

## Do-It-Yourselfers Can Build On Composite Wood Knowledge

UNIVERSITY PARK (Centre Co.) — Despite the best efforts of Bob Vila, "This Old House," and even "Home Improvement's" Tim Allen, many homeowners and weekend project mavens are clueless when it comes to choosing wood materials.

Although most people know what a two-by-four is, many lumberyards are selling what experts call composite wood products, which are lumber substitutes made from smaller pieces of wood. Roy Adams, associate professor of

wood products in Penn State's School of Forest Resources, said that composite wood products are continually improving as solid lumber becomes scarcer and wood adhesives improve. These manufactured products are changing the lumber industry and may one day even replace the 2-by-4.

"Composite woods became popular in the '40s and '50s during the post-war building boom," Adams said. "Because you can't get a 4-by-8 sheet of wood out of a tree, lumber mills on the West

Coast made softwood plywood out of Douglas fir, and later Southern mills made it from yellow pine."

Adams explains that plywood is made by removing thin sheets of wood called veneers. These veneers are then glued together to form a solid sheet. Typically, softwood plywood is used for roofing and wall sheathing, but plywood's strength makes it perfect for other projects.

"Plywood is good for shelving, or making benches because it is very strong along its length," Adams said. "Depending on your budget and the project, you can also buy decorative plywood that is made from hardwoods or plywood made with high quality veneers that can be stained."

Because of timber-cutting restrictions, plywood has become more expensive in recent years, opening the market for a product called oriented strand board. This product, also sold in 4-by-8-foot panels to the do-it-yourself market, uses thin strands of wood that are glued and compressed into a solid panel.

"The oriented strand board in-

dustry was developed in Minnesota and Michigan to use wood from aspen trees, which dominate their forests," Adams said. "It has many of the same qualities as plywood except the surface is not as smooth. You can use it for many of the same projects."

Two other composite products, particleboard and medium density fiberboard (MDF), are not used as much for home projects. Particleboard is made from small wood chips that are glued and compressed into panels. MDF is made from small wood and is more homogenous and finely grained than particleboard.

"Particleboard and MDF have major markets in the furniture industry because they provide a smooth surface for wood and plastic veneers," Adams said. "The bending strength of these composites is less than plywood because the wood chips are small. For example, shelving made from particle board tends to bend under heavy weight."

Adams said these composite wood materials do not hold screws

recommends painting or staining any composite wood product that is used outdoors. "Composites use waterproof adhesives, but water always will get into the product and cause it to fall apart eventually," he said.

Another product found in home centers is called hardboard, which is a high-density fiberboard. Hardboard is used for pegboard or as a backing material for less expensive paneling products.

Do-it-yourselfers also can look for grades stamped onto every sheet of composite wood to be used in a structure. The grade stamp, controlled by the APA/Engineered Wood Association, will tell the consumer what applications the product can be used for.

Adams said other composite products will become more common as timber-cutting restrictions increase. Composite wood I-beams are already used by professional contractors to replace lengthy 2-by-12 floor joists. A product called timber strand lumber, made from long strands of wood, may take the place of 2-by-8, 2-by-6 and perhaps even 2-by-4 lumber.

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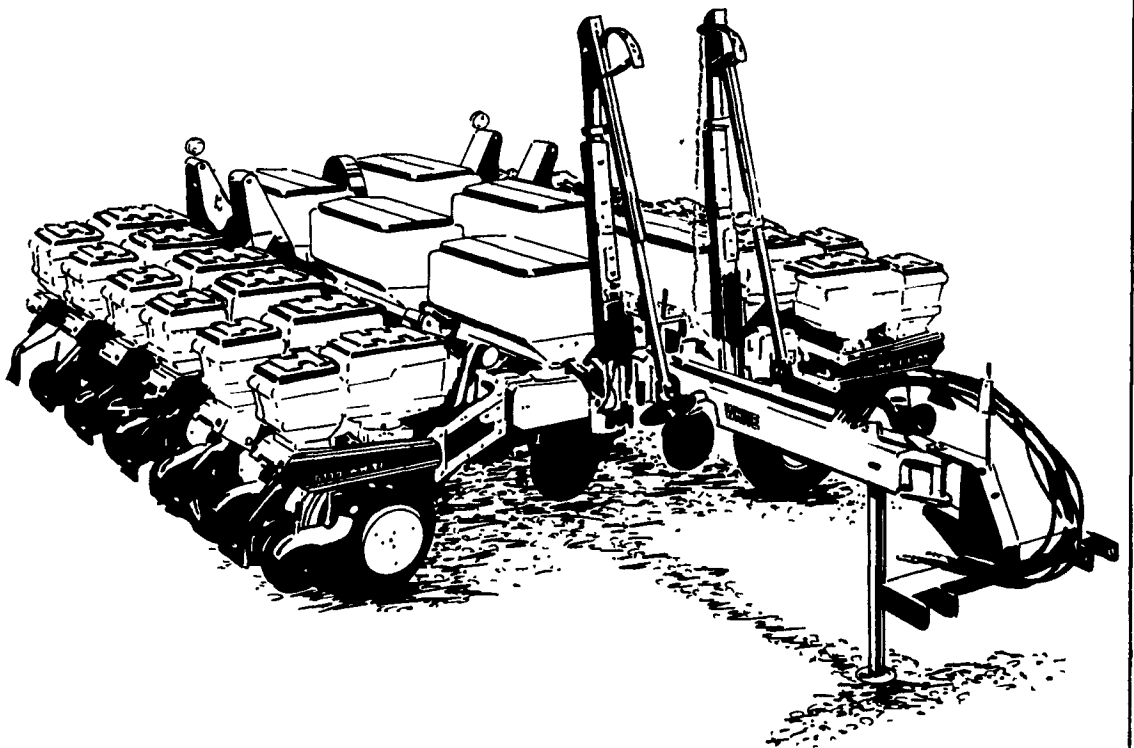
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