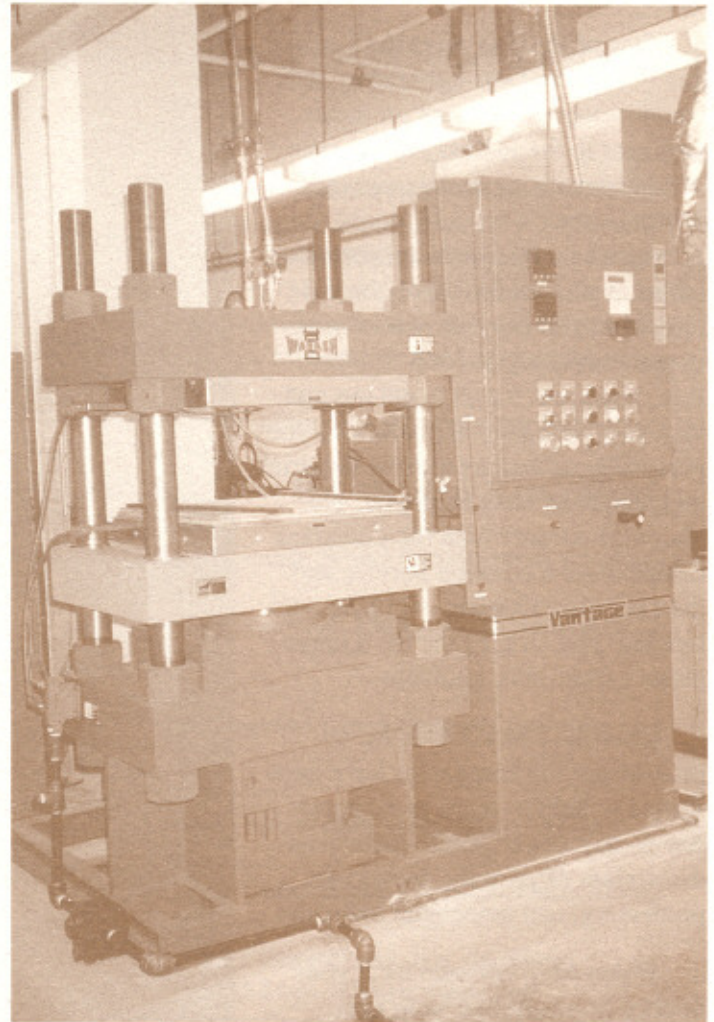


Research Initiative on Wood-Based Panel Products Funded

The Louisiana Board of Regents through its Louisiana Educational Quality Support Fund (LEQSF) funded \$123,161 to the LFPL for establishing a manufacturing/testing facility for wood-based panel products research at LSU. The grant will allow us to purchase an x-ray based density profiler (for measuring vertical density profile in wood-based composite panels), a hammermill, a tray dryer for drying wood particles/flakes, and a 36-inch disc flaker for producing wood flakes. The funds will also allow us to build a laboratory-scale resin blender and an OSB mat former. Previously, the LFPL has acquired a 200-ton capacity, 24"x24" hydraulic compression press for hot pressing the panel products. The equipment will form a complete manufacturing and testing facility for wood-based panel research at LSU.

The wood-based industry continues to be a major economic sector of the U.S. and a processor of about 15,000 million ft³ of wood fiber for industrial and consumer material. While pulp-paper and lumber are the two largest end products of the nation's forests, composite (glue-wood products) makes up about 10% of the end products. The southern U.S. plays an important role in this ever-increasing industry. There are more than 20 major composite mills in Louisiana. These mills produced more than 130 million ft³ of OSB, plywood, PB, MDF, and LVL and more than 100 million feet of engineered joists in 1996, worth more than \$1.0 billion in total.

The Composite Panel Association reported that shipment of PB and MDF in 1996 grew to a combined 5.57 billion square feet. The largest downstream market category for both PB/MDF was household furniture manufactures, which accounted for more than one of every five panels shipped. The secondary processing demands (and consumer's demands) on today's panel products far exceed products of just five years ago. For example,



LFPL's 200-ton capacity, 24"x24" hydraulic compression press for hot pressing panel products. Picture taken by Qinglin Wu.

enhanced secondary processing of MDF is moving the product into new markets and new product development. This requires more fundamental understanding of effects of panel properties (e.g. density profile) on further processing needs such as edge profiling, overlaying, vinyl wrapping, contouring, routing, gluing, edge finishing, and fastening.

(continued on page 2)





Touching Base with the Louisiana Forest Products Laboratory

One of the best ways the Louisiana Forest Products Laboratory staff can develop information on issues pertinent to the industry in the state of Louisiana is by direct contact. Direct contact with individuals provides us information on current issues as well as providing the opportunity to provide you information we currently have. It is, therefore, important for us to get out and visit your company and talk with you personally as well as receive inquiries and telephone calls from you. We also work closely with the Louisiana Cooperative Extension Service and the Louisiana Department of Agriculture and Forestry, so the most appropriate expertise is available.

Over the past six months, approximately 65 companies have been visited to help us learn more about day-to-day issues. These include an assortment of primary, secondary processing, and associated industries.

If you have not seen us at your facility or would like us to visit again, please give us a call at (225) 388-4255 so we can schedule a visit. ■



<http://www.lfpl.forestry.lsu.edu>

Cooperative Extension Workshop to be Held

The Louisiana Cooperative Extension Service will hold a workshop titled "Some Tips for Secondary Producers of Wood Products" on November 19, 1998 at Lomax Hall on the campus of Louisiana Tech University in Ruston, La. Some of the wood-related topics that will be discussed include gluing, finishing, storage of wood, and effects of moisture on surface quality. The workshop will also offer a lecture on developing and implementing business and marketing plans for secondary forest products producers. This event will offer participants a unique opportunity to network with other individuals and companies involved in the production of primary or secondary forest products and learn the latest research technology that may be applicable to their business activity. The co-sponsors for this event include the Louisiana Forest Products Laboratory, Louisiana Tech University - School of Forestry, Louisiana Forestry Association, and Louisiana Furnishings Industry Association. Speakers from the Louisiana Cooperative Extension Service, Louisiana Forest Products Laboratory, and Louisiana Tech University - School of Forestry will provide lectures and answer questions.

For more information, please contact Dr. Todd Shupe, Assistant Specialist (Forest Products).

Telephone (225) 388-4087 or email: tshupe@agctr.lsu.edu or Steve Hotard, Area Agent (Forestry) (318) 644-5865. ■

Drying Operation Analysis

Take advantage of a new program by the Louisiana Forest Products Laboratory and Louisiana Cooperative Extension Service in analyzing your drying operation. Qinglin Wu and Ramsay Smith of the Forest Products Laboratory and Todd Shupe of Cooperative Extension are a drying team who will come and visit your drying facility and provide information on drying techniques, equipment use, or other issues you may have. We will be pleased to visit dry kiln operations, veneer dryers, or particle dryers to provide the information we have or provide sources of additional information you may need. Take advantage of this new program by calling either Dr. Qinglin Wu at (225) 388-8369 or Dr. Todd Shupe (225) 388-2394. We will be glad to set up a time for a visit and send preliminary information on a specific problem if needed. ■

Research Initiative

(continued from page 1)

The panel industry is becoming more competitive nationally and internationally. Those mills that have better product development and process control and understand the impact of process variables on the final product will lead the industry. A state-of-the-art research facility in composite technology at LSU will help the composite industry in Louisiana develop new products, improve manufacturing processes, provide training for mill personnel, and make the industry more competitive in the marketplace. For more information on this project and other issues related to development and use of panel products, please contact Dr. Qinglin Wu at (225) 388-8369 or Dr. W. Ramsay Smith (225) 388-4155. ■

All Publications and visual productions are free.

RESEARCH BRIEFS

- __#1 An Overview of the Louisiana Secondary Wood Products Industry. *Vlosky, Chance*
- __#2 A Profile of the Louisiana Secondary Wood Products Industry. *Vlosky, Harding*
- __#3 An Overview of the Louisiana Primary Solid Wood Products Industry. *Vlosky*
- __#4 The Certification Information System: A Chain-of-Custody Framework for Environmentally Certified Wood Products. *Vlosky, Ozanne*
- __#5 Sorting Lumber by Grade Prior to Rough Mill Processing. *Gazo, Steele*
- __#6 RAM (Rough Mill Analysis Model). *Gazo, Steele*
- __#7 A Computer Based Promotional Tool for the Louisiana Secondary Wood Products Industry. *Vlosky, Gazo*
- __#8 An Overview Agriforestry Waste Production and Use in Louisiana. *Chang, de Hoop, Kleit*
- __#9 Workers' Compensation Injuries for Logging Operations in Louisiana: 1985-1990. *de Hoop, Pine, Marx*
- __#10 Development of a Growth Planning Model for the Small Forest Products' Manufacturer. *Harding, Ray, Smith*
- __#11 Increased Utilization of Spruce Pine (*Pinus glabra*) for Building and/or Millwork. *Harding, Choong, Mills*
- __#12 Applicability of the Wood-Mizer or Other Portable Sawmills to Produce Dimension and Lumber. *Harding, Choong, Mills*
- __#13 Strategies for Development and Further Expansion of Louisiana's Secondary Wood Processing Industry. *Weaver, Grozdits*
- __#14 A Comparison of Juvenile Wood and Mature Wood Properties in the Four Major Southern Pines. *Gibson, Grozdits*
- __#15 The Effect of Fertilization on Specific Gravity, Radial Growth, and Juvenile Wood Proportion in a Loblolly Pine Plantation. *Gibson, Grozdits*
- __#16 The Effect of Pruning, Spacing, and Thinning on the Wood Quality of Loblolly Pine. *Gibson, Grozdits, Clason*
- __#17 Increasing Productivity in Cabinet Shops. *Gazo*
- __#18 An Analysis of State Level Economic Development Programs Targeting the Wood Products Industry. *Vlosky, Chance, Burrell-Smith*
- __#19 Characteristics of U.S. Hardwood Wood Component Manufacturers. *Vlosky*
- __#20 Interorganizational Information System Technology and Buyer-Seller Relationship Disruption. *Vlosky, Wilson*
- __#21 Opportunities for Horizontal Diversification in Manufacturing Value-Added Wood Products. *Gazo, Vlosky*
- __#22 LAM-Labor and Material Tracking. *Gazo, Vlosky*
- __#23 Prediction of Moisture Content and Moisture Gradient of an Overlaid Particleboard. *Wu, Suchland*
- __#24 TOPSAW: A Training and Optimization System for Sawing Hardwood Logs. *Chang, Guddanti*
- __#25 Relationship Between Tension-Perpendicular-to-Grain Stress and Shear Strength of Southern Pine Glued Laminated Timber. *Chen, Gopu*
- __#26 Interaction of Shear and Tension-Perpendicular to Grain in Southern Pine Dimension Lumber. *Zheng, Gopu*
- __#27 Merchandizing Solutions for Standard Hardwood Pulpwood-Size Logs. *Gibson, Grozdits*
- __#28 Evaluation of Degrade in Red Oak Lumber Due to Air-Drying and Kiln-drying from the Green Condition. *Gibson, Grozdits*
- __#29 Southern Forest Products International Trade Center SOUTHPIC. *Smith, Granskog, Michael, Muehlenfeld, Nicholas*

VISUAL PRODUCTIONS

- __ A Tree I See. A Story of Louisiana's Forest Industry VHS
- __ The Louisiana Collection, an electronic catalog.

All Publications and visual productions are free.

WORKING PAPERS

- __#1 An Overview of the Louisiana Secondary Wood Products Industry. *Vlosky, Chance, Harding*
- __#2 An Overview of the Louisiana Primary Solid Wood Products Industry. *Vlosky*
- __#3 The Certification Information System: A Chain-of-Custody Framework for Environmentally Certified Wood Products. *Ozanne, Vlosky*
- __#4 Opportunities for UPC Product and Service Suppliers: The Wood Products Industry. *Vlosky*
- __#5 Opportunities for Quick Response Products and Service Suppliers: The Wood Products Industry. *Vlosky*
- __#6 Characteristics of U.S. Hardwood Component Manufacturers. *Vlosky*
- __#7 U.S. Economic Development Programs for the Wood Products Industry. *Vlosky, Chance*
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- __#9 Antecedent Group Affiliation: Determining the Importance as a Measure of Propensity to Participate in Interfirm Collaborative Initiatives. *Chance, Vlosky, Krishnan*
- __#10 Characteristics of Value-Added Wood Products Manufacturers in the U.S. South. *Vlosky*
- __#11 Louisiana's Forests and Forest Products Industries. *Chance, Vlosky*
- __#12 Sources of Competitive Advantage for Wood Products Distribution Suppliers To Home Center Retailers. *Vlosky*
- __#13 Opportunities for Horizontal Diversification in Manufacturing Value-Added Wood Products. *Gazo, Vlosky*
- __#14 Bar coding for Inventory Management: Softwood Lumber Manufacturers Gain a Competitive Edge. *Vlosky*
- __#15 Forest Products Industry and Rural Economic Development: The Policy Makers Perspective. *Vlosky, Chance*
- __#16 Major Logging Injuries in Louisiana: Nature and Trends 1985-1992, with some comments through 1995. *de Hoop, Pine, Marx*
- __#17 The Internet: Business Applications and Relationship Construct Adaptation in a Forest Products Industry Setting. *Vlosky, Fontenot*
- __#18 The Effect of Lowered Tire Pressure on a Log Truck Driver Seat. *Altunel, de Hoop*
- __#19 An Overview of Log Yards in Louisiana. *de Hoop, Kleit, Chen*
- __#20 Stormwater Runoff Quality of a Louisiana Log Storage and Handling Facility. *de Hoop, Einsel, Ro Chen, Gibson, Grozdits*
- __#21 Louisiana Forest Products Laboratory. *Smith*
- __#22 The Forestry Sector in Côte d'Ivoire: Current Status and Policy Implications. *Koudou, Vlosky*
- __#23 Assessment of Site and Stand Disturbance from CTL Harvesting. *Vidrine, de Hoop, Lanford*
- __#24 In-Plane Stability of Oriented Strandboard: Layer Properties in Relation to Processing Variables. *Wu*
- __#25 Effect of Moisture on Bending and Breaking Resistance of Commercial Oriented Strandboard. *Wu*
- __#26 Southern Forest Products International Trade Center (SOUTHPIIC). *Smith, Granskog, Michael, Muehlenfeld, Nicholas*
- __#27 NAFTA and Latin America: Implications for Southeastern Forestry. *Smith*
- __#28 A New Dilemma: Wood, Steel or Plastic Lumber. *Smith*
- __#29 Government Forest Policies in Cote d'Ivoire. *Koudou, Vlosky*
- __#30 The Use of Technology in the Marketing Classroom at The Pennsylvania State University and Louisiana State University. *Vlosky, Wilson*
- __#31 Influence of Moisture, Fastening Direction and Wood Species on Screw Withdrawal Load of furniture-grade Plywood. *Wu*
- __#32 Thickness Swelling and Its Relationship to Internal Bond Strength Loss of Commercial Oriented Strandboard. *Wu, Piao*
- __#33 Application of Nelson's Sorption Isotherm To Wood Composites and Overlays. *Wu*

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FACT SHEETS

- ___#1 Louisiana Forestry Facts. *Louisiana Forest Products Laboratory*
- ___#2 Iron Tannate Stain. *Harding*
- ___#3 Small Cabinet Shop Facts: Face-Frame vs. Frameless Cabinets. *Gazo*
- ___#4 Forestry Publications for the Small Timber Landowner. *Louisiana Cooperative Extension Service*
- ___#5 Chip-n-Saw Mills in Louisiana. *deHoop*
- ___#6 Softwood Plywood Manufacturing In Louisiana. *deHoop*

OTHER REPORTS

- ___ Characteristics of Workers' Compensation Injuries for Logging Operations In Louisiana: 1985-1990. *Pine, Marx, de Hoop*
- ___ Workers' Compensation Injuries for Logging in Louisiana: 1985-1990. *de Hoop, Pine, Marx*
- ___ Accidents in the Workplace -- What's Going On? *de Hoop*
- ___ Louisiana Workers' Comp. Study: Fewer Claims, Higher Premiums. *de Hoop, Pine, Marx*
- ___ Injuries in Louisiana's Logging Woods, and What's Being Done About it. *de Hoop, Pine, Marx*
- ___ An Overview of Agriforestry Waste Production and Use in Louisiana. *Kleit, de Hoop, Chang*
- ___ The 1994 Directory of Biomass Sites in Louisiana. *de Hoop, Kleit, Chang*
- ___ Value-added agricultural products in Louisiana. *Collier, Smith, Godber, Myers & Collier*
- ___ Value-added industries eyed by Lab Directors. *Torbett*
- ___ Technological development of Indonesia's forest industry toward environmental sustainability. *Choong, Smith*
- ___ Effect of Two Drying Schedules on Spruce Pine Lumber Defects. *Shupe, Harding, Choong, Mills*
- ___ Cost of Major Injuries to Loggers in Louisiana. *de Hoop, Pine, Marx, Vellala*
- ___ Defect Occurrence by Type for Red Oak Lumber. *Harding*
- ___ 1996 Solid Wood Products Industry-Primary & Secondary Producers. *Vlosky, Doucet*
- ___ Timber Resource Assessment for the Macon Ridge Economic Development Region. *Chance, Vlosky*
- ___ WOOD: Modeling Program for Furniture Production. *Gazo, de Hoop, Beasley*
- ___ A Market Analysis of Selected Louisiana Cabinet Manufacturers. *Acikgoz, Becton, Chance*
- ___ Prediction of Moisture Content and Moisture Gradient of an Overland Particleboard. *Wu, Suchsland*
- ___ Effect of Moisture on the Flexural Properties of Commercial Oriented Strand Boards. *Wu, Suchsland*
- ___ Survey Tracks Trends in Wood Waste Use. *Kleit, de Hoop, Chang*
- ___ 1997 Louisiana Natural Resources Directory. *deHoop, Hughes*
- ___ Drying Small Quantities of Hardwood Lumber for Added Value. *Wu, Smith*
- ___ Effects of Elevated and High-Temperature Schedules on Warp in Southern Yellow Pine Lumber. *Wu, Smith*
- ___ Calibration of Moisture Meters for Baldcypress (*Taxodium Distichum*). *Wu*
- ___ Linear Expansion and Its Relationship to Moisture Content Change for Commercial Oriented Strandboards. *Wu, Suchsland*
- ___ What's Being Done About Logging Accidents in Louisiana? *de Hoop, Pine, Marx*
- ___ Maintaining Logyard Stormwater Quality at Minimal Cost. *de Hoop, Ro, Einsel, Gibson, Grozdits*
- ___ An Overview of Log Yards in Louisiana. 2 p. *de Hoop, Chen, Alt*
- ___ Survey and Mapping of Wood Residue Users and Producers in Louisiana. *de Hoop, Kleit, Chang, Gazo, Buchart*
- ___ Assessment of Site and Stand Disturbance from CTL Harvesting. *Vidrine, de Hoop, Lanford*

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Timber is plentiful in Northwest Louisiana. However, much of it gets shipped out of state as lumber or logs to be made into finished value-added wood products, depriving the region of revenue, jobs, and opportunities for growth.

But all that will change if officials in that region implement recommendations from a two-year study just completed by researchers at the LSU Agricultural Center. Dr. Richard Vlosky, chief researcher, along with Drs. Pam Monroe and David Hughes, Mr. Paul Chance, and Ms. Lydia Blalock studied how to add value to the forest resource in a 10-parish region that includes Bienville, Bossier, Caddo, Claiborne, DeSoto, Lincoln, Natchitoches, Red River, Sabine, and Webster parishes.

"We have established the potential for wood products companies already there to expand, for new companies to start, and for jobs to be created," said Dr. Richard Vlosky, Associate Professor in forest products marketing at the Louisiana Forest Products Laboratory. "If the wood products industry in the region expanded by just 50 percent, that would mean 1,100 new jobs."

Study recommendations include job training programs and changes in school curricula. For example, high schools and community colleges in the area do not currently include instruction in the specialized skills needed by local wood products companies. "We found that local companies can't expand because they can't find trained employees," Vlosky said.

During interviews, company managers expressed the need for employees with basic reading and math skills as well as a willingness to work. Larger companies need employees with knowledge of computers and hydraulic systems. "One of our

recommendations is to examine development of adult literacy programs and remedial education programs that provide functional literacy and basic mathematical skills," Vlosky said. "In some parishes in the region, up to 43 percent of the potential labor force lack a high school diploma."

Wood Products Research Offers Plan to Boost Northwest Louisiana Economy

"Wood products that were found to have high potential for further development in the region include ready-to-assemble furniture, architectural millwork, hardwood flooring, and treated softwood products," Vlosky said. For example, shipments of ready-to-assemble (RTA) furniture in the United States are forecast to grow by more than 10 percent annually for the next two to three years. Much of the demand is for home theater and home entertainment pieces. "In addition to these broad sectors, there are many opportunities for niche markets," Vlosky said.

The study, which was funded through the U.S. Department of Commerce-Economic Development Administration, the Coordinating and Development Corporation (CDC) of Shreveport, and the LSU Agricultural Center, included recommendations for marketing and promotion. "The companies need to work together and pool resources to develop marketing and promotional strategies," Vlosky said. "This is what many other states do, such as North Carolina, Oregon, Pennsylvania, and Kentucky, which are noted for their value-added wood products industry initiatives."

Another LSU Ag Center researcher, Dr. Pam Monroe, did a study of Louisiana women going off welfare at the end of this year and implications this might have for adding to the labor pool of the wood products industry in the region. "The businesses were receptive to having women employees," she said.

Timber is the No. 1 agricultural crop in Louisiana; generating more than \$1 billion dollars in gross farm value and an additional \$4 billion in value-added in 1997. Twenty-six percent of the timberland base is located in the northwest study area.

One of the key recommendations of the study was the establishment of a full-time position to coordinate wood products economic development in the region and implement the other recommendations. "This person would be housed with the CDC in Shreveport with funding assistance from state, local, and federal government as well as private industry," Vlosky said. The next step is to continue dialog with public policy people in the region. "The ball is in their court," Vlosky said. "We're here to advise and do more research when needed."

Vlosky presented the findings at a recent meeting in Shreveport of public officials. The reaction was overwhelming support for the recommendations. "Now they're faced with the daunting task of implementation," Vlosky said. "The foundation of our recommendations is using the resources and people already there to their fullest potential." ■

Calendar of Events and Workshops

November 19, 1998 **Some Tips for Secondary Producers of Wood Products.**

A Louisiana Cooperative Extension Service workshop held in Lomax Hall at Louisiana Tech University, Ruston, LA. For more information contact Steven Hotard, Area Agent (Forestry) at (318) 644-5865 or Dr. Todd Shupe, Assistant Specialist (Forest Products) at (225) 388-4087.

Oct.- Dec., 1998

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.

February, 1999

The third annual three-day workshop on lumber drying will be held in early February, 1999 at LSU in the School of Forestry, Wildlife, & Fisheries building. If you are interested, call Dr. Todd Shupe at (225) 388-4087 or Dr. Qinglin Wu at (225) 388-8369.

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LFPL FACULTY & STAFF LSU

W. Ramsay Smith - Program Leader
Niels de Hoop - Environmental and Safety
Rich Vlosky - Forest Products Marketing
Qinglin Wu - Wood Processing
Elvin T. Choong - Wood Physics
Pat Lefeaux - Chief Clerk II
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Forestry, Wildlife, and Fisheries Building
Baton Rouge, LA 70803-6202
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