



U.S. Forest Service Research Note

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USES FOR SLABS, EDGINGS, AND TRIMS

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USES FOR SLABS, EDGINGS, AND TRIMS¹

By

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Marked increases in utilization of slabs, edgings, and trims for various products have been made over the years so that today at many mills there is little waste left for uses other than fuel. Uses and margins of profit are most easily found for slabs and edgings as compared to other residues of lumber manufacture. Moreover, better lumber manufacturing practices have led to thinner slabbing and closer edging, so that in some mills little salvageable material remains.

There are many mills, however, where much room for improved practices exists. For example, the cutting of small logs tends to increase the slab thickness. Also, at small mills that have little equipment for conversion of logs to lumber beyond the stage of primary log breakdown, the problem of utilizing or of profitably marketing slabs, edgings, and trims still remains unsolved.

To assist mills requesting information from the Forest Products Laboratory on methods of utilization of such waste materials, a list of their possible uses is presented in tables 1 to 4 of this report under four headings.

- (1) Sawed products
- (2) Fuel products
- (3) Fiber products
- (4) Chemical products

The bulk of slabs, edgings, and trims is produced at sawmills, and, therefore, is green. Green material introduces a seasoning problem that, although

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²Maintained at Madison, Wis., in cooperation with the University of Wisconsin.

usually more complicated for cuttings from slabs, edgings, and trims than for lumber, is not insolvable. Factory trims and edgings are usually from dry lumber and thus offer no such seasoning problems. Low cost and efficient methods of segregating and handling this type of material, whether unseasoned or seasoned, constitute a basic problem, however, in both mill and factory,

Usually, first consideration should be given to working up the slabs, edgings, and trims into finished or semifinished products at the point of their production. At sawmills additional equipment often must be provided for this purpose; at factories, at least part of the necessary equipment is available. Primarily at sawmills, it is often desirable to go only part way in the production of a finished product; that is, to produce only rough blanks, squares, and the like for sale to handle plants, small-dimension plants, and to toy novelty factories for final processing.

A possibility of waste utilization is pooling waste from mills or plants in one locality to provide adequate volume for efficient remanufacture in another plant. Factory waste at many plants is in small sizes and odd shapes that are costly to rehandle for manufacture into by products. In some cases, however, the cuttings that do not fit into the products of the originating plant are of such a size that they are well suited for the products of some other plant. A wood-waste-exchange plan has been put into effect in some instances with sufficient success to warrant attention. Such exchanges have been operated by trade journals, associations, and individual concerns, and also by public agencies. The results, although not spectacular, have been sufficiently profitable to justify adoption of the plan elsewhere if local conditions permit.

A development that deserves careful consideration in localities near pulpmills, is the conversion of green slabs and edgings, after all possible sawed products have been removed, for shipment to fiber plants either in the form of chips or as defiberized material.

This type of mill-waste utilization frequently permits the inclusion of a reasonable amount of bark, but bark-free residues are more desirable. Slab debarkers are in use at a few mills to remove bark prior to chipping into pulp chips, but an appreciable number of sawmills are using log debarkers. Removed of bark before sawing provides bark-free pulp chips for which an increasing market is available, and there are additional benefits derived in the sawing of bark-free logs.

Table 1.--Typical sawed products from slabs, edgings, and trims--Con.

Use	Species	Users or purchasers	Remarks
<u>Building Materials--Con.</u>			
Flooring	:Maple and oak	:Retail lumber yards	
Screen moulding	:Pines	:.....do	
Floor bridging	:Hemlock, Douglas-fir, southern pine	:.....do	:Cut to specified dimensions
<u>Clothes-Rack Stock</u>	:Pine, aspen, basswood, beech, birch, maple	:Specialty plants	:Made from squares, clear; turned or by dowel machine
<u>Cooperage and Basket Stock</u>			
Slack heading	:Gum, oak, pine, elm, and others	:Cooperage plants	:Sound stock, surfaced
Basket tops and bottoms	:Most hardwoods and some softwoods	:Basket factories	:Rough, sound stock. Solid or sawed or sliced veneer
<u>Dowel Stock</u>	:Maple, birch, beech, other hardwoods	:Furniture plants	:Clear, straight grain thoroughly seasoned
<u>Fence Pickets</u>	:Chiefly softwoods	:Retail lumber yards and builders	:Usually surfaced
<u>Furniture Flat Stock</u>			
Bed slats	:Largely oak, maple, birch, gum, beech, Douglas-fir, pines, redwood and other softwoods	:Furniture plants	:Delivered air-dry or kiln-dry. May be rough to approximate dimensions or sawed and surfaced to exact sizes; rough semifinished or fully finished ready to fabricate. Stock is clear and reasonably straight-grained. Cut to order of purchaser and not to stock sizes
Upholstery frames			
Seat stock			
Chair backs			
Chair posts			
Furniture posts			
Cleats			
Glue blocks			

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<u>Furniture Flat Stock--Con.</u>			
Core blocks	: Largely soft pines	: Door and millwork plants	: Delivered air-dry or kiln-dry.
Core stock	: Largely close-textured, lightweight hardwoods	: Furniture and panel plants	: May be rough to approximate dimensions or sawed and surfaced to exact sizes; rough sizes; rough
<u>Furniture Squares</u>			
Chair legs	: Largely oak, maple, birch, gum, beech, Douglas-fir, pines, redwood, and other softwoods	: Furniture plants	: Fully finished or ready to fabricate. Stock is clear and reasonably straight-grained. Cut to order of purchaser and not to stock sizes
Chair spindles			
Chair posts			
Chair stretchers			
Furniture posts			
<u>Furniture, Juvenile and Garden</u>	: Various hardwoods and softwoods	: Retail stores and lumber yards	: Clear, or sound defects. Specified sizes
<u>Grain Doors</u>	: Low-grade stock of various species	: Railroads, shippers	: Surfaced, cut and nailed to tailed purchaser specifications

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Use	Species	Users or purchasers	Remarks
<u>Handle Squares</u>			
Broom	Southern pine, Douglas-fir, maple, oak, beech, gum	Handle-turning plants	Made from clear, green, or air-dried squares of various sizes
Mopdo.....do.....do.....
Kettle	Hardwoodsdo.....do.....
Tool	Birch, maple, ash, oak, hickorydo.....do.....
<u>Lath</u>			
Snow fence	Largely oak, maple, elm, beech, Douglas-fir, hemlock, pine	Snow-fence plants	Rough, sound, 1/2 x 1-1/2 x 48 inches
Building	Spruce, Douglas-fir, pines	Retail lumber yards	Rough, chiefly clear, 3/8 x 1-1/2 x 32 and 48 inches
Tobacco sticks	Beech, oak, southern pine	Tobacco growers	Hardwood 3/4 x 1-1/4 inches x 4 feet 2 inches; southern pine Wisconsin 1/2 x 1-1/2 inches x 4 feet
<u>Pallets</u>	Various hardwoods and softwoods	Industrial plants and warehouses	Rough or surfaced; clear or sound stock
<u>Paper-Roll Plugs</u>	Birch, maple, beech	Papermills	Smoothly turned and bored

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Use	Species	Users or purchasers	Remarks
<u>Rug-Roller Stock</u>	:Douglas-fir and other species	:Rug manufacturers and: :dealers	:Sound, turned to : specified size
<u>Shade-Roller Stock</u>	:White and ponderosa pine, basswood, : Douglas-fir	:Makers of window : shades	:Clear, cut to : specified size
<u>Shims, Railroad</u>	:Maple, oak, beech, ash	:Railroads	:Cut to rough sizes
<u>Shingle Bands</u>	:Douglas-fir, hemlock	:Shingle mills	:Cut to approximate : dimensions.
<u>Sign Parts</u>	:Soft pines, and other softwoods	:Sign companies	:Rough
<u>Stepladder Stock</u>	:Southern pine, basswood, Douglas-fir, : and others	:Ladder factories	:Cut to approximate : dimensions.
<u>Surveyors' Stakes</u>	:Mostly softwoods	:Retail lumber yards	:Cut to specifica- : tions
<u>Tent Pegs</u>	:Mostly hardwoods	:Tent and awning : companies	:Various sizes, : often rough

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Use	Species	Users or purchasers	Remarks
<u>Tie Plugs</u>	:Softwoods and hardwoods, elm, : Douglas-fir, gums, pine, and the : like	:Railroads	:For 5/8-inch spike: : 5/8 x 5/8 x : 4-1/2 - 5 inches; : for 9/16-inch : spike: 9/16 x : 9/16 x 4-1/2 - 5 : inches. Rough, : dry :Cut to rough sizes
<u>Toilet-Seat Stock</u>	:Birch, maple, gum	:Makers of toilet : seats	
<u>Toy Blocks</u>	:Birch, soft pines, and others	:Makers of small toys	:Pieces cut to : specified sizes
<u>Toy Parts</u>	:.....do.....	:.....do.....	:.....do.....
<u>Toys, Outdoor Scooters</u>	:Maple, birch, beech, ash	:Makers of outdoor : toys	:Cut to specified : sizes, air-dry
Sleds	:.....do.....	:.....do.....	:.....do.....
Wagons	:.....do.....	:.....do.....	:.....do.....
Kite sticks	:Soft pines, spruce	:.....do.....	:Pieces cut to : specified sizes
<u>Truck Beds (Factory)</u>	:Maple, oak, ash, beech	:Makers of factory : trucks	:Made to specifica- : tions
<u>Washboard Parts</u>	:Douglas-fir, pine, elm, ash, gum	:Woodworking plants	:Cut to exact spec- : ified sizes

Table 2.--Fuel products from slabs, edgings, and trims

Use	Specifications	Users or purchasers	Remarks
<u>Producing Plant Fuel</u> (Hogged or Rough)	Largely green. All mill waste, including sawdust		
<u>Hogged Fuel for Industrial Use</u> Public utilities Public buildings Factories, hotels	Largely green softwoods. Sawdust desired in mixture	Western power plants, Factories, hotels, and the like	Important only in the western states. Hogged-wood measure: a unit equals 200 cubic feet
<u>Domestic Fuel</u> Bulk	Largely hardwoods in East; softwoods in West. Dry or green. Sold in 12-inch to 48-inch lengths	Householders and fuel yards	In eastern states largely used as kindling or spring and fall fuel. In western states often used year long for heat, especially in sawmill towns
Bagged	Dry stock. Short, irregular shapes, sizes, and lengths	Retail lumber and fuel yards and householders	Convenient package for buyer pick-up and home storage. Retail price at high ton or cord basis
Bundled	Short, even lengthsdo.....do.....
<u>Processing Fuel</u> Bakers' wood	Dry wood. Users do not like bark. Maple, birch, beech, oak	Bakers, for making foreign-type bakery goods	Chicago reported to use about 3,600 cars each year
Tobacco drying	No special types	Farmers, curing tobacco	
Brooder heating	Air-dry	Poultry raisers, chiefly farmers	

Table 3.--Fiber products from slabs, edgings, and trims

Use	Species	Specifications	Users or purchasers
<u>Fiberized Wood</u>			
Saturating or roofing felt	: Various species	: With or without bark.	: Asphalt roofing
Structural board	:	: Green	: manufacturers,
Container board	:	:	: board mills
<u>Pulp Chips</u>			
Saturating or roofing felt	: Common hardwoods and softwoods	: Chipped with or without bark. Green.	: Asphalt roofing
	:	: Reduced to fiber at roofing plant	: manufacturers, chemical and semichemical pulpmills, board mills
Insulating board	:do.....	:do.....	:do.....
Container and boxboard	:do.....	:do.....	:do.....
Soda pulp	:do.....	:do.....	:do.....
Kraft pulp	:do.....	:do.....	:do.....
<u>Pulpwood</u>			
<u>Pulps</u>			
Various grades of paper	: Mostly softwoods	: From bark-free slabs and the like. Dry or green	: Pulpmills. Fairly general use in West. Sporadic in East
Container and boxboard	: Mostly softwoods	: With or without bark. Dry or green	: Container-board manufacturers. An increasing outlet for solid, chipped, and hogged waste
Saturating or roofing felt	: Softwoods and hardwoods	: With or without bark. Green	: Asphalt-roofing manufacturers
Insulation board	: Softwoods and hardwoods	: With or without bark. Dry or green	: Insulating-board manufacturers

Table 4.--Chemical products from slabs, edgings, and trims

Use	Species	Specifications	Users or purchasers
<u>Distillation</u>			
Destructive	:Hardwoods (beech, birch, maple, oak, and the like) and softwoods	:Usually 4-foot lengths. Large sizes desired	:Wood-distillation plants as operated in connection with saw-mills
Cedar oils	:Juniper heartwood, Eastern redcedar, Mexican cedar	:Chipped and ground to wood-flour fineness. Heart stock	:Plants in southern states, mostly in Tennessee
<u>Dyes</u>	:Osage-orange, sumac	:Chipped, heart stock	:Not known. Little current importance
<u>Ethyl Alcohol</u>	:Various species	:Hogged mill waste	:One pilot plant now in operation
<u>Fodder Yeast</u>	:Any softwoods and hardwoods	:Hogged mill waste	:At present experimental only
<u>Smoking Meat</u>	:Hickory, maple, birch, beech, oak, gum, walnut	:Cut to specified length. No softwoods	:Packing plants and meat processors
<u>Special Chips</u>			
Vinegar manufacture	:Beech preferred	:Cut to specifications of users for special shape to present maximum surface area for absorption	:Used by vinegar manufacturers to provide bacterial aeration
Gas purification	:Hardwoods	:.....do.....	:Used by gas-producing plants after impregnation with iron oxide to remove sulphur
<u>Tanning Extracts</u>	:Chestnut, black oak	:Chipped wood	:Tannin-extract plants
<u>Wood Sugar</u>	:Various hardwoods and softwoods	:Hogged mill waste	:One pilot plant now in operation

SUBJECT LISTS OF PUBLICATIONS ISSUED BY THE
FOREST PRODUCTS LABORATORY

The following are obtainable free upon request from the Director, Forest Products Laboratory, Madison, Wisconsin 53705.

List of publications on
Box and Crate Construction
and Packaging Data

List of publications on
Chemistry of Wood and
Derived Products

List of publications on
Drying of Lumber

List of publications on
Fire Performance

List of publications on
Fungus Defects in Forest
Products and Decay in Trees

List of publications on
Glue, Glued Products, and
Veneer

List of publications on
Growth, Structure, and
Identification of Wood

List of publications on
Logging, Milling, and Utiliza-
tion of Timber Products

List of publications on
Mechanical Properties and
Structural Uses of Wood and
Wood Products

List of publications on
Pulp and Paper

List of publications on
Structural Sandwich, Plastic
Laminates, and Wood-Base
Aircraft Components

List of publications on
Thermal Properties of Wood

List of publications on
Wood Finishing

List of publications on
Wood Preservation

Partial list of publications for
Architects, Builders, Engineers
and Retail Lumbermen

Partial list of publications for
Furniture Manufacturers,
Woodworkers, and Teachers
of Woodshop Practice

Note:

Since Forest Products Laboratory publications are so varied in subject no single list is issued. Instead a list is made for each Laboratory division. Twice a year, December 31 and June 30, a list is made showing new reports for the previous 6 months. This is the only item sent regularly to the Laboratory's mailing list. Anyone who has asked for and received the proper subject lists and who has had his name placed on the mailing list can keep up to date on Forest Products Laboratory publications. Each subject list carries a listing of all other subject lists.