-2224445										08-12		
9. Development of Green Belts	Dr. Veena Chandra Botany Ph. No. 0135-2224491								13-17				
10. Bamboo propagation and clonal nursery management	Dr. Subhash Nautiyal Botany Ph. No. 0135-2224490					07-11							

एक पेड़ सौ पुत्र समान, कहते हैं वे वेद पुराण।

Forest Research Institute, Dehradun

NAME OF THE COURSE	NAME OF COURSE DIRECTOR & DIVISION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
11. Tissue culture of important forest trees, bamboos and medicinal plants.	Dr. Ajay Thakur Botany Ph. No. 0135-2224493												10-14
12. Genetic Improvement for Enhanced Productivity	Dr. H.S. Ginwal G&TP Ph. No. 0135-2224403						11-15						
13. Clonal Forestry for Higher Economic Returns	Dr. Ashok Kumar G&TP Ph. No. 0135-2224379								20-24				
14. Monitoring and evaluation of the health of urban trees and plantations	Dr. N.S.K. Harsh Pathology Ph. No. 0135-2224226								09-13				
15. Molecular tools for identification and variability of pathogenic and medicinally important fungal species	Dr. Amit Pandey Pathology Ph. No. 0135-2224314											05-09	
16. Practical approach for raising healthy nurseries and plantations in forestry	Dr. Y.P. Singh Pathology Ph. No. 0135-2224313									10-14			
17. Extraction, Quality Assessment and Applications of Natural Dyes and Fragrant Oils	Dr. Y.C. Tripathi Chemistry Ph. No. 0135-2752671							16-20					
18. Cultivation, Value addition and Marketing of Medicinal Plants	Dr. A.K. Sharma NWFP Ph. No. 0135-2224496											19-23	
19. Assessment of soil quality Indicators	Dr. Parul Bhatt Forest Soil and Reclamation Ph. No. 0135-2224406											19-23	
20. Handmade Paper making	Dr. S.P. Singh Cellulose and Paper Ph. No. 0135-2224391											15-19	

वर्षा को बुलाते हैं वन, सबकी प्यास बुझाते हैं वन।

Low-Cost Training Courses For Field Staff, Farmers & Artisans

The following Low-cost short term training courses for State Government and NGOs sponsored field staff, farmers, artisans, JFM/VFP committees, SHG members, etc. shall be conducted at Shatabdi Van Vigyan Kendra, City Campus of FRI during 2012. These courses are designed as per the requirements of the sponsoring agencies.

1. Extraction and Applications of Natural Dyes and Fragrant Oils

Course Director : Dr. Y.C. Tripathi, Head, Chemistry Division
Ph. No : 0135-2752671
Dates : 17-19 October, 2012
Course contents : Introduction to dye and essential oil yielding plants, Techniques for extraction of natural dyes and their application on different fabrics; Techniques for extraction of fragrant oils, Application of fragrant oils, Live demonstration on extraction of natural dyes and fragrant oils.

2. Low-cost clonal propagation

Course Director : Dr. Meena Bakshi, Botany Division
Ph. No : 0135-2224410
Dates : 10-14 September, 2012
Course contents : Infrastructure, development for clonal propagation of important forest tree species, Mass multiplication for production of superior planting stock of Shisham, Eucalyptus, Casuarina, Grewia, Teak, Terminalia and Medicinal plants, Maintenance of clonal material in nursery, Transportation of reproductive and planting material; Infrastructure development and maintenance of propagation complex, Technology transfer in the field.

3. Nursery techniques, cultivation and post harvest techniques of medicinal and aromatic plants

Course Director : Dr. Viswajit Kumar, Non-Wood Forest Products Division
Ph. No. : 0135-2224497
Dates : 12-16 November, 2012
Course contents : Nursery and multiplication techniques, Cultivation, harvesting and post harvesting techniques, Field visits

4. औषधीय पौधशाला व खेतों में स्वस्थ पौध का उत्पादन

कोर्स डायरेक्टर : श्री सुरेश शर्मा, वन रोग प्रभाग
दूरभाष : 01352224258
दिनांक : 27-29 सितम्बर 2012.
विषय : अस्वस्थ पौध की पहचान, रोग कारक जीव का निर्धारण, रोगाणुओं एवं कीट द्वारा जनित रोग, पोषक तत्वों की कमी के संकेत, पौध के रखरखाव की विधियाँ, फफूंदनाशक व कीटनाशक का प्रयोग।

5. Management of Forest Herbarium & Arboreta

Course Director : Dr. Veena Chandra
Ph. No. : 0135-2224491
Dates : 14-18 May, 2012
Course Content : Herbarium Techniques, Botanical nomenclature, Distinguishing characters of plants in the field, identification of plants in herbarium with the aid of flora, layout, maintenance and management of herbarium, botanical garden and arboretum etc.

6. Extraction Technology of Natural Dye & Aroma Therapy and Cultivation value addition of Medicinal plants.

Course Director : Jayshree Ardey Chauhan, Head, Extension Division
Ph. No. : 0135-2758606
Dates : 05-07 November.2012

Course Content : Importance of Medicinal plants, Cultivation and value addition & products use of plants. Utilization of Medicinal plants and practical demonstration in nursery and laboratory. Extraction and evaluation of natural dyes. Qualitative evaluation of aroma plants and fragrance from medicinal plants.

7. Nursery and Plantation Techniques

Course Director : Dr. Nav Bahar, Silviculture Division
Ph. No. : 0135-2224461
Dates : 02-06 July, 2012
Course contents : Seed collection & Storage, Seed Testing & Dormancy, Visit to Seed Testing Lab, Nursery lay out & design, Nursery operations, Use of polyhouses, Mist chamber and hardening chambers for nursery, Container systems in nursery, Nursery diseases, Insects-pests & their control, Vegetative propagation techniques, Soil working and planting techniques for different sites, Visit to seed processing unit & Central Nursery, Field visit to nursery & plantations.

8. औषधीय मशरूम गैनोडर्मा ल्यूसिडम की खेती

कोर्स डायरेक्टर : डॉ० एन०एस०के० हर्ष, वन रोग प्रभाग
दूरभाष : 01352224226
दिनांक : 21-22 अगस्त, 2012.
विषय : औषधीय मशरूम गैनोडर्मा ल्यूसिडम की खेती से उत्पादन की सरल विधि का प्रशिक्षण।

9. Agroforestry & Extension

Course Director : Dr. Charan Singh, Scientist 'C'
Ph. No. : 0135-2224355
Dates : 10-12 October 2012
Course contents : Concept and status, Selection of tree - crop combinations, Handling of seed and plant material, Geometry of plantations, Tree-crop interaction, Agroforestry models, Marketing and extension.

Course fees

- The course fees for STTC (including boarding & lodging charges) per participant is as follows:
- Rs. 10, 000 for Indian nationals, Rs. 20, 000 for SAARC countries, and Rs. 35, 000 for other foreign nationals.
- Course fee for "Low-cost short term training courses for farmers, artisans, etc. is Rs. 5,000 with a minimum of 10 participants for a training course.

NOMINATIONS

Nomination letters for the above courses may be addressed 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*

- The requisite course fees (through demand draft drawn in favour of the **Accounts Officer, 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 as indicated.**

Website : www.icfre.org

वन को वन रहने दो, नहीं बनाओ उसे शहर। अगर कहीं वन शहर बन गये, टूट पड़ेगा नया कहर।।

जो पर्यावरण को हानि पहुंचाए, वो खुद प्रभावित हो जाएं। जिसने इसका मूल्य समझ लिया, समझे उसने जीवन में सब कुछ पा लिया।