

**Louisiana Forest Products
Development Center**



**Creating Value
for the
Wood Products Industry**





Louisiana is blessed with quality timberland that provides material for the many products we use daily. This is an example of one of Louisiana's hardwood forests that cover approximately half of the commercial forestland in the state.



Creating Value for the Wood Products Industry

The forest industry contributes more than 50 percent of the total value of all agricultural, animal and fish/wildlife commodities in Louisiana. In addition to lumber, valuable secondary products such as furniture and kitchen cabinets are produced. In 1992 the LSU Agricultural Center established the Louisiana Forest Products Laboratory (LFPL). In 2003, the name was changed to Louisiana Forest Products Development Center (LFPDC) to better reflect the breadth of activities that the Center is involved in. The Center, now an integral part of the School of Renewable Natural Resources, provides technical assistance to the primary and value-added processing wood products industries in Louisiana. Since its inception, the LFPDC has made great strides. It is now firmly positioned as one of the most recognized and productive forest products research and outreach centers in the United States.





Vision for the Louisiana Forest Products Development Center

To be widely known as a center of excellence and as the premier source for quality information, research and education in forest products in Louisiana, recognized regionally, nationally and globally.

Our Mission

To enhance the wise use of our forest resources by helping Louisiana forest products industries improve production efficiency, add value to products and become more competitive in the marketplace through research, education and outreach.

To help achieve our vision and mission, a five-year strategic plan has been developed. It incorporates five major program areas and an information dissemination plan. The program areas are Industrial Process Improvement, Environmental Assessment and Improvement, New Product Development, Business and Industrial Development, and Durability of Wood-based Building Products. Because expertise is needed from various disciplines, each program area involves multiple members of the LFPDC faculty. In addition, an integral part of each area is to develop relationships and incorporate expertise in disciplines across campus, in other universities, in industry and in public agencies.



Kitchen cabinets are an important part of the value-added industry in Louisiana.

Industrial Process Improvement

Industrial process improvement for the wood products industry in Louisiana is the key to its long-term economic health. The production of wood-based products, however, involves many types of industrial processes in the numerous industry sectors such as lumber, panels, engineered wood products and furniture. Research in this area concentrates on improving the production efficiency for those processes adding value to wood products and raw material recovery.



Builders are increasing their use of oriented strand board, or OSB, in place of plywood for structural panels in housing. The LFPDC is finding ways for improved OSB to be produced in Louisiana under the direction of Dr. Qinglin Wu. OSB uses flakes or "strands" of wood positioned to add strength comparable to plywood, which is made from sheets of veneer.

Environmental Assessment and Improvement

It is paramount to the health, vitality and happiness of a people to assure that industrial processes maintain the quality of air, water, land and general quality of life. The forest products industry, therefore, has a moral obligation to ensure that it does its share to minimize pollutant emissions, maximize use of resources and protect the environment. The Louisiana Forest Products Development Center assists with the development of methods to minimize environmental impacts of forest products processing activities. Assistance focuses on manufacturing techniques, management strategies, improved products, worker environments, pollution mitigating devices, energy conservation, chain of custody documentation and other facets of environmental issues.



Dr. George Grozdits (left) and Dr. Mark Gibson of Louisiana Tech University and Dr. Cornelis de Hoop (right) of the LSU AgCenter inspect a water sample from a logyard pond. Stored logs are sprinkled with water to prevent deterioration. The water that runs off the logs is caught in the pond and recirculated into the sprinkler system.

Water runoff from log yards, such as the one shown here, is necessary to prevent standing water problems during storage and transportation of logs. Research at LFPDC determined that stormwater runoff does not present major environmental problems.



Safety in the workplace is paramount to maintaining a quality work force and keeping worker's compensation insurance to a minimum. The LFPDC is working with the industry to minimize accidents.



New Product Development

Changes in forest resources and demand for forest products require the need to use our resources more efficiently. This can be done by leading in the development of new wood products to maintain a viable industry. Research in this area focuses on using virgin and recycled wood fiber, wood particles, wood residue and out-of-service preservative-treated wood for new and improved products that include, but are not limited to, wood-based firelogs, wood-based composite panels, wood-agricultural residue composite panels and wood composite poles. Wood quality is an important factor in determining the feasibility of new product development. Therefore, research also is conducted to determine the effects of accelerated tree growth on wood properties.

A graduate research assistant in the New Product Development program is seen here applying adhesive to trapezoid-shaped pieces of lumber which will be edge-glued to form a composite pole. This work is part of the treated wood recycling research of Dr. Todd Shupe.





Dr. Richard Vlosky, with his translator, presenting a seminar to government officials, students and forestry industry representatives about Forest Sector Economic Development at the University of the Andes in Merida, Venezuela.

Business and Industrial Development

Vitality of the forest products industry in Louisiana is based primarily on its business practices and opportunities for industrial development. The Business and Industry Development program develops information to enhance these areas. It therefore encompasses a myriad of activities and disciplines including marketing, economic development, labor force development and training, worker safety, business management, business practices and policy.

Louisiana is fortunate to have a special species such as cypress that is praised around the world. This cypress stand is in the Atchafalaya Basin.



Durability of Wood-based Building Products

A major component of the wood products industry in Louisiana is supplying wood-based materials to the residential construction market. The long-term durability of many of these products, however, is coming under close scrutiny by other material suppliers, homebuilders and homeowners, especially in the southern region. This is mainly because of the degradation of these materials by termites, other wood-eating pests and decay. Because of these concerns, substitute materials such as steel and concrete are gaining entry and replacing many degradation-prone wood materials. This program, therefore, concentrates on durability issues in residential construction and development of information and products to address them.



As new products for home use are developed, their performance and durability need to be tested and confirmed.



Scientists use the dry kiln in their lab for experiments and for teaching. Lumber used in furniture and cabinet making must be dried to reduce warping. However, there are too few kilns available in Louisiana. The LFPDC is trying to encourage this investment to keep more of the drying business in state. Dr. W. Ramsay Smith, left, is the Durability of Wood-based Building Products project leader.

Research Expertise Spans Many Areas

The LFPDC is composed of research faculty in the School of Renewable Natural Resources, part of the LSU AgCenter on the LSU campus and in the School of Forestry on the Louisiana Tech campus. If you have a question in any of these areas, or might want a speaker in a particular area, please contact us. We look forward to hearing from you.

Dr. Cornelis deHoop, Associate Professor

Expertise: Worker accidents and safety, environmental aspects of wood products processing, wood residue use and operations research/expert systems/GIS applications to the forest products industry. Room 136, phone: (225) 578-4242; e-mail: cdehoop@agcenter.lsu.edu

Dr. Todd F. Shupe, Associate Professor

Expertise: Effects of intensive forest management and genetics on properties of solid wood, wood fiber and wood composites; wood properties of under-used timber species of Louisiana; closed-loop “green” recycling of decommissioned preservative-treated wood. Room 111, phone: (225) 578-6432; e-mail: tshupe@agcenter.lsu.edu

Dr. W. Ramsay Smith, Professor

Expertise: International wood construction, wood durability in residential construction, physical properties of wood and wood products and energy from biomass. Room 120, phone: (225) 578-4155; e-mail: wsmith@agcenter.lsu.edu

Dr. Richard P. Vlosky, Professor

Expertise: Internet eBusiness/eCommerce, domestic and international wood products marketing, technology applications to improve wood products business competitiveness, marketing applications to economic development, environmental certification and marketing, value-added product opportunities. Room 108, phone: (225) 578-4527; e-mail: rvlosky@agcenter.lsu.edu

Dr. Qinglin Wu, Associate Professor

Expertise: Wood composite, wood moisture relations, wood drying, mechanical properties and dimensional stability of wood-based materials. Room 107; phone: (225) 578-8369; e-mail: qwu@agcenter.lsu.edu

Dr. Mark D. Gibson, Professor

Expertise: Effects of intensive forest management practices on wood quality, effects of wood quality on manufacturing processes, primary and secondary wood products processing, wood anatomy, and wood species identification. Louisiana Tech University, Forestry Laboratory Building, Room 105; phone: (318) 257-3392; e-mail: mgibson@latech.edu

Dr. George A. Grozdits, Research Associate

Expertise: Adhesives, basic wood products manufacturing (including veneer, plywood, fiberboard, and oak flooring), wood chemistry, and bagasse utilization. Louisiana Tech University, Forestry Laboratory Building, Room 104; phone: (318) 257-4898; e-mail: grozdits@latech.edu

International Activities

In addition to our stature in the United States, the LFPDC is well recognized internationally. Visiting scientists from China, Korea and Suriname have spent time at the Center collaborating on research. In addition, the Center has hosted numerous visitors from countries including China, Japan, Korea, Mexico, Taiwan, Slovakia, Honduras, Costa Rica, France, Canada and Turkey. A sample of accomplishments in the international arena follows.



Italy: Project leader for the Food and Agriculture Organization (FAO) of the United Nations developing an Internet-based compendium of forest products marketing databases.

China: Invited scientists at Nanjing Forestry University and at the Chinese Academy of Forestry in Beijing.

Venezuela: Working with colleagues at the University of the Andes in Merida on national forest sector development strategies.

Indonesia: Consulted to the government on forest strategies.

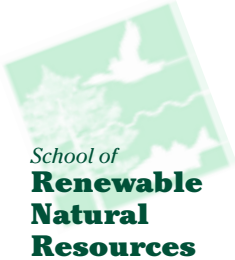
Switzerland: United States delegate to the United Nations/Economic Commission for Europe Timber Committee.

Honduras: Conducted an 18-month USAID-funded forest sector development/rehabilitation strategic project.

France: Six months on sabbatical as an invited professor at the Ecole Nationale Supérieure Des Technologies et Industries du Bois, University of Nancy, conducting research and teaching.

Suriname: Collaborating with colleagues at Suriname's agricultural experiment station in medicinal plant research and outreach for the timber and forest products industries.





Faculty at the LSU AgCenter

<i>C.F. "Niels" deHoop</i>	Environmental Assessment and Improvement
<i>Todd Shupe</i>	New Product Development
<i>Ramsay Smith</i>	Durability of Wood-based Building Products
<i>Richard Vlosky</i>	Business and Industrial Development
<i>Qinglin Wu</i>	Industrial Process Improvement
<i>Pat Lefeaux</i>	Administrative Assistant

Faculty at Louisiana Tech University

<i>Mark Gibson</i>	Professor
<i>George Grozdits</i>	Research Associate

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