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Use of Home-Grown Timber On The Farm
Michigan State University Cooperative Extension Service
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W. Ira Bull, Russell C. Deckert and A. J. Panshin, Forestry
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Use of
Home - Grown
Timber
On The Farm



Photo Courtesy, U.S.D.A. Soil Conservation Service

*Prepared by W. Ira Bull, Russell C. Deckert and
A. J. Panshin, Department of Forestry.*

**MICHIGAN STATE COLLEGE
COOPERATIVE EXTENSION SERVICE
EAST LANSING**

Cooperative extension work in agriculture and home economics, Michigan State College and the U.S. Department of Agriculture, cooperating. C. V. Ballard, Director, Cooperative Extension Service, Michigan State College, East Lansing. Printed and distributed under Acts of Congress, May 8 and June 30, 1914.

Increase the Farm Income with a Managed Woodland

1. About 25 short cords of fuel wood, 2,000 board feet of lumber and 25 fence posts are needed annually for fuel and repairs on the average farm.

2. To supply this annual wood need, 36 acres of average farm woods are required, but only 18 acres of managed woods are needed.

3. Every woodland product should be put to the use that will bring the greatest return to the owner.

4. Use low value timber on the farm and sell the higher grade logs for cash. Never cut good logs into fire wood.

5. Before selling timber consider the farm needs for lumber. If the kind of timber to be sold can be used on the farm, determine if it is cheaper to have the logs sawed into lumber for home use, or sell the logs and buy lumber that may be better suited for your needs.

6. Improve the quality of the remaining timber stand by cutting mature and poor quality trees. Do not overcut; there should always be some good timber left for next year's cut.

7. Farm woodland management provides a good use for farm labor during the slack winter season.

8. A well managed, fully stocked woodland should produce 3 short cords of fire wood or 300 board feet of saw timber per acre per year.

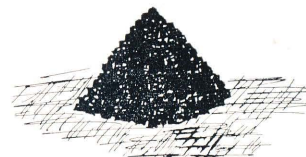
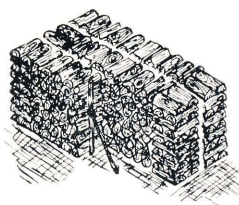
Use Lower Quality Wood For Fuel

1. Why use coal, gas or oil for fuel when $2\frac{1}{2}$ to 5 short cords of DRY WOOD from the woodland have as much heat value as a ton of soft coal?

2. Burn dry wood—Do not waste fuel by evaporating the water out of green or wet wood.

3. Wood fuel costs little money. The farmer collects an income from his woodland by the efficient use of winter labor.

One standard cord of 4-foot wood cut in 16-inch lengths will make $2\frac{1}{2}$ short cords.



$2\frac{1}{2}$ short cords = 1 ton of soft coal

Hickory

Oak

White ash

Yellow birch

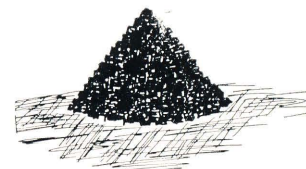
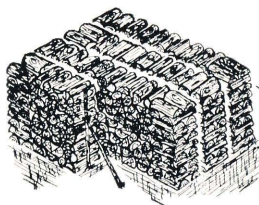
Hard maple

Beech

Rock elm

Ironwood

Black locust



$3\frac{1}{2}$ short cords = 1 ton of soft coal

Sycamore

Soft maple

Slippery elm

White elm

White birch

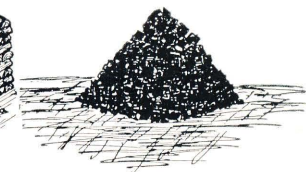
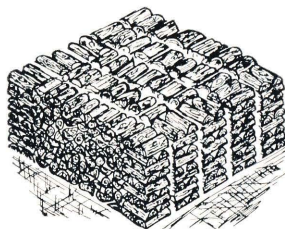
Red (Norway) pine

Tamarack (larch)

Cherry

Black ash

Jack pine



5 short cords = 1 ton of soft coal

Cedar

Hemlock

Cottonwood

Aspen (popple)

Basswood

Spruce

White pine

Catalpa

New types of wood stoves are available that produce more heat from less wood, and burn 24 hours without refilling. For further information, write to the Forestry Department, Michigan State College.

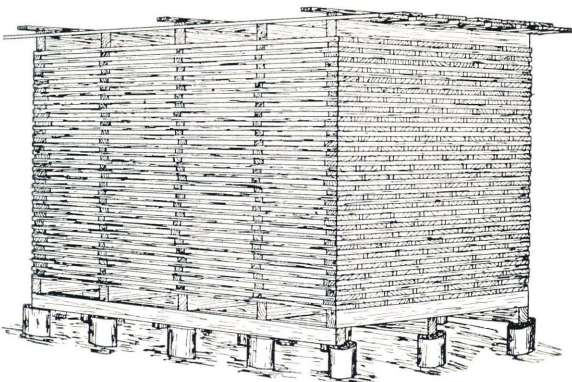
ROUND TIMBER USEFUL

Animal pens, cabins, rafters, beams, sills of barns, and posts may be made of round or hewn timber.

SAW LOGS INTO LUMBER

Lumber sawed from woodland timber may be used for siding, sheathing, roof boards, flooring for new buildings, and for repairing old buildings.

There are sawmills in every county of the state which will saw logs into lumber at a nominal cost per thousand board feet. (Your county agricultural agent has a sawmill directory.)



From front to back of the pile there should be a fall of 1 inch to the linear foot of lumber.

As the pile is built, the front should extend 1 inch forward for each foot in height.

SEASONING

Green lumber should not be used in buildings; it should be seasoned at least 10 months in a well-built lumber pile. (See drawing.)

Treated Wood Last Longer

Wood properly treated with an oil preservative like creosote, penta, copper naphthenate — or some of the water-soluble salt solutions

— will last two or three times as long as an untreated wood.*

Crankcase oil, kerosene, paint, or charring with fire will not protect wood against rot.

CREOSOTING

Creosoting can be done with two large oil drums, one half-filled with hot creosote (200 F.) and the other with warm creosote (100-150 F.). Set the drums upright over the fire. But don't spill the creosote; it is inflammable. Place the butts of air-dried posts and poles in the hot creosote for 4 hours, then in the warm creosote from 2 to 4 hours.

"COLD SOAK" TREATMENT

The "cold soak" treatment with penta (pentachlorophenol), or copper naphthenate, requires a metal drum or tank. Submerge the peeled, air-dried posts and poles in the treating solution for 24 to 48 hours. Treating time will vary with the species of wood used.†

"GREEN WOOD" PRESERVATIVES

Unseasoned poles and posts can be treated while green with water-soluble salts, such as chromated zinc chloride. Three methods are in general use:

- (1) Leave the green posts or poles standing from a few days to 3 weeks in a tankful of the preservative.
- (2) Attach a section of tire tube to the elevated end of a freshly cut, unpeeled post or pole. Fill the tube with the preservative, which will then penetrate through the sapwood in 6 to 24 hours.
- (3) While the branches and leaves are still attached, stand freshly cut trees in a container filled with the preservative. Evaporation of moisture from the leaves will draw the treating solution through the sapwood.

*For detailed instructions on the different methods, write the U.S. Forest Products Laboratory, Madison, Wisconsin, for Report No. R1468: "Selecting a Suitable Method for Treating Fence Posts."

†See "How to Preserve Fence Posts on the Farm with Pentachlorophenol (Cold Soak)," Michigan State College, at the county extension office.

Uses of Michigan Woodland Species

In farm building the softwoods are more desirable (except for flooring and interior finish) but the hardwoods can be used if necessary. To find the best lumber for these uses see U.S.D.A. Farmers' Bulletin 1756 "Selection of Lumber for Farm and Home Building."

SPECIES	PHYSICAL PROPERTIES AND DURABILITY				FARM BUILDING (3)	IMPLEMENTS AND CONTAINERS	OTHER
	HARDNESS	STRENGTH (1)	NAIL HOLDING	DURA- (2) BILITY			
Ash, black	Medium	Medium	Medium	Low	Studs, <i>interior finish</i>	<i>Baskets</i> , boxes and crates	Fuel
Ash, white	Hard	Strong	High	Low	L. rafters, (4) framing	<i>Handles</i> , wagon tongues, eveners, hay racks	Fuel
Aspen (popple)	Soft	Weak	Low	Very low	<i>Sheathing</i> (5)	<i>Boxes</i> , crates, gates	
Balm of Gilead	Soft	Weak	Low	Very low	<i>Sheathing</i>	<i>Boxes</i> , crates	
Balsam fir	Soft	Very weak	Low	Very low	<i>Sheathing</i>	<i>Boxes</i> , crates	
Basswood	Soft	Weak	Low	Very low	<i>Siding</i> , <i>sheathing</i> , trim, cupboards	<i>Boxes</i> , crates, <i>food containers</i>	Bee supplies, cups
Beech	Hard	Strong	High	Low	<i>Flooring</i> , framing	Boxes, crates, <i>machinery repair</i>	<i>Fuel</i>
Birch, white	Medium	Medium	Medium	Low	Studs, sheathing, <i>flooring</i>	Boxes, crates	Fuel
Birch, yellow	Hard	Strong	High	Low	<i>Finish</i> , floors, rafters	<i>Machinery repair</i>	<i>Fuel</i> , <i>furniture</i>
Butternut	Soft	Weak	Low	Medium	<i>Finish</i> , sheathing		<i>Cabinet work</i>
Cedar, white	Soft	Very weak	Very low	Very high	<i>Shingles</i> , <i>siding</i> , silos	Boxes, crates, <i>tanks</i>	Posts, <i>poles</i>
Cherry, black	Medium	Medium	Medium	Medium	<i>Finish</i> , sheathing	Floors of wagon boxes	Posts, fuel, <i>furniture</i>
Cottonwood	Soft	Weak	Medium	Very low	<i>Sheathing</i>	<i>Boxes</i> , crates	Fuel
Elm, rock	Very hard	Strong	High	Medium	Sills, L. rafters, <i>stall flooring</i>	<i>Machinery</i> , <i>repair</i> <i>handles</i>	Fuel
Elm, slippery	Hard	Medium	High	Medium	Sheathing, L. rafters, framing	<i>Boxes</i> , crates	<i>Fuel</i>
Elm, white	Hard	Medium	High	Medium	Sheathing, L. rafters, stalls, framing	<i>Boxes</i> , crates	Fuel
Hemlock	Medium	Medium	Medium	Low	Studs, L. rafters, sheathing, framing	<i>Boxes</i> , crates	
Hickory	Very hard	Very strong	High	Low	Rafters, studs, sheathing	<i>Handles</i> , single trees, tongues	<i>Fuel</i>
Locust (black)	Hard	Strong	High	Very high	Sills, stalls		<i>Posts</i> , <i>poles</i>
Maple, hard	Hard	Strong	High	Low	<i>Floors</i> , <i>finish</i>	<i>Machinery repair</i> , <i>handles</i>	<i>Fuel</i> , <i>furniture</i>
Maple, soft	Medium	Medium	High	Low	Sheathing, <i>rafters</i>	Boxes, crates	Fuel
Oak, red or black	Hard	Strong	High	Low	<i>Floors</i> , L. rafters, sheathing, framing	<i>Machinery repair</i>	Fuel
Oak, white	Hard	Strong	High	High	Sills, troughs, joists, floors, L. rafters, stall floors, finish	<i>Machinery repair</i> , tongues, barrels	<i>Fuel</i> , <i>posts</i> , <i>furniture</i>
Pine, jack	Medium	Weak	Medium	Medium	L. rafters, framing, <i>sheathing</i> , <i>siding</i>	<i>Boxes</i> , crates	Fuel, <i>poles</i>
Pine, red (Norway)	Medium	Medium	Medium	Medium	L. rafters, studs, <i>sheathing</i> , <i>siding</i> , framing, <i>sash</i> , <i>doors</i> , <i>silos</i>	<i>Boxes</i> , crates, grain bins, hay racks	Fuel, poles, <i>cupboards</i> , ladders
Pine, white	Soft	Weak	Low	Low	<i>Siding</i> sheathing, <i>sash</i> , <i>doors</i> , <i>silos</i> , L. rafters, framing	Boxes, crates, stalls, grain bins, hay racks	Fuel, <i>kitchen cupboards</i> , ladders
Spruce (black or white)	Soft	Weak	Low	Low	<i>Sheathing</i> , studs, L. rafters, framing	<i>Boxes</i> , crates, hay racks, sides of wagon boxes	<i>Ladders</i>
Sycamore	Hard	Medium	Medium	Low	Sheathing, rafters, <i>finish</i>	Boxes, crates	
Tamarack (larch)	Medium	Medium	Medium	Medium	<i>Sheathing</i> , <i>silos</i> , L. rafters, <i>cabin logs</i>	Boxes, crates	Fuel, <i>poles</i>
Walnut	Hard	Medium	High	Very high	<i>Finish</i>		Posts, <i>furniture</i> , <i>cabinet work</i>
Willow	Soft	Very weak	Medium	Very low			
Yellow poplar	Medium	Weak	Medium	Low	<i>Siding</i> , sheathing, <i>finish</i> , framing	Boxes, crates Boxes, crates, <i>food containers</i> , sides of wagon boxes	<i>Kitchen cupboard</i> , ladders

(1) Combined strength in bending and compression.

(2) Durability varies with exposure and proportion of heartwood to sapwood (heartwood most durable). In terms of years "low" means 3 to 5, "medium" 6 to 10, and "high" 10 to 20.

Durability is not a factor in most uses, except where wood is in contact with the ground or exposed to continual moisture.

(3) The uses indicated by italic type underlined indicate the better uses for the various species.

(4) The letter "L" indicates the wood is well suited for a laminated rafter.

(5) Sheathing is the first covering of boards on the side of a building or roof that will be covered with siding or roofing.

Species

woods can be used if necessary. To find the
e Building.”

ELEMENTS AND CONTAINERS	OTHER
es and crates	Fuel
gon <u>tongues</u> , eveners, hay racks	Fuel
s, gates	
s	
s	
s, <u>food containers</u>	Bee supplies, cupboards
s, <u>machinery repair</u>	<u>Fuel</u>
s	Fuel
<u>repair</u>	<u>Fuel, furniture</u>
s, <u>tanks</u>	<u>Cabinet work</u>
agon boxes	Posts, <u>poles</u>
s	Posts, fuel, <u>furniture</u>
<u>repair handles</u>	Fuel
s	Fuel
s	<u>Fuel</u>
s	Fuel
s	
s, <u>single trees, tongues</u>	<u>Fuel</u>
s	<u>Posts, poles</u>
<u>repair, handles</u>	<u>Fuel, furniture</u>
s	Fuel
<u>repair</u>	Fuel
s, <u>repair, tongues, barrels</u>	<u>Fuel, posts, furniture,</u>
s	bridge plank
s, grain bins, hay racks	Fuel, <u>poles</u>
s, stalls, grain bins, hay racks	Fuel, <u>poles, cupboards,</u>
s, hay racks, sides of wagon boxes	ladders
s	<u>Ladders</u>
s	Fuel, <u>poles</u>
s	Posts, <u>furniture,</u>
s, <u>food containers,</u>	<u>cabinet work</u>
s, <u>wagon boxes</u>	<u>Kitchen cupboards,</u>
s	ladders

w” means 3 to 5, “medium” 6 to 10, and