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IPIRTI NEWS
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Dear Readers,

NEED FOR BETTER INTER-ORGANISATION COORDINATION AND PARTNERSHIP WITH STAKEHOLDERS

In the recent past forestry research has been mainly focusing on the basic disciplines of forestry subject and these studies have led to the scientific advancement in the field. Though all these studies have immense relevance to further development of Forestry Science in the country, however, in the changing scenario today the focus has to be shifted to research which could bring quick changes and improve the economy of the rural people leading to employment generation, poverty alleviation, etc.

Forestry/forest products research should be given due recognition and suitably placed at higher priorities to meet increasing demand of the forest products and the new challenges such as scarcity of raw material, waste minimization, efficient utilization of short rotation and plantation timbers, substitution of wood by utilizing

other lignocellulosic materials and agro residues. In today's highly sensitive environmental climate both products and the process have to conform to certain Environmental Standards. Therefore, studies like Life Cycle Analysis (LCA), Carbon footprints and energy auditing on all next generation engineered wood products need to be carried out.

Research also needs adequate funding and possibility should be explored to involve the corporate and industrial houses in financing the research projects. While formulating the research projects, research objective should be linked with the priorities of the nation such as poverty reduction, conservation and sustainable development and use of bio-resources.

Keeping in view the paucity of personnel in forestry research and increasing the responsibility for managing large number of user groups, institutional capacity with respect to trained man-power needs to be provided. More thoughts should be given to a number of issues particularly in strengthening the structure of the organization, induction of new skills through organizing training of the existing staff at recognized national and international laboratories, organizing the orientation programme for scientists through visit to various national and international institutes in their respective field either through exchange programme or through fellow-ship in order to facilitate exchange of ideas and keeping them abreast with latest scientific and technological developments.

Adequate attention to transfer the technology from laboratory to the field has not been made in the recent past. Research, extension linkages in terms of sharing of information and technology transfer is very weak. Research results are not transferred to the gross root level. One of the root causes of such a situation could be that research in most of the research institutions are conducted in isolation and the partners/stakeholders were neither consulted nor made mandatory for implementing new technologies.

Networking among forest departments, forest based industries and forestry research institutions are very much needed for providing market feedback to industry and research support, encourage industry, Government cooperation on policy/environmental issues, training & education and transfer of technology.

Today, in developing countries more than ever before there is a need for partnership between research & educational institutions, market/business, entrepreneurs, financing bodies and policy makers, etc., in achieving the objectives and success for industries.

It is therefore recommended that while formulating research plan, relevant stakeholders, planners, policy makers and the research institutions should be consulted.

DR. C. N. PANDEY

RESEARCH & DEVELOPMENT

EMISSION OF FORMALDEHYDE FROM PARTICLEBOARD

Particle Board (PB) industry is one of the fastest growing panel industry throughout the world. In India also it is developing in a very fast pace. The use of PB as a furniture component, flooring, ceiling and many other human uses is getting accepted among the consumer. Formaldehyde emission from Particle Board and Fibre Board, specially those made with amino resin is an usual hazard associated with manufacturing, storing and use of PB. One common complaint frequently received from the users, is the emission of formaldehyde from the product especially in closed AC rooms or where ventilation is poor.

There is International Standard for the product where the rate of emission is below certain level, are permitted to use. It has been evaluated that if the rate of emission is within the standard limit, the product does not pose any health hazard for living beings. In India, neither the product standard has been made nor the evaluation of the product being done by internationally accepted method. Several users and manufacturers have approached the Institute to evaluate PB products to find out the rate of formaldehyde emission in par with International Standards. Resin and adhesive formulations which can emit less formaldehyde and also the process of measurements to determine the level of formaldehyde emission by small chamber method as per ENV 717-1 and ISO standards have been optimized. Particle boards were made in the institute with conventional and modified amino resins. The panels were subjected to determine the emission of formaldehyde in the chamber. It was observed that the panels made using modified resin system added with scavenger indicates very less emission value when compared with conventional resin system and is within the limits of E1 emission level. From the study, it has been concluded that modified amino resin system with lignin as scavenger added externally during adhesive formulation is ideal to achieve E1 emission value when tested as per ENV 717-1/ISO 12460 Standard Specification meets the requirement of E1 emission class prescribed in EN 13896:2004(E) Standard Specification.

SODA BAGASSE LIGNIN SOLIDS AS A SUBSTITUTE FOR PHENOL IN PF RESIN MANUFACTURE

The aim of this work was to develop a phenol-formaldehyde (PF) resin by partially replacing phenol with Soda Bagasse Lignin. Bagasse lignin-phenol-formaldehyde (LPF) resins were produced by substituting phenol with lignin in various percentages. Wood adhesive is certainly the most widely explored avenue of lignin utilization. Phenol was replaced by various percentages of lignin to keep the phenolic to formalin weight ratio constant to 1:1.8. In the present study 20%, 30% and 40% replacement of phenol by lignin were adopted in making Phenol Lignin Formaldehyde resin (PLF Resin). The Plywood Panels of 4 mm thick, 30 cm X 30 cm were made and the panels were subjected to test as per IS: 848:2006-Specification for synthetic resin adhesives for plywood (Phenolic and Amino plastics). The results indicated that soda bagasse lignin was a feasible replacement for up to 30% of the phenol in PF resins.

EXTENSION

- 04-10-2010 to 10-10-2010: Mrs. Mamatha and Dr. Aparna Kalawate Scientists, attended one week training programme on "Climate Change & Carbon Mitigation" at FRI, Dehradun sponsored by DST India.

- 18-10-2010 to 20-10-2010: Ms. Sujatha.D and Mr. Uday D.N Scientists, visited M/s. Shivashankar Plywood industries, Sampla to assess the production capacity of the unit based on the existing machinery and practices.

- 28-11-2010 to 29-11-2010: Dr. C.N. Pandey, Director, IPIRTI visited Field Station, Kolkata in view of the NABL Accreditation pre-assessment.

- 03-12-2010: Ms. Sujatha.D and Mr. Uday D.N Scientists, visited CPPRI, Saharanpur to have discussion on fibre yeild from rice straw. Explored the facilities available at CPPRI for fibre making.

- 06-12-10 to 07-12-10:Ms. Sujatha.D and Mr. Uday D.N Scientists, Visited M/s. Shivhari Plywood Ltd., Jaspur, to collect data for life cycle assessment of panel products.

- 08-12-2010:Ms. Sujatha.D and Mr. Uday D.N Scientists, visited M/s. Green Ply industries and M/s.Vardhaman industries at Rudrapur, to have related project discussions.

- 9-12-2010: Dr. S.K. Nath, Joint Director, attended Workshop on Plantation of Trees by Forest Corporation in Karnataka and presented a paper on "Non Pulp Wood Species and other alternative for making Panel Products".

- 25-12-2010 to 27-12-2010:Dr. C.N. Pandey, Director, visited MoEF, New Delhi to have discussion with DGP on MDF project proposal.

VISIT OF DIGNITARIES

13-12-2010: Dr. Dirk Berthold from Frauuhofer WKI Institute, Germany, along with Prof.Dr.Ulng.Ulrich Schwarz and Mr. Andreas Gade (Ebswalde University), Germany, visited IPIRTI and had interactive meeting with scientists of IPIRTI to get acquaint with R&D works and also explore possibilities of initiating collaborative work.

15-12-2010: Dr. Ramanamurthy, Director, Andhra Pradesh State Forest Department and Ranger officers visited IPIRTI, Bangalore. During their visit Dr. Aparna Kalawate, Scientist briefed them about different wood destroying organisms and their control measures.

SEMINARS/WORKSHOPS/CONFERENCE/MEETING

5th Meeting of the Steering Committee of IPIRTI Centre, Mohali

5th meeting of the Steering Committee of Mohali IPIRTI Centre, held at Udyog Bhawan in Chandigarh on October 7, 2010. Dr. C.N. Pandey, Director IPIRTI warmly welcomed Sri. Sukhjit Singh Bains, Director, Department of Industries & Commerce (DIC), Government of Punjab who was the Chairman of the Steering Committee and requested him to preside over the meeting.

While presiding the meeting Sri. Sukhjit Singh Bains stated that technical courses being conducted at IPIRTI Centre, Mohali can generate employment for the youth and immensely benefit industry of the area. The IPIRTI Centre, must enlarge its scope of activities and publicize these courses in and around the region by way of publicity and advertisements to create awareness among youth about wood working industry of the area, its potential to provide them the much-needed employment, cost-effective manpower and also to encourage them to take up woodworking as career. Such an initiative would go a long way to provide trained and skilled manpower to the industry of the region.

He also felt that the IPIRTI Centre at Mohali needed further strengthening of its infrastructure to facilitate increased number of candidates to receive training through various courses offered by it. Since the scope of further expansion at the current location seems to be limited, the Chairman identified a vacant building under the possession of the Department of Industries and Commerce at Mandi Gobindgarh and suggested the steering committee members to inspect it. He told that if found suitable, the Government of Punjab could consider transferring the building to IPIRTI Centre.

As suggested by the Chairman, the building at Mandi Gobindgarh has been inspected by Steering Committee members and found suitable only for time being. Necessary proposal is likely to be moved in the coming days by the Director, IPIRTI, Bangalore.

Dr. C.N. Pandey, Director, IPIRTI apprised the Chairman with the activities being carried at IPIRTI Centre, Mohali which was established in 2008 as a joint venture of IPIRTI (Indian Plywood Industries Research and Training Institute), the Department of Industries & Commerce (DIC) of Government of Punjab and the Northern India Plywood Manufacturers Association (NIPMA). He briefed about the technical courses being conducted at the IPIRTI Centre with an objective to prepare a workforce for the woodworking industry of the area.

He also informed the Chairman that the IPIRTI Centre, Mohali has been recognised and authorised by the Bureau of Indian Standards (BIS) to conduct testing on various kinds of plywood and panel products and the testing work has already begun.

Dr. C.N. Pandey told that the IPIRTI membership is quite beneficial and once a unit joins IPIRTI as its member, they will get 25% concession on testing fee and training course fee. The member firms may seek technical advice from IPIRTI whenever required and get benefits from the expertise of IPIRTI in respect of technical and Research & Development related issues. One may easily realize that membership benefits in terms of money will be far more than what is paid annually. He appealed the entrepreneurs of the region

to come forward and join as member of IPIRTI Society in large numbers and strengthen its activities.

During the meeting, the Chairman also enquired about the number of units of the area, which have joined IPIRTI as its members. On being told about its number, he felt that it was disappointing keeping in view the number of members of NIPMA and also the number of woodworking units in the area. He appealed the woodworking and panel product manufacturing industry of the area to become IPIRTI members in large numbers and strengthen IPIRTI activities of which are aimed at benefitting them.

Participating in the deliberations at the meeting Dr. S.K. Nath, IPIRTI Joint Director felt that the raw material produced by the farmers of Punjab and Haryana needs to be certified to get benefit from future market demand for certified products. The Chairman suggested that IPIRTI should submit a detailed proposal for obtaining certification for raw material from appropriate agency.

Shri. Anand Nandanwar, HOD, CENTEC Division, IPIRTI, Bangalore gave a presentation, which contained points like progress at IPIRTI Centre, Mohali since the last meeting of the steering committee, training to its staff, BIS/NABL accreditation to the centre, short-term training courses being conducted at the field station since the last meeting of the Steering Committee, visits of the personnel to various industrial units for consultancy and also the raising of IPIRTI membership and the action plan for further progress at the centre aimed at increasing the scope of the recognition accorded by the Bureau of Indian Standards (BIS) by adding licenses in respect of some more standards, establishing facilities as per IS 307, 12823, 12406 and 14587 and procurement of equipment, etc.

The meeting was attended by Shri. Harbhajan Singh, Industrial Advisor-cum-Additional Director (SSI), DIC; Shri. Naresh Tewari (Venus Plywood Pvt. Limited), President of the Northern India Plywood Manufacturers Association (NIPMA); Shri. Inderjit Singh Sohal (Harisar Industrial Corpn.), President, Punjab Plywood Manufacturers Association (PPMA); Shri. Praveen Arora (Virgo Industries), Shri. Avinash Singla (Avinash Agro Private Limited); Shri. Gopal Mohan (Gupta Agro); Shri. S.K. Jolly, President, Wood Technologist Association (WTA), Dr. S.K. Nath, Joint Director, IPIRTI; Shri. Anand Nandanwar, Scientist IPIRTI; Shri. Pradeep Sharma, Shri. Jaswant Singh and Shri. Purushottam Sharma from IPIRTI Centre, Mohali.

Dr. C.N. Pandey, apprised the activities of IPIRTI Centre, Mohali to Shri. Manoranjan Kalia, Minister-In-Charge of Department of Industry and Commerce (DIC), Punjab Government.

- 27-10-2010: Mr. Amitava Sil, Officer-In-Charge, IPIRTI Field Station, Kolkata attended one day seminar on "Standards make the World Accessible" to observe world standards day organized by Bureau of Indian Standards (BIS), Kolkata.

- 29-10-2010: Mr. S.C. Sahoo and Ms. Riya Tudu, Scientists, IPIRTI Field Station, Kolkata met Dr. Anirban Roy, Research Officer of West Bengal Bio-diversity Board to discuss about environmental impacts on the quality of plywood effluents.

- 29-10-2010: Mr. S.C. Sahoo and Ms. Riya Tudu, Scientists, IPIRTI Field Station, Kolkata met Dr. U.K. Mukhopadhyay, Chief Scientist of West Bengal Pollution Control Board regarding discussion of sponsoring project on "Improving quality of effluents discharged from plywood industries.

47th ANNUAL GENERAL MEETING(AGM), OF IPIRTI, Bangalore

47th Annual General Meeting of Indian Plywood Industries Research & Training Institute (IPIRTI) Society was held at Parayavaran Bhavan, New Delhi on 2nd December, 2010. Dr. P. J. Dilip Kumar, *IFS*, DG(Forest) and Special Secretary, MoEF, New Delhi chaired the meeting.

- 09-11-2010 to 13-11-2010: Dr. C.N. Pandey, visited New Delhi to have discussion with Ministry personnel and Planning Commission.
- 18-11-2010 to 19-11-2010: Shri. Anand Nandanwar, Scientist attended two days Seminar on Sound & Viorganized by B&K Denmark Jost's Engg. Co. at Royal Orchid Resort, Bangalore
- 06-12-2010: Dr. C.N. Pandey, Director, IPIRTI attended the meeting of Planning Commission at New Delhi.
- 19-12-2010 to 21-12-2010: Dr. C.N. Pandey, Director, IPIRTI attended the meeting on "Inter organization Co-ordination" organized by Institute of Forest Genetics & Tree Breeding, Coimbatore.
- 29-09-2010: Dr. S.K. Nath, Joint Director attended a Workshop on "Bamboo Cultivation, Exploitation and Marketing" organized by Forest Department, Goa and presented a paper on "Bamboo Composites and Plywood".

MOU SIGNED

A Memorandum of Understanding was signed between Dr. C. N. Pandey, Director, IPIRTI, Bangalore and Shri. Sudhakaran Pillai, Joint Director, Coir Board, Bangalore 25th November, 2010, to take up a Consultancy Project for setting up of "Testing Laboratory for Central Institute for Coir Technology(CICT) at Coir Board, Peenya, Bangalore.

A Memorandum of Understanding was signed between Dr. C. N. Pandey, Director, IPIRTI, Bangalore and Rev. Fr. Josekutty P. D., Principal, Kristu Jayanti College, Bangalore on 15th December, 2010, regarding Technical support for management course in Post Graduate Diploma Course of IPIRTI.

TRAINING

PGD COURSE IN WOOD AND PANEL PRODUCTS TECHNOLOGY

21 Trainees of Post Graduate Diploma Course (21st Batch) have successfully completed the course and got 100% placement in Plywood and other Wood based industries. 22nd Batch PGDC course was commenced on 08/11/2010 with 22 candidates.

SHORT TERM TRAINING COURSES

- A Course on "Block board and Flush door Manufacturing" was conducted for 6 candidates sponsored by Industries during 13-12-2010 to 16-12-2010 at IPIRTI, Bangalore.
- A Course on "Plywood Manufacturing Technology was conducted for 5 candidates during 01-10-2010 to 31-10-2010 at IPIRTI, Field Station Kolkata.
- A Course on "Low cost and speciality resin for the manufacture of plywood" was conducted for 12 candidates during 06-12-2010 to 10-12-2010 at IPIRTI, Field Station Kolkata.

SPECIAL TRAINING COURSES

Special Training Courses and practicals were conducted on Saw milling & Saw doctoring; Wood working & Wood finishing for the final year students of M.Sc in Wood Science & Technology from Kannur University from 29th November 2010 to 14th December, 2010 at IPIRTI, Bangalore.

A special Training Course on Bamboo Pressure Treatment was conducted for two candidates sponsored by VDesign Purple, Bangalore during 20-21st December 2010 at IPIRTI, Bangalore.

TWO DAY TRAINING WORKSHOP FOR IFS OFFICERS

Two-days Training Workshop for IFS Officers on "Trade in Forestry Products and their contribution towards Gross Domestic Product" was sponsored by MoEF, New Delhi and conducted by IPIRTI from 18th November to 19th November 2010. 19 IFS Officers attended the training programme.

CALENDER OF SHORT TERM TRAINING COURSES AT IPIRTI, BANGALORE FOR THE YEAR 2011

Sl. No.	Title of the Training Course	Duration	Date	Fee*
1.	Resin manufacturing	3 days	Jan 10-12	5000
2.	Preservative treatment methods for wood and wood based panels	3 days	Feb 08-10	5000
3.	Analysis of Raw materials for resin manufacture	3 days	Mar 8-10	5000
4.	Retention of preservative chemicals in wood/plywood	5 days	April 11-15	7500
5.	Peeling & Knife grinding	3 days	May 18-20	5000
6.	Testing of flush door and block board as per IS:2202 and IS:1659	5 days	June 13-17	10000
7.	Plywood manufacturing-I (log storage, centering, peeling, clipping, drying, knife grinding)	5 days	July 11-15	7500
8.	Plywood manufacturing- II (Adhesives for plywood and plywood manufacturing-Resin Preparation, gluing, hot pressing)	5 days	July 18-22	7500
9.	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
10.	Low cost phenolic resins using renewable bio-materials as partial replacement for phenol	5 days	Sep 19-23	7500
11.	Low formaldehyde emission adhesives for plywood and particle board	5 days	Oct 10-14	7500
12.	Defects and remedial measures in plywood manufacture	5 days	Nov 14-18	7500
13.	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

Programme coordinator: **Mr. Bhukya Devi Prasad, Head, IT & SORIT (bdeviprasad@ipirti.gov.in)**

*Service Tax: 10.30% Extra

CALENDER OF SHORT TERM TRAINING COURSES AT IPIRTI FIELD STATION, KOLKATA FOR THE YEAR 2011

Sl. No.	Title of the Training Course	Duration	Date	Fee*
1.	Testing of Plywood Block Board, Flush Door	5 days	17- 21 Jan	5000
2.	Plywood & Adhesive Manufacture	5 days	21-25 Feb	5000
3.	Resin Manufacturing	5 days	21-25 Mar	5000
4.	Retention of Preservative Chemical	5 days	25-29 Apr	5000
5.	Plywood Manufacturing Technology	One month	2-31st May	10000
6.	Testing of Plywood Block Board, Flush Door	5 days	20-24 June	5000
7.	Testing of raw materials for wood adhesive and its manufacturing	3 days	16-18 Aug	3000
8.	Plywood Manufacturing	3 days	21-23 Sept	3000
9.	Low cost and special resin for manufacture of plywood	5 days	21-25 Nov	5000
10.	Preservative treatment of wood & wood based panel products	3 days	20-22 Dec	3000

Lodging and Boarding are not included and have to be arranged by the trainees. *Service Tax: 10.30% Extra

Programme coordinator: **Mr. Amitava Sil, (ipirti@vsnl.net)**

CALENDER OF SHORT TERM TRAINING COURSES AT IPIRTI CENTER, MOHALI FOR THE YEAR 2011

Sl. No.	Title of the Training Course	Duration	Date	Fee*
1.	Testing of plywood and block boards as per IS: 303, IS: 710, IS: 1328, IS: 4990 and IS: 1659	5 days	14-18 Feb	6750
2.	Preservative treatment of wood and wood based panel products and estimation of their retention	5 days	18-22 July	6750
3.	Testing of fire retardant plywood as per IS: 5509	2 days	21-22 Sep	3000
4.	Testing of flush door and block boards as per IS: 2202 and IS:1659	5 days	12-16 Dec	6750

Lodging and Boarding are not included and have to be arranged by the trainees. *Service Tax: 10.30% Extra

Programme coordinator: **Mr. Pradeep (pradeepkk@ipirti.gov.in)**

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