

## USES FOR SLABS, EDGINGS, AND TRIMS

By

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Marked increases in utilization of slabs, edgings, and trims for various products have been made over the years to a point where at many mills there is not much waste left for uses other than fuel. Slabs and edgings are ordinarily the offal of lumber manufacture for which use is most easily found and that most readily offer a margin of profit. 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. 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 inquiring of the Forest Products Laboratory as to 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 the slabs, edgings, and trims is produced at sawmills, and, therefore, is green. Green material introduces a seasoning problem that, although 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 segregation 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 at hand. Especially 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,

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squares, and the like for sale to handle plants, small-dimension plants, and to toy and novelty factories for final processing.

A possibility of waste utilization not to be overlooked is the pooling of 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 byproducts. 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 some 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 fairly recent development that deserves careful consideration in localities near pulp mills, 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. The feasibility of removing the bark, in the case of the more valuable pulping species, to permit use of chips in the more exacting lines of pulp production, is receiving increased attention by some progressive operators.

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

Use	Species	Users or purchasers	Remarks
<u>Blocking and Machine Skids</u>	:Most hardwoods and softwoods	:Industrial plants and shippers	:Rough, sound, cut to order
<u>Box and Crating Stock</u>	:	:	:
Box shooks	:Numerous softwoods and hardwoods	:Various industrial plants	:Cut to specified sizes
Crating	:do.	:do.	:Do.
Fruit and vegetable crates	:do.	:Individual growers and shippers	:Do.
<u>Bread- and Meat-board Stock</u>	:Birch, maple, beech, soft pines	:Kitchen-equipment manufacturers	:Surfaced, often glued-up
<u>Brush-back Stock</u>	:Maple, birch, beech, and other hardwoods	:Makers of brushes	:Cut to rough sizes
<u>Building Materials</u>	:	:	:
Moulding strips	:Pines, Douglas-fir	:Millwork plants	:Clear stock. Finished at factory
Sash stock	:do.	:do.	:Do.
Mullion stock	:do.	:do.	:Do.
Frame stock	:do.	:do.	:Do.
Poultry feeders	:Douglas-fir, pines	:Retail lumber yards	:Good grade. Sizes specified by buyers. Air-seasoned
Hog feeders	:Douglas-fir (some hard), pines	:do.	:Do.
Threshold stock	:Maple, birch, oak, Douglas-fir	:do.	:
Quarter-rounds	:Pines, Douglas-fir, oak, birch	:do.	:
Floor shoes	:do.	:do.	:
Short trim	:do.	:do.	:
Picture moulding	:do.	:do.	:
Flooring	:Maple and oak	:do.	:
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 Fickets</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	:do.	:do.	:
Seat stock	:do.	:do.	:
Chair backs	:do.	:do.	:
Chair posts	:do.	:do.	:
Furniture posts	:do.	:do.	:
Cleats	:do.	:do.	:
Glue blocks	:do.	:do.	:
Core blocks	:Largely soft pines	:Door and millwork plants	:
Core stock	:Largely close-textured, lightweight hardwoods	:Furniture and panel plants	:
<u>Furniture Squares</u>	:	:	:
Chair legs	: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
Chair spindles	:do.	:do.	:
Chair posts	:do.	:do.	:
Chair stretchers	:do.	:do.	:
Furniture posts	:do.	:do.	:

Table 1.--Typical sawed products from slabs, edgings, and trims (continued)

Use	Species	Users or purchasers	Remarks
<u>Furniture, Juvenile and Garden</u>	:Various hard 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 detailed purchaser specifications
<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
Mop	.....do.....	.....do.....	Do.
Kettle	:Hardwoods	.....do.....	Do.
Tool	:Birch, maple, ash, oak, hickory	.....do.....	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	:Paper mills	:Smoothly turned and bored
<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 pines, 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>Sign Parts</u>	:Soft pines, and other softwoods	:Sign companies	.....
<u>Shingle Bands</u>	:Douglas-fir, hemlock	:Shingle mills	:Cut to approximate dimensions. Rough
<u>Stepladder Stock</u>	:Southern pine, basswood, Douglas-fir, and others	:Ladder factories	.....
<u>Surveyors' Stakes</u>	:Mostly softwoods	:Retail lumber yards	:Cut to specifications
<u>Tent Pegs</u>	:Mostly hardwoods	:Tent and awning companies	:Various sizes, often rough
<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
<u>Toilet-seat Stock</u>	:Birch, maple, gum	:Makers of toilet seats	:Cut to rough sizes
<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</u>			
Scooters	: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 specifications
<u>Washboard Parts</u>	:Douglas-fir, pine, elm, ash, gum	:Woodworking plants	:Cut to exact specified sizes

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

Use	Specifications	Users or purchasers	Remarks
<u>Producing Plant Fuel</u>	Largely green. All		
(hogged or rough)	mill waste, includ-		
	ing sawdust		
<u>Hogged Fuel for In-</u>	Largely green soft-	Western power plants.	Important only in
<u>dustrial Use</u>	woods. Sawdust	Factories, hotels,	the western states.
Public utilities	desired in mixture	and the like	Hogged-wood
Public buildings			measure: a unit
Factories, hotels			equals 200 cubic
			feet
<u>Domestic Fuel</u>	Largely hardwoods in	Householders and fuel	In eastern states
Bulk	East; softwoods in	yards	largely used as
	West. Dry or green		kindling or spring
	Sold in 12-inch to		and fall fuel. In
	48-inch lengths		western states
			often used year
			long for heat,
			especially in saw-
			mill towns
Bagged	Dry stock. Short,	Retail lumber and	Convenient package
	irregular shapes,	fuel yards and	for buyer pick-up
	sizes, and lengths	householders	and home storage.
			Retails at high
			price on ton or
			cord basis
Bundled	Short, even lengths	.....do.....	Do.
<u>Processing Fuel</u>			
Bakers' wood	Dry wood. Users do	Bakers, for making	Chicago reported
	not like bark.	foreign-type bakery	to use about 3,600
	Maple, birch,	goods	cars each year
	beech, oak		
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>	Various species	With or without bark.	Asphalt roofing
Saturating or roofing felt		Green	manufacturers, board mills
Structural board			
Container board			
<u>Pulp Chips</u>			
Saturating or roofing felt	Common hardwoods and softwoods	Chipped with or without bark. Green. Reduced to fiber at roofing plant	Asphalt roofing manufacturers, chemical and semi-chemical pulp mills, 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	Pulp mills. 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 : : sawmills
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 experi- : : mental 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 manu- : : facturers to provide : : bacterial aeration
Gas purification	:Hardwoods : :	:.....do..... : :	:Used by gas-produc- : : ing 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