



Shock table
test for the
.....

PAGE 2



Patent
granted to
IPIRTI

PAGE 3



55th RAC
meeting of
IPIRTI was

PAGE 5



Work shop on
New Frontiers
.....

PAGE 8



इपिरि न्यूज़ IPIRTI NEWS

Delivering Innovative Solutions for Industry, Society and Environment

Vol. 12, No. 1

January-March, 2011

"BEST WISHES"

The Director and IPIRTI staff convey their "Best Wishes" to Shri. Vijai Sharma, IAS, on his superannuation as Secretary, Environment & Forests, Govt. of India and Chairman, Board of Governors of the Institute.



Shri. Vijai Sharma, IAS

"WELCOME"

The Director and IPIRTI Staff Welcome Dr. Tishyarakshit Chatterjee, IAS who has taken over as Secretary, Environment & Forests, Govt. of India and Chairman, Board of Governors of IPIRTI, Bangalore.



Dr. Tishyarakshit Chatterjee, IAS

RESEARCH & DEVELOPMENT

A STUDY ON BIO-EFFICACY OF DIFLUBENZURON AND LUFENURON AS ECO-FRIENDLY CHEMICALS AGAINST WOOD DESTROYING INSECTS

With the ever increasing demand for the environment friendly wood preservative, it is essential to find out the alternate wood preservative chemicals. Disposal of any wood treated with a metal based preservative will be more expensive and difficult. Keeping the aforesaid facts in view, two new eco-friendly molecules viz., Diflubenzuron and Lufenuron were screened against powder post beetle and termites. These are "Third generation insecticides" called as Insect Growth Regulators (IGRs) which are generally considered to be environmentally acceptable. Diflubenzuron and Lufenuron interfere with



Solid wood samples after Twelve months exposure studies at graveyard

insect growth and development by inhibiting chitin synthesis in insects. Only insects and fungi contain chitin, which makes these insecticides more specific to insects than other insecticides present in the market. This makes them more environment friendly and safe for humans and other non-target animals.

Addition of preservative chemical in the glue line is an economical and less cumbersome process of treating plywood to make it resistant against borer

attack. In this process only a small quantity of chemicals are incorporated in the glue line during plywood manufacturing process. In India, this process is quite common in wood based industries. Important factor to be considered in this method of treatment is compatibility of the preservative chemical with the adhesive (including the effect of preservative chemical on the pot life of the adhesive).

This is the first trial done on the use of Lufenuron and Diflubenzuron in the glue line to control the wood borer and termite. Diflubenzuron is being used as a bait poison to control subterranean termites in European Countries.

Samples were tested for glue shear strength in dry, wet conditions and mycological state as per IS: 1734 part (4) - 1983. The results were compared to IS: 710-1976 and found that sample conforms to the above mentioned test. The critical concentration for both the chemicals against borer (*Lyctus* spp.) and termite (subterranean) have been optimized in the laboratory as well as in the graveyard.

SHOCK TABLE TEST FOR THE BAMBOO BASED HOUSE AT IPIRTI, BANGALORE

Recent earthquake devastated Japan, causing unprecedented havoc, claiming lives and property on a scale hard to imagine. However, seismologists observe that few died in the Island nation due to building collapses, given that the Japanese have perfected the technology for quakeproof constructions. It was the ensuing tsunami that cost most lives.

India may not be prone to quakes of the same intensity, but we have regions that require quakeproof housing. The Indian Plywood Industries



Bamboo House mounted on Shock Table

Research and Training Institute (IPIRTI) has developed and tested a bamboo-based house suited to disaster-prone areas.

The Bamboo based House built by the institute based on IPIRTI -TRADA Technology was tested in the institute premises for efficacy of the structure recently. Shri. Jagadish Vengala, Scientist & Head of the Products Application Division, IPIRTI, Bangalore, tested the Bamboo house by mounting it on a 'shock table' and delivering a series of base shocks through a simple pendulum device, the impact of which was comparable to earthquakes.

The Bamboo house resisted seven repetitions of a typical Zone 5 earthquake, the highest in India and equivalent to over 7 on the Richter scale, showing no signs of falling apart, in contrast to a concrete structure. There were only a few cracks showing at the end of the most intensive of shocks.

The house has split bamboo grid and wire mesh, plastered with cement mortar for walls, with bamboo columns providing support. The ceiling is

made of light bamboo mat corrugated sheets developed by IPIRTI, Bangalore.

“Apart from these things, small details are important in a building of this kind. For instance, the manner in which door and window frames are tied to the grids”, pointed out by Dr.S.Raghunath, Professor, Department of Civil Engineering, BMS College of Engineering, Bangalore who was one of the observers of the test was happy with the outcome.

Dr.C.N. Pandey, Director IPIRTI, Bangalore, said that there has been a growing interest among Engineers and Architects in using bamboo as building and structural material. He said that IPIRTI has been doing a series of experiments in this area.

Dr.C.N. Pandey, also informed that atleast about 11 to 12 percent of the Indian forests are covered by bamboo and there is great potential for bamboo-based products as building material in bamboo based housing system.

PATENT GRANTED TO IPIRTI, BANGALORE BY PATENT OFFICE, NEW DELHI

A Patent (No. 245157) has been granted to IPIRTI, Bangalore by the Controller of Patent Office, New Delhi, Govt. of India for an invention entitled **“A process for producing compregs from Bamboo mats/veneers of plantation timbers or a combination thereof”** through NRDC, New Delhi on 5th January, 2011.



EXTENSION

10-01-2011 to 14-1-2011: Dr.Vipin K. Chawla, Scientist visited M/s. Vidhata Industries Pvt. Ltd., Ludhiana to solve the problem of warpage, core gap, face crack in plywood and the problem of Steam Pockets during the manufacture of plywood.

29-01-2011: Shri. S.C. Sahoo, Scientist, IPIRTI Field Station, Kolkata, visited M/s. Tirupathi Plywood Industries, North Bengal for the implementation of Low Cost Triple Stage PF Resin.

01-02-2011 to 05-02-2011: Dr.S.K.Nath, Joint Director and Shri. Uday D. N. Scientist, IPIRTI visited Bamboo factory of M/s. Habitat for Humanity, Jhapa, Nepal to demonstrate manufacture of Bamboo Mat Corrugated Sheet.

02-02-2011 to 05-02-2011: Dr.Vipin K. Chawla and Mrs. Mamatha B.S, Scientists visited CPPRI, Sahranpur to study the fiber yield of rice straw from wet and dry process for three different sizes.

08-02-2011:Dr.S.K.Nath, Joint Director, IPIRTI delivered a lecture on “Bamboo and Rural India – perspective, potential, prospect and employment generation” during the IFS training course conducted at IPIRTI, Bangalore

17-02-2011: Dr.C.N.Pandey, Director and K. Thanigai, Scientist, IPIRTI, attended Delhi Wood Trade Fair at Pragathi Maidan, New Delhi and had discussion on “Development of bamboo structure in India”. with Prof. Dr.Ing.Ulrich Schwarz. at German Pavilion Booth

21-02-2011: Shri. Amitava Sil, Scientist, Officer-In-Charge and Shri. A. Solanki, STA, IPIRTI Field Station, Kolkata, visited M/s. Ambika Timber Works for discussion regarding sponsored project proposal.

25-02-2011: Shri. Amitava Sil & Shri. S.C. Sahoo, Scientists, IPIRTI Field Station, Kolkata, visited M/s. Mass Fab (India) Pvt. Ltd., Bangalore regarding upgradation of Door Testing Equipment and witness of data for linear displacement sensor.

03-03-2011 to 05-03-2011: Dr.Aparna Kalawate and Shr. S. C. Sahoo, Scientists visited M/s. Greenply Industries Ltd., Kolkata to take up factory trial on new wood preservative chemical i.e., Copper- Ethanolamine – Boron for plywood.

15-03-2011 to 18-03-2011: Dr.Vipin K. Chawla and Shri. Prakash V., Scientists visited Rain Forest Research Institute, Jorhat to demonstrate resin manufacturing and bamboo mat tray making technology.

22-03-2011: Dr.S.K. Nath, Joint Director, Ms. Sujatha D., Shri. Anand Nandanwar, Shri. Narasimha Murthy & Shri. M.C. Kiran, Scientists attended BIS meeting of CED:20 at BIS office, Bangalore, chaired by Dr.C.N. Pandey, Director, IPIRTI, Bangalore.

Visit of Dignitaries:

23-01-2011: Shri. Priyaranjan, Assistant Inspector General of Forests (RT), MoEF, New Delhi visited IPIRTI, Bangalore during the parliamentary committee visit.

12-02-2011 to 13-02-2011: NABL Team comprising of Mr. Upal Kumar Gupta, Lead Assessor, Mr. E. Gopalkrishnan, Technical Assessor (Mechanical), Mr. Suresh Kumar, Technical Assessor (Chemical) and Dr.C.N. Pandey, Director, IPIRTI visited IPIRTI, Field Station, Kolkata for Final Assessment of NABL Accreditation.

18-02-2011: Shri. Kamal K. Asthana, Head, Formaldehyde business, M/s. Himadri Chemicals & Industries Ltd., visited IPIRTI, Field Station, Kolkata to discuss with the Officer-In-Charge regarding collection of data for setting up of Resin Factory at Haldia and for becoming a member of IPIRTI Society.

22-03-2011: Shri. Arunavo Ghosh of M/s. Mridul Chemicals (P) Ltd., visited IPIRTI, Field Station, Kolkata and discussed with the Officer-In-Charge for sponsoring a project on XTRA BOND as extender.



Dr. Vinay Kumar Pandey, MP, Lokha Sabha, Shrawasti, U.P visited IPIRTI, Bangalore on 25th of February, 2011

SEMINARS / WORKSHOPS / CONFERENCE / MEETING

55th RESEARCH ADVISORY COMMITTEE (RAC) MEETING



A view of RAC meeting held at IPIRTI, Bangalore

55th RAC meeting of IPIRTI was held on 25th February, 2011 at IPIRTI, Bangalore. Dr. C.N. Pandey, Director welcomed Shri. Sajjan Bhajanka, Chairman of RAC, Dr. Parvez Ahmed, PCCF, Haryana, and other members who are the Scientific experts from FRI, IWST, BIS, ISEC & the wood based panel industry experts. He expressed his gratitude for the Chairman's keen association with IPIRTI and for sparing his valuable time and presiding over the RAC meeting at IPIRTI.

Dr. Pandey also informed that Shri. Bhajanka is a well known person in the field of plywood and panel

industry and complemented him for providing dynamic leadership to IPIRTI, FIPPI and for the efforts in guiding the wood industries to overcome various problems.

Dr. Pandey informed that due to continued support of the members, research outcome of the institute are effective and industry oriented. He also informed that research emphasis is being given on particle board (PB) and Medium Density Fiberboard (MDF) as the market demand for PB and MDF is increasing in India. Besides testing and standardization, since inception, the institute is serving plywood and panel industries through transfer of technology and by taking up new projects based on the need and problems found during industry visits. Also, the Institute is solving floor level problems and providing training. He also emphasized that the institute is very actively involved in collaboration with the Bureau of Indian Standards as most of our Scientists are member of BIS committee.

In this way, IPIRTI is highly responsible for the growth and development of the industries in the country.

He concluded his talk by requesting all the members to give their valuable guidance and suggestions on the research projects.

Introductory remarks by the Chairman:

Shri. Sajjan Bhajanka, Chairman, RAC welcomed all the members. In his opening remarks he expressed satisfaction over the research work undertaken by the Institute for fulfilling the prime objectives of the industries. He appreciated the overall performance of the Institute in the field of R & D in various subjects, training and guiding the industries towards up-coming of the industries in panel production, energy consumption and testing.

The Chairman expressed his satisfaction over filling up the vacant scientists posts by talented new scientists and hoped that this new generation would lead the institute in future. He also expressed his satisfaction over the fact that since last 5-6 years, IPIRTI has fully devoted in industry oriented research.

Shri. Bhajanka mentioned that in western countries the capacity of panel producing plants are of the order of 300 to 600 cubic metre per day. However, in India, such huge plants cannot be thought of for plywood because of scarcity of raw material. But, now the scenario is changing. Though the production of plywood is not going down, the production and use of PB and MDF is rising and the total consumption of panel production per capita is increasing in India. He mentioned that M/s. Mangalam Timberproducts Ltd., initiated production of MDF about 20 years back, it did not get market in those early days. But now, eventhough there are more than 7 MDF plants with production capacity of 1500 tons per day, there is still deficit of the product in the market.

While talking about the timber raw material availability, Shri. Bhajanka said that although the

forest department target was to enhance the forest cover to 33% in the country by 2012, in reality, forest cover has not increased more than 5%. He also mentioned that ten years back China was importing timber. But now, it has attained self sufficiency and is also exporting wood and wood products.

Shri. Bhajanka concluded his talk by appreciating the activities of IPIRTI and the institute's vital role in the development of panel industry in the country.

The Chairman permitted the house for discussion over research projects and other points in the Agenda.

Dr.S.K. Nath, Joint Director, IPIRTI gave a brief report on the progress of the research, training and other activities of the institute.

Dr.Nath informed that the research projects taken up by the institute are on the following themes:

- ◆ Development of Natural Fibre Re-inforced Panel
- ◆ Technology for Manufacture of PB and MDF from Plantation Wood as well as other Natural Fibre – Bagasse, Rice & Wheat Straw, Rice Husk, Cotton Stalk, Bamboo etc.,
- ◆ Development of Fire Retardant Flush Door
- ◆ Bio- Adhesive
- ◆ Enhancement of service life of Panel Products by Eco-Friendly Preservatives
- ◆ Minimize Formaldehyde Emission from Panel Products
- ◆ Application of Nano- Technology in Panel Products
- ◆ Testing and Standardization.
- ◆ Bamboo Based Housing System
- ◆ Life Cycle Study, Energy Auditing, Pollution Control in Production

The Following Institute's Research Projects were approved by RAC:

- 1 Studies on anatomical variation in plantation grown *Melia dubia* including selected clones of *Populus deltoides* and its suitability for plywood manufacturing.
- 2 Development of Fire retardant cum Preservative Coating of Wood Based Panel Products and Bamboo Composites.
- 3 Evaluation of new Boron Fixation System for Wood Preservation.
- 4 Bio-efficacy Study of Colemanite against Wood Destroying Organism.
- 5 Dielectric and Electrical Properties of Wood and Bamboo Based Composite Products.
- 6 To Study the Fatigue Strength Properties of Wood Based Panel Products
- 7 Development of PUMF Resin for Plywood.
- 8 Copperized Karanj Seed (*Pongamia pinnata*) oil as a protective measure in Plywood Manufacture against Borer & Termites.
- 9 Innovative and Competitive Technology for Manufacture of Fire Retardant Wood Adhesive for Wood based Panel Products.
- 10 Flush Door with Engineered Core Infill.
- 11 Development of Tubular Particle Board for Door infill/Acoustical application.
- 12 Development of Pre-fabricated House using BMB and BMCS to counteract the housing problem arising due to natural disaster.

- 13 Study and Analysis of Nano Coating as Fire Retardant on Wood Panel Products
- 14 Effect of Catalyst to achieve Lower Formaldehyde Emission Values for Wood Composites.

Below mentioned sponsored projects were placed before RAC for ratification:

- 1 **SP/88/Lumber/2011:** Development of compregs using dyed veneers of plantation species (Densified Laminated lumber) sponsored by M/s. Indeutsch International.
- 2 **SP/89/MDF/2011:** Study on the feasibility of the manufacture of Medium Density Fibre Board from rice straw- sponsored by M/s. Sarada Plywood Industries Ltd., Kolkata.
- 3 **SP/90/MDF/2011:** Development of Borer and Fire Resistant Medium Density Fibre Board (MDF) of E1 Formaldehyde Emission- sponsored by M/s. Mangalam Timber Products Ltd.
- 4 **SP/91/MDF/2011:** Study on the Hygroscopic Nature of Medium Density Fibre Board – sponsored by M/S. Greenply Industries Ltd., Kolkata.
- 5 **SP/92/BMCS/2010:** Energy Auditing and Carbon Footing in the Manufacture of Bamboo Mat Corrugated Sheet (BMCS) and Bamboo Mat Ridge Cap (BMRC).

All the above sponsored projects were ratified by the Committee.

RAC meeting ended with the vote of thanks by Dr.C.N. Pandey, Director, IPIRTI, Bangalore.

WORKSHOP ON "NEW FRONTIERS AND FUTURE OF WOOD SCIENCE & TECHNOLOGY IN INDIA" ORGANISED BY INDIAN ACADEMY OF WOOD SCIENCE IN ASSOCIATION WITH IWST, MOEF, NEW DELHI AND IPIRTI, BANGALORE HELD ON 20th JANUARY, 2011 AT IWST, BANGALORE



Inaugural session of the Workshop

The inaugural session was attended by Dr. P. J. Dilip Kumar, *IFS*, Director General (Forests) & Special Secretary to MoEF, Govt of India as Chief Guest; Shri. N.Vittal, Former Central Vigilance Commissioner, Govt. of India; Dr.C.N. Pandey, Director, IPIRTI, Bangalore and Shri.S.C.Joshi, Director, IWST, Bangalore.

Dr.R.Vijendra Rao, President of Indian Academy of Wood Science (IAWS) welcomed the dignitaries and the gathering, traced the history of the formation of the Indian Academy of Wood Science and the contributions made by earlier members of the Governing Council on a sustainable basis. The Academy for the first time conducted such a workshop in recent times wherein the Heads of R & D organizations run by GoI, Industrialists, Foresters, Academicians and R & D Personnel were brought on a single platform to discuss and come out with the future strategies required and to meet the challenges faced by the wood scientists to enter into new frontiers in the field of Wood Science and Technology in India. The Academy was looking forward to play a proactive role in contacting ministries, research organizations, entrepreneurs to

draw a National level Road Map for this subject with specific identified milestones to remain competitive with other countries.

Dr.C.N. Pandey, Director, IPIRTI, Bangalore addressed the gathering and highlighted the history of wood science and the great services rendered by the Institutions for generating data on many aspects of wood which is being used by various user agencies. His main concern was the shortage of availability of raw material and how to bring down the cost of the products and enhance the quality of the products. He further emphasized the concern for development of HRD in Wood Science and Technology.

Shri. S.C. Joshi, Director, IWST, Bangalore emphasized that a greater knowledge is required to understand wood in totality but not in piecemeal. Furthermore, he laid stress on need based research and industry, institute and people partnership.

Technical session:

As per the list along with the titles given below five speakers addressed the gathering by highlighting the present R& D activities including rules and regulations:

1. New Challenges in Wood Science and Technology: IWST perspective- Shri. S.C. Joshi, Director, IWST, Bangalore
2. Wood based panel products technology Road Map-Dr.C.N. Pandey, Director, IPIRTI, Bangalore
3. The dynamics of emerging legal trends with special reference to forestry- Shri. N.S. Adkoli, *IFS (Retd.)*, Bangalore.
4. Innovation: Creating Strategic Advantage for Indian Wood Panel Sector- Shri. Ajay

Baldawa, Director, M/S. Century plyboards (I) Ltd., Kolkata.

5. Institute-Industry interactions- Shri. V. Ramakrishnan, M/s. Leitz Tooling Systems India Pvt. Ltd., Bangalore.

Poster session:

A good response has been received for this session and 45 posters depicting basic and applied research in the field of Wood Science & Technology were presented by various researchers. Following papers were sent and posters were presented by the Scientists of IPIRTI, Bangalore.

- 1 Formaldehyde release from panel products- Impact on Environment by Ms. Sujatha D., Dr. S. K. Nath and Dr.C.N. Pandey(Third best Poster Presentation awarded)
- 2 Suitability of *Melia dubia* (Malabar neem wood) for plywood manufacture by Shri. Uday D. N, Ms. Sujatha. D and Dr.C.N. Pandey.
- 3 "Weathering studies on BMCS" by Shri. K. Thanigai, Shri. Anand Nandanwar & Dr.S. K. Nath.
- 4 Life Cycle Energy Consumption of Wood & Wood Products in Building by Shri. Jagdish Vengala, Dr. S. K. Nath and Dr.C.N. Pandey.
- 5 Wood Substitution – Recent Development By Dr. Vipin K Chawla, Dr. S.K.Nath and Dr. C.N.Pandey
- 6 Soya based adhesives for panel products by Mrs. Mamatha, Ms. Sujatha D., Dr. S. K. Nath and Dr.C.N. Pandey
- 7 "Efficacy of colemanite against mould fungi" by Dr.Aparna Kalawate

Plenary Session:

The Plenary session was led by Dr.R.V. Rao, Shri. N.S. Adkoli, Dr.S.K. Nath and Shri.V. Ramakrishnan and Dr.B.N. Mohanty.

On behalf of the Academy, Dr.S.K.Nath, Vice President, IAWS and Dr.O.K.Remadevi, General Secretary, IAWS proposed vote of thanks at the close of the inaugural and technical sessions respectively

17-01-2011 to 18-01-2011: Dr.C.N. Pandey, Director, IPIRTI, Bangalore attended Workshop on Trade in Forestry Products and their Contribution towards Gross Domestic Product/Advances in Wood Production and Utilization" at Agartala.

10-02-2011 to 12-02-2011: Dr. C.N. Pandey, Director & Ms. Sujatha.D, Scientist presented a paper on "The Role of short rotation forestry products in enhancing carbon mitigation in India" IUFRO Symposium on the theme "Short Rotation Forestry: Synergies for wood Production and Environmental Amelioration" at Punjab Agricultural university, Ludhiana.

18-02-2011: Dr.S.K. Nath, Joint Director, IPIRTI attended the seminar on "Recent Advances on Bamboo Propagation, Management and Utilization" at IWST, Bangalore and presented a paper on "Socio-Economic Impact of Bamboo based products developed at IPIRTI.

20-02-2011 to 21-02-2011: Dr.C.N. Pandey Director, Chaired the Assessment Committee for interview of the scientists in the Wood Science Department at Cochin.

07-03-2011: Dr.C.N. Pandey, Director and Dr.S.K. Nath, Joint Director attended a seminar on "Regional Consultation Workshop on Developing criteria and indicator for Sustainable Management of Plantation Forest in India" organized by IIFM, Bhopal at IWST, Bangalore.

09-03-2011 to 10-03-2011: Dr.C.N. Pandey, Director, Dr.S.K. Nath, Joint Director & Ms. Sujatha, Scientist attended the National seminar

on “Advances in wood science and technology research: recent trends, future challenges and opportunities” held at FRI Dehra Dun and presented the following papers:

- 1 Forest Products Research – The Way ahead” by Dr.C.N. Pandey, Director, IPIRTI, Bangalore.
- 2 Modification of PF resin from Soda Bagasse Lignin Solids by Dr. Vipin K. Chawla, Dr. S.K.Nath, Dr. C.N.Pandey, Shri.R.K.Jain and Shri. A.K. Dixit and was presented by Dr.S.K. Nath.
- 3 Adhesives from renewable bio materials for panel products by Ms.Sujatha.D, Dr. S. K. Nath, Dr.C. N. Pandey and Mrs. Mamatha.B.S.

4 Processing of *Melia Dubia*(Malbar Neem) for Plywood manufacture by Shri.Uday D.N., Ms. Sujatha. D and Dr.C.N. Pandey

5 “Evaluation of service life of Bamboo Mat Corrugated Sheet (BMCS) by accelerated weatherings by Shri.K.Thanigai, Shri. Anand Nandanwar, , Dr.C.N. Pandey and Dr.S.K. Nath and Ms. Sujatha D.

23-03-2011 to 24-03-2011: Dr.Vipin K. Chawla, Scientist participated in the wood users interactive meet and products exhibition held at IWST, Bangalore.

25-03-2011: Dr.S.K. Nath, Joint Director, IPIRTI attended as an expert for ACP / DPC conducted for the Scientists of ICFRE, Dehradun.

M O U

A Memorandum of Understanding(MoU) was signed and exchanged between Dr.C.N. Pandey, Director, IPIRTI, Bangalore and Shri. Sajjan Bhajanka, MD, M/s. Century Ply Boards Ltd., Kolkata on “Development of Modified PLF Resin (Phenol Lignin Formaldehyde Resin) for Pre-pressing technique for the manufacture of BWR grade plywood.” in presence of Dr. S. K. Nath, Joint Director, Shri. Anand Nandanwar, & Dr. Vipin K. Chawla, Scientists, IPIRTI, Bangalore



TRAINING

A short term training course on “Testing of Plywood, Block Board & Flush Door” was conducted during 17 – 21 January, 2011 at IPIRTI Field Station, Kolkata.

A short term training course on “Testing of plywood and block board as per IS:710,IS:4990,IS:1328 and IS:1659” was conducted during 14 – 18 February, 2011 at IPIRTI Centre, Mohali.

A short term training course on “Plywood & Adhesive Manufacture” was conducted during 07 – 11 March, 2011 at IPIRTI Field Station Kolkata.

Training Workshop for IFS Officers

One week Compulsory training programme for 23 IFS Officers from different states on “Bamboo Resource Development for addressing livelihood concerns of communities” sponsored by MoEF, New Delhi was conducted by IPIRTI, Bangalore during 07 – 11 February, 2011.



CALENDAR OF SHORT TERM TRAINING COURSES AT IPIRTI BANGALORE, 2011

Sl. No.	Title of the Training Course	Duration	Date	Fee
1.	Peeling & Knife grinding	3 days	May 18-20	5000
2.	Testing of flush door and block board as per IS:2202 and IS:1659	5 days	June 13-17	10000
3.	Plywood manufacturing-I (log storage, centering, peeling, clipping, drying, knife grinding)	5 days	July 11-15	7500
4.	Plywood manufacturing- II (Adhesives for plywood and plywood manufacturing-Resin Preparation, gluing, hot pressing)	5 days	July 18-22	7500
5.	Testing of plywood and block board as per IS: 303,IS:710,IS:1328,IS:4990 and IS: 1659	5 days	Aug 22-26	10000
6.	Low cost phenolic resins using renewable bio-materials as partial replacement for phenol	5 days	Sep 19-23	7500
7.	Low formaldehyde emission adhesives for plywood and particle board	5 days	Oct 10-14	7500
8.	Defects and remedial measures in plywood manufacture	5 days	Nov 14-18	7500
9.	Testing of plywood and block board as per IS: 303,IS:710,IS:1328,IS:4990 and IS:1659	5 days	Dec 12- 16	10000

CALENDAR OF SHORT TERM TRAINING COURSES AT IPIRTI FIELD STATION KOLKATA, 2011

Sl. No.	Title of the Training Course	Duration	Date	Fee
1.	Testing of Plywood Block Board, Flush Door	5 days	20-24 June	5000
2.	Testing of raw materials for wood adhesive and its manufacturing	3 days	16-18 Aug	3000
3.	Plywood Manufacturing	3 days	21-23 Sept	3000
4.	Low cost and special resin for manufacture of plywood	5 days	21-25 Nov	5000
5.	Preservative treatment of wood & wood based panel products	3 days	20-22 Dec	3000

**CALENDAR OF SHORT TERM TRAINING COURSES AT
IPIRTI CENTRE MOHALI, 2011**

Sl. No.	Title of the Training Course	Duration	Date	Fee
1.	Preservative treatment of wood and wood based panel products and estimation of their retention	5 days	18-22 July	6750
2.	Testing of fire retardant plywood as per IS: 5509	2 days	21-22 Sep	3000
3.	Testing of flush door and block boards as per IS: 2202 and IS:1659	5 days	12-16 Dec	6750

**A Tribute
Dr. N. S. Adkoli, IFS (Retd.)**

(15-06-1931 - 05-04-2011)



IPIRTI NEWS Records with profound sorrow the sad and sudden demise of Dr.N.S. Adkoli, IFS (Retd.) on 5th April 2011.

Dr.Adkoli was one of the Board member of IPIRTI Society. He was the Founder Director, Bamboo Society of India.

He was brilliant, kind hearted, helpful, punctual, disciplined, straight forward and kept his dignity high throughout his life.

His death has created vacuum in the field of Forestry, particularly in the Bamboo field.

Director & IPIRTI Staff

Grant of NABL Accreditation for Chemical & Mechanical Testing Labs at IPIRTI Field Station, Kolkata

NABL final assessment successfully held on 12th & 13th February 2011, assessed by a team of NABL in presence of Dr.C.N. Pandey, Director, IPIRTI, as an observer.

IPIRTI, Field Station, Kolkata has been granted NABL Accreditation for Chemical and Mechanical field of testing in accordance with ISO/IEC 17025: 2005 effective from 18th March, 2011.

ANNOUNCEMENT

**INTERNATIONAL CONFERENCE
AND EXHIBITION**

An International Conference and Exhibition hosted by Ministry of Environment & Forests (MoEF), Govt. of India, New Delhi is being organized by Institute of Wood Science & Technology (IWST), Bangalore and Indian Plywood Industries Research & Training Institute (IPIRTI), Bangalore, sponsored by Food & Agriculture Organization (FAO), Rome. The leading Conference & Exhibition will be held at IWST, Bangalore from 19th to 22nd October, 2011.

For more information, visit conference website: www.artjoywood.org and for Exhibition Enquiries send E-mail to vipinfri@gmail.com, jdvengala@yahoo.com

IPIRTI, P. B. No. 2273, Tumkur Road, Bangalore - 560 022, INDIA, Telephone: 28395970, 28394341 (Director), (General) 28394231-32-33 (PABX)
Fax: 91-80-28396361, E-mail: contactus@ipirti.gov.in, websites: <http://www.ipirti.gov.in>, bamboocomposites.com

President-IPIRTI Society, Minister for Environment and Forests, Govt. of India
Chairman, Board of Governors - Secretary, Ministry of Environment & Forests, Govt. of India
Director & Principal Executive Officer

**Shri. Jairam Ramesh
Dr. Tishyarakshit Chatterjee, IAS
Dr. C. N. Pandey**

Editorial Team :

Editor: Smt. Ravikala Kamath
Associate Editor: Smt. C. S. Lalithamba
Members: Shri K. Thanigai and Shri Jagadish Vengala

Graphics & Layout:
Photographs
D.T.P Assistance

Shri. Ashok Kumar A.C.
Shri. H.H. Thippeshappa.
Ms. K. Nadiya

Supervision and Guidance : Dr. C. N. Pandey, Director, IPIRTI, Bangalore