Louisiana Forest Products Laboratory

NEWSLETTER

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Ag Med — Medicinal Plant Research Consortium

Ag Med, a Louisiana-based research consortium was established in 1992. LSU is involved in this consortium in two ways. The consortium has a research project with the LSU Ag Center to discover new medicinal plants for the treatment of cancer and to develop medicinal plants for new crops for Louisiana agriculture. The consortium also conducts an educational program in the LSU College of Agriculture.

The consortium membership includes Dr. Stan Carpenter and Dr. Zhijin Liu of the School of Forestry, Wildlife, & Fisheries, LSU Agricultural Center; Dr. Roy Constantin of the Hammond and Citrus Research Stations, LSU Agricultural Center; Dr. Sonny Viator, Iberia Research Center, LSU Agricultural Center; Dr. G.H. Weaver and Dr. John Adams of the Louisiana Tech University School of Forestry; Dr. Robert Newman of the University of Texas M.D. Anderson Cancer Center; Dr. Joe Moerschbaecher of the Department of Pharmacology, LSU Medical Center; Mr. Tracy Moore of Xylomed Research Foundation; and members of the Institute of Medicinal Plant Development of the Chinese Academy of Medical Sciences, Henan Agricultural University, Forestry Research Institute of Henan Province, and Zhejiang Forestry College in the People's Republic of China.

Dr. Donald Tarver, Administrator, Pacific West Cancer Fund (second from left) presents medicinal plant funding checks to Dr. Stan Carpenter, Professor of Forestry (left) and Dr. William B. Richardson, Chancellor, LSU Agricultural Center (third from left). Looking on are Tom Jones and Lofton Sproles, members of the Board of Directors of the Pacific West Cancer Fund.

Accomplishments of the consortium to date include:

- the largest plantings of Camptotheca acuminata in the U.S. Two camptothecins derived from this tree have received F.D.A. approval for the treatment of colorectal and ovarian cancers.
- several publications on Camptotheca culture
- three trips to China by Ag Med personnel

Funding for the consortium has come from the LSU Agricultural Center, the Louisiana Board of Regents, and Xylomed Foundation. In 1995, the consortium made a presentation to the Board of the Pacific West Cancer Fund meeting in New Orleans. Since that time the Pacific West Cancer Fund has funded travel to China, an international research and education program, and a plant-tissue culture research program.

Their real work is in the future. They are gearing up to screen thousands of plants for effectiveness against cancer and HIV. For more information, contact Dr. Stan Carpenter in the LSU School of Forestry, Wildlife, & Fisheries at (504) 388-4169 or fax (504) 388-4227. ■

Resource Quality — Worldwide Concern

Information from around the world indicates that our woody resource has been changing in terms of both quantity and quality. These changes will create challenges for the forest and forest products industries. Countries must balance the need to get the most value from the existing resource, most efficiently, while planning for cost-effective, sustainable timber management to sustain a quality fiber supply. To fulfill these objectives, it is essential to evaluate wood quality for optimal processing and end uses and to link timber management (e.g., silviculture and tree improvement) with wood quality and end-product (e.g., lumber, pulp, and paper) value. By matching trees, logs, and lumber to end-product requirements and customer needs, we can achieve success. Today, product performance and quality are customer driven attributes.

In the past, tree breeding programs have focused on volume yield, while neglecting wood quality. Wood quality may be defined as "all the characteristics and properties that affect the value recovery chain and the serviceability of end products." Today, the move to fast-growing, short-rotation plantations throughout the world has made wood quality a major concern. Wood from young, fast-growing plantations is acceptable for some paper manufacturing but has physical and mechanical properties that make it less desirable for solid wood products than wood from older, slower-grown trees. There is a critical need to understand the effects of intensive cultural practices on wood properties, product grade, and stiffness and strength.

In addition to our on-going wood quality research and technical assistance to industry, the LFPL faculty and staff at the School of Forestry, Louisiana Tech University, in Ruston have been busy investigating and promoting the quality of Louisiana's resources. We have been exchanging ideas and information with Louisianians, as well as other scientists and industry personnel around the US and the world. We have discussed sawmilling, lumber yields, and the importance of fully utilizing our woody resource at several meetings this year. We talked about the production and lumber quality of plantation-grown Caribbean pine compared with loblolly pine at the IUFRO All Division 5 Conference held in Pullman, WA from July 7-12, 1997. We reviewed silvipasture management of loblolly pine and its affect on wood and lumber quality at the CTIA/IUFRO International Wood Quality Workshop--Timber Management Toward Wood Quality and End-Product Value in Quebec City, Quebec, Canada from August 18-22. This meeting brought together tree improvement specialists and wood scientists from around the globe to examine wood quality issues.

We also examined the effects of intensive cultural practices on wood properties at several meetings. The effects of fertilization on lumber quality in intensively managed loblolly pine plantations were discussed at the Ninth Biennial Southern Silvicultural Research Conference in Clemson, SC on February 26. The effects of silvipasture management on the growth and wood quality of loblolly pine and how they compared with the wood and fiber quality of Venezuelan Caribbean pine plantations were reviewed at the Forest Products Society Annual Meeting in Vancouver, BC, Canada from June 22-26. Other opportunities to promote Louisiana forest products have included: participation in an LSU Cooperative Extension Service Workshop, "Strategies on Starting or Improving a Small Wood Products Business," held in Winnfield on February 6; presentations on Forest Utilization (Forest Products) to more than 700 fifth grade students during Lincoln Parish's 5th Annual Forestry Awareness Week, October 7-9; and a presentation on trends, markets, and utilization of Louisiana's hardwood resource to foresters, non-industrial private landowners, and others at the Hardwood Management Field Day held at Barksdale AFB Reservation in Bossier City, LA on October 29, 1997. ■

The Second Annual Lumber Drying Workshop Planned

The second annual workshop "**Drying Lumber for Quality and Profit**" will be held in the School of Forestry, Wildlife, & Fisheries, LSU from February 11 to 13, 1998. This workshop will thoroughly cover the lumber drying process including the following major topics:

- Kiln design and history
- Schedule selection and manipulation
- Steam kiln control and operation
- Steam properties and equipment
- Energy consumption in drying
- Dehumidification drying - principles and equipment
- Drying stress and degrade prevention
- Trouble shooting kiln controllers
- Moisture meters and uses
- Air drying and stain prevention
- Wood fundamentals (wood anatomy, wood-water relationship, etc.)

Attendees will also participate in practice sessions - drying a charge of lumber from start to finish and will gain valuable hands-on experience for properly drying lumber. Speakers from LSU and industry will share their years of knowledge at the workshop.

The cost for the course is $150 if the fee is received by the workshop coordinators by Feb. 4, 1998. Fees will defray the cost of workshop materials, lumber drying experiments, and a dinner. Advance registration is advised because of limited classroom space. For more information, please contact Dr. Qinglin Wu at (504) 388-4255 or Dr. Todd Shupe at (504) 388-4087. ■

Paper Available: Softer Timber Harvesting Impacts

In the June 1997 newsletter, we told you about a new way of harvesting timber that was being tested called Cut-to-Length (CTL) harvesting. Rather than using chainsaws or traditional felling machines, CTL uses a machine called a harvester to reach out and sever the tree, de-limb the bole, and cut it into desired lengths. Instead of dragging the logs out of the woods with skidders, a forwarder carries the logs and unloads directly onto the trucks.

Environmental impacts of the operation were obviously much improved over a conventional harvesting operation. One of the beauties of CTL is that the limbs and tree tops are all dropped in front of the machines, creating a mat for them to drive on. In an effort to measure this improvement, LFPL's Dr. Niels de Hoop worked with LA Tech's Dr. Clyde Vidrine and Auburn's Dr. Bobby Lanford to measure soil compaction and ground disturbance.

Only 11% of the ground was disturbed at all (that is, driven over) in the pine plantation thinnings. Logging slash occupied up to 70% of the trails. Soil compaction was clearly worse on the rutted trails than under the slash. In fact, there was no compaction under the slash at all in one plantation. Of the trees remaining to grow for the next harvest, only one or two in a hundred suffered damage, and the damage was minor. These good results happened in spite of the fact that ground conditions were so wet that the conventional skidder operations had to stay home.

If you would like to know more details, call Dr. de Hoop at (504) 388-4242 for a copy of a draft paper.

By the way, logger Travis Taylor (Goldonna, LA) decided to buy the CTL machines. ■

Louisiana Forest Products Laboratory

http://wwwlfpl.forestry.lsu.edu

Welfare Reform and Forest Products Industry Development in Louisiana

An in-depth study of the impacts of welfare dependence and welfare reform on Louisiana women is being jointly conducted by Dr. Pamela Monroe, School of Human Ecology and Dr. Richard Vlosky at the Louisiana Forest Products Laboratory at Louisiana State University. This study examines the possibilities of jobs creation for welfare recipients in a nontraditional setting, the secondary forest products industry in Louisiana. This industry, often also called the value-added wood products sector, comprises producers that generally sell finished products directly to consumers. Examples of such products include household furniture, office furniture, and cabinets. This research is part of a larger project targeting economic revitalization of the forest products sector in Northwest Louisiana. The first phase of the research is now complete. During fall, 1997, an intensive data collection effort was undertaken:

- 84 women in 10 parishes participated in qualitative interviews at the sites where they were participating in GED classes or training programs;
- 12 secondary forest products industry companies in North west Louisiana were interviewed at their business location; and
- 4 focus groups were conducted with employees in the secondary forest products industry, at their workplace, without their employer present.

Welfare reform is in full swing in Louisiana and across the nation. Although long-term impacts of the 1996 Personal Responsibility and Work Opportunity Reconciliation Act will take place in the distant future, we can begin to assess Louisiana social service agency plans to move welfare recipients into the work force within the two-year time constraints of the law. We can also examine potential impediments to moving families from welfare dependence to self-sufficiency.

We believe that the forest industry worksites we visited, with their small workforce and informal structures, may be particularly suitable for persons who have a limited or spotty work history. Employers and employees agreed that these sites often have a supportive, ”family“ quality, and almost no one expressed serious reluctance to hire, work with, or work at jobs such as those found in the secondary forest products businesses we visited.

If successful, our work could serve as a model for innovation in welfare-to-work programs in the forest products industries and for other small business industries in Louisiana and other states.

For more information call Dr. Rich Vlosky at (504) 388-4527 or fax (504) 388-4251. ■

Water Quality Workshops to be Conducted for Louisiana Forest Landowners

A series of water quality workshops will be conducted over the next two years for forest landowners in Louisiana. The workshops, titled *Managing Louisiana's Forests for Water Quality*, are part of an informative program focusing on the need for landowners to manage their forests for water quality. The workshops are hosted by the LSU School of Forestry, Wildlife, & Fisheries and are funded by the Louisiana Department of Environmental Quality as part of their ongoing efforts to prevent nonpoint source pollution within the state. In addition to the *Best Management Practices* (BMPs) guidelines provided by the Louisiana Office of Forestry and the Louisiana Forestry Association, the workshops will aid as an educational tool emphasizing the importance of BMPs and the need to maintain a voluntary, non-regulatory program within the state.

WATER QUALITY WORKSHOPS:

LOCATION	DATE
Monroe	May, 1998
DeRidder	July, 1998
Lafayette	October, 1998
Ruston	January, 1999
Covington	April, 1999
Opelousas	July, 1999
Lake Charles	October, 1999
Baton Rouge	January, 2000
Bogalusa	April, 2000

A half-day field tour is conducted at each workshop and includes topics and demonstrations on streamside management zones, locating and constructing water bars, measuring and monitoring water quality, and sampling and identifying fish and invertebrates in forested streams.

A variety of booths and exhibits are available for viewing and for one-on-one discussions with various state agencies, forest industries, loggers, landowners, and other forestry related groups. Continuing Forestry Education (CFE) credit hours (4) are available as well as Continuing Logging Education (CLE) credit hours (4).

LSU Stream Ecologists, Dr. Bill Kelso and Dr. Allen Rutherford, sample and identify fish and invertebrates at an earlier Water Quality workshop held in Shreveport, La.

Registration for the workshops and tours is $12.00 and includes workshop materials, lunch, and transportation to the field site. For further information contact Melinda Hughes, LSU School of Forestry, Wildlife, & Fisheries (504) 388-4131 or e-mail mhughes@lsu.edu.

Hardwood Workshop at Louisiana Tech

The LFPL at Ruston will again be one of the cooperators for the Louisiana Tech University School of Forestry's Annual Hardwood Log, Lumber, and Tree Grading Workshop. This workshop is designed to present a working knowledge of the NHLA hardwood lumber grading rules and the USDA Forest Service log grading system and its relationship to lumber grades and product utilization.

In addition to earning **22.5 CFE credits** (Category I), attendees will learn to recognize external defect indicators and their importance in hardwood logs, as well as the basics of grading hardwood lumber. The application of log grading to standing timber will also be covered.

The course is designed to assist those involved in the hardwood lumber industry (mill owners, sawyers, edger operators, inspectors, sales and office personnel), those involved in timber management (forestry technicians, foresters, refuge managers, and private land owners), and other interested persons.

The workshop is scheduled for March 17 - 20, 1998 in Ruston. Further information can be obtained from Dr. Mark Gibson, Workshop Coordinator, by calling (318) 257-3392, sending an e-mail to mgibson@latech.edu, or writing to the School of Forestry, Louisiana Tech University, P.O. Box 10138, Ruston, LA 71272-0045. ■

Calendar of Events and Workshops

February 11 - 13 **Drying Lumber for Quality and Profit.** Held at the School of Forestry, Wildlife, & Fisheries, LSU. For more information contact Dr. Qinglin Wu at (504) 388-4255 or Dr. Todd Shupe at (504) 388-4087.

March 17 - 20 **Hardwood Log, Lumber, and Tree Grading Workshop.** Held at Louisiana Tech University, Ruston, LA. Earn 22.5 CFE credits (Category I). For more information contact Mark Gibson at (318) 257-3392.

March 26 **Improving Wood Utilization For Small Wood Products Businesses.** Held in Shreveport, LA at the Caddo Parish Louisiana Cooperative Extension Service Office. For more information contact Ricky Kilpatrick, Area Agent (Forestry) at (318) 965-2326 or Dr. Todd Shupe, Assistant Specialist (Forest Products) at (504) 388-2145. (CFE - 3.0 hrs., Category 1).

January - April **Louisiana Furnishings Industry Association** (LFIA) holds regular monthly meetings at the Ponchatoula headquarters. If you are interested, call LFIA at (504) 386-0471 for the date and time.

Louisiana Forest Products Laboratory

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