



Marco Nicovich

MSU facility turns small-diameter trees into engineered lumber

By Maridith Geuder

A new demonstration plant recently unveiled at Mississippi State has the potential to stimulate alternative, profitable markets for small-diameter trees thinned from pine plantations.

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Through a partnership with TimTek Australia Ltd., scientists at the Forest and Wildlife Research Center will demonstrate technologies they hope will ultimately produce commercially viable engineered wood products from three- to eight-inch diameter yellow pines.

Following an international search, company officials earlier selected Mississippi State as a partner because of the university's long-established and widely recognized composite wood product research program in the department of forest products.

Developed in Australia by the Commonwealth Scientific Industrial Research Organization, the TimTek process forms high-strength, engineered lumber using small-diameter trees that are crushed into strands. Coated with an exterior-type adhesive and dried, the strands then are formed to desired shapes in a specialized steam-injection hot press.

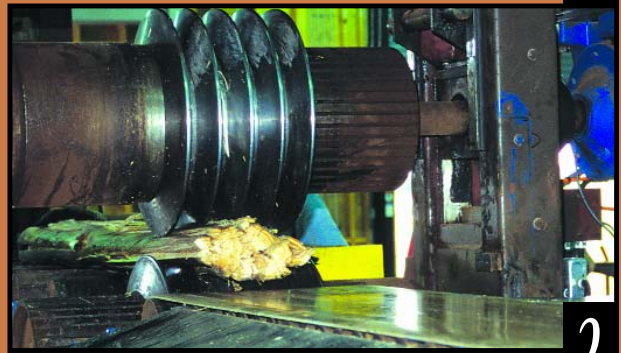
Recently completed with \$1 million funding from the state Land, Water and Timber Resources Board, the plant is located on the western edge of campus, near the intersection of Blackjack Road and Locksley Way.

During Dec. 12 opening ceremonies, TimTek representatives and MSU President Charles Lee joined Lester Spell, state commissioner of agriculture and commerce, in emphasizing the significance of the collaboration to the state's economy.



Raw materials are conditioned prior to crushing.

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Logs are crushed.

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The crushed logs are processed into scrim—long, thin lengths of wood.

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Photos by Karen Brasler



The scrim is placed on trays for drying

4



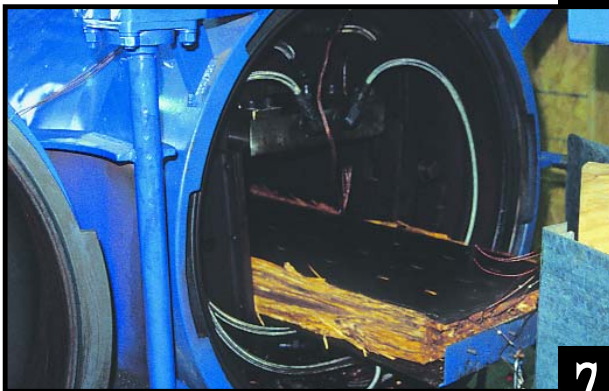
Adhesives are applied to the scrim.

5



Scrim is layed up in preparation for the press.

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Scrim is then placed in the patented steam injection press.

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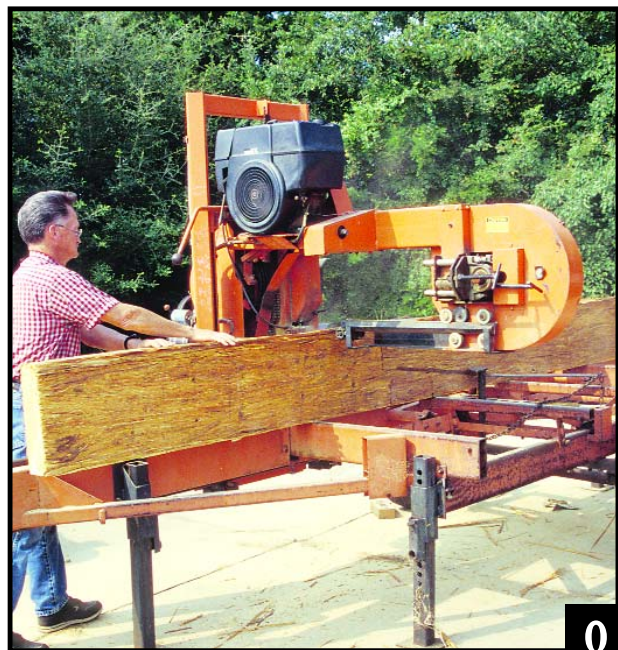
“This plant and the technology being developed here once again demonstrate Mississippi State’s desire to help stimulate competitive markets for Mississippi landowners and the state’s forest industry and to help create new value-added products for Mississippi manufacturers,” Lee said.

Spell, observing that Mississippi has more than 18 million acres of forestland, said the partnership “will be good for our state, especially for private landowners who hold about 70 percent of the state’s forest lands and are seeking new revenues for their small-diameter trees.” A member of the Land, Water and Timber Resources Board, he praised TimTek for exemplifying the kind of innovative project the board supports.

Company director Walter Jarck said TimTek’s product “is a unique, long-fiber structural engineered lumber with high-strength properties of select-grade sawn timber. It can be produced in lengths and cross sections greater than can be achieved from the largest logs available.”

Since the process can be incorporated into existing plants, owners of wood-processing operations have the potential to realize immediate economic benefits, Jarck added.

Further research will both determine the strength values of the product and test the product to help gain building code acceptance. Initial examinations in MSU’s forest products department indicate that the engineered lumber has the potential to compete favorably with beams and timbers used in residential and commercial construction.



After trimming, the TimTek beam is complete for use as is or for processing into other products.

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Photos by Karen Brasler