

AGRICULTURE ROOM

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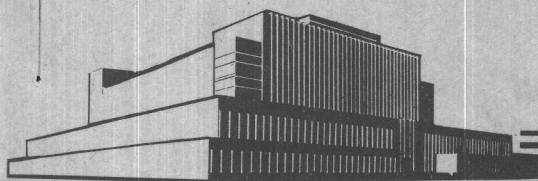
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List of Publications on LOGGING, MILLING, AND UTILIZATION OF TIMBER PRODUCTS

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FOREST PRODUCTS LABORATORY
MADISON 5, WISCONSIN

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

In Cooperation with the University of Wisconsin

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This list includes publications that present the results of research by the Forest Products Laboratory on methods and practices in the lumber producing and wood-consuming industries; standard lumber grades, sizes, and nomenclature; production and use of small dimension stock; specifications for small wooden products; utilization of little-used species and commercial woods; and low-grade and wood-waste surveys. Included also are other Government and commercial publications on these subjects.

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INSTRUCTIONS FOR OBTAINING PUBLICATIONS

Publications available for distribution at this Laboratory are marked with an asterisk (*).

Single copies of technical notes, reprints, and processed reports may be obtained free upon request from the Director, Forest Products Laboratory, Madison 5, Wisconsin.

Federal Government bulletins, circulars, and leaflets, if not available for free distribution at this Laboratory may be purchased at the price indicated from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Send money order, draft, or cash; stamps or personal checks are not accepted.

Trade journals containing articles herein listed may often be purchased from the publishers or may be consulted in various libraries.

The Forest Products Laboratory reserves the right to furnish only those publications which in its judgment will give the information requested. Blanket requests or requests for a large number of copies of any individual article will not be filled except in unusual cases.

HARVESTING

*Quality-controlled log bucking, by E. W. Fobes. Forest Products Jour. 10(8):415, Aug. 1960.

Logging farm wood crops, by F. C. Simmons. USDA Farm. Bull. 2090. 1955. 20 cents.

*Improved harvesting studies--equipment survey notes:

Rept. No.

- | | | |
|-------|----|--|
| 1637- | 1 | Arch mounted on crawler tractor. Inf. Rev. & Reaf. 1960. |
| - | 2 | End loading trucks. Inf. Rev. & Reaf. 1960. |
| - | 3 | Self-loading semi-trailers. Inf. Rev. & Reaf. 1960. |
| - | 5 | Logging sulkies. Inf. Rev. & Reaf. 1960. |
| - | 6 | End-loading semi-trailer. Inf. Rev. & Reaf. 1960. |
| - | 7 | Hydraulic log cart. Inf. Rev. & Reaf. 1960. |
| - | 8 | Hydraulic clutch for truck winches. Inf. Rev. & Reaf. 1960. |
| - | 9 | Preloading detachable truck body. Inf. Rev. & Reaf. 1960. |
| - | 10 | Safety trip stake. Inf. Rev. & Reaf. 1960. |
| - | 11 | Tractor skidding attachments. Inf. Rev. & Reaf. 1960. |
| - | 12 | Sorting platform. Inf. Rev. & Reaf. 1960. |
| - | 13 | Portable spars. Inf. Rev. & Reaf. 1960. |
| - | 14 | Powered unloader. Inf. Rev. & Reaf. 1960. |
| - | 15 | Dump trucks for logging. Inf. Rev. & Reaf. 1960. |
| - | 16 | Straddle logging tractor. Inf. Rev. & Reaf. 1960. |
| - | 17 | Transporting logs by skyhook. Inf. Rev. & Reaf. 1960. |
| - | 18 | Mobile pulpwood harvesters. Inf. Rev. & Reaf. 1960. |
| - | 19 | Use of tongs to anchor skidders. Inf. Rev. & Reaf. 1960. |
| - | 20 | Inexpensive logging incline. Inf. Rev. & Reaf. 1960. |
| - | 21 | Log-measuring instrument. Inf. Rev. & Reaf. 1960. |
| - | 22 | Hydraulic skidding attachment. Inf. Rev. & Reaf. 1960. |
| - | 23 | Sliding jammers. Inf. Rev. & Reaf. 1960. |
| - | 24 | Combined bunching and skidding. Inf. Rev. & Reaf. 1960. |
| - | 25 | A "jeep logger." Inf. Rev. & Reaf. 1960. |
| - | 26 | Slab pick-up racks. Inf. Rev. & Reaf. 1960. |
| - | 27 | Wyssen cable system. 1960. |
| - | 28 | Preloading pulpwood racks. Inf. Rev. & Reaf. 1960. |
| - | 29 | Single line continuously moving cable systems. Inf. Rev. & Reaf. 1957. |
| - | 30 | Aerial skidding by gravity. Inf. Rev. & Reaf. 1957. |
| - | 31 | Racking short sawlogs for truck loading. Inf. Rev. & Reaf. 1957. |
| - | 32 | Self-loader for long logs. Inf. Rev. & Reaf. 1960. |
| - | 33 | Improved log loading tongs. Inf. Rev. & Reaf. 1960. |
| - | 37 | Increased traction for wheeled tractors. Inf. Rev. & Reaf. 1957. |
| - | 38 | Inexpensive crane-type loader. Inf. Rev. & Reaf. 1960. |
| - | 39 | Hydraulic hoist log loader. Inf. Rev. & Reaf. 1960. |
| - | 40 | Improved alinement of logging roads reduces hauling costs. Inf. Rev. & Reaf. 1960. |
| - | 41 | Jack-knife sully. Inf. Rev. & Reaf. 1960. |
| - | 42 | Skidding and bunching tractor. Inf. Rev. & Reaf. 1960. |
| - | 43 | Mobile pulpwood conveyor. Inf. Rev. & Reaf. 1960. |
| - | 44 | Mobile drum bark peeler. Inf. Rev. & Reaf. 1960. |
| - | 45 | Automatic trip stakes. Inf. Rev. & Reaf. 1960. |
| - | 46 | Front-end loaders. Inf. Rev. & Reaf. 1960. |
| - | 47 | Tractor pull-out chains. Inf. Ref. & Reaf. 1960. |

HARVESTING (continued)

*Improved harvesting studies--equipment survey notes: (continued)

Rept. No.

1637-48	Hand-operated sulky. Inf. Rev. & Reaf. 1960.
-49	Chain bundling. Inf. Rev. & Reaf. 1960.
-50	Rubber-tired skidders. Inf. Rev. & Reaf. 1960.
-51	Wyssen cable operation in British Columbia. Inf. Rev. & Reaf. 1960.
-52	Log trailer transfer unit. Inf. Rev. & Reaf. 1960.
-53	Plank roads. Inf. Rev. & Reaf. 1960.
-54	Cross-haul loading device. Inf. Rev. & Reaf. 1960.
-55	Truck-loading booms. Inf. Rev. & Reaf. 1960.
-56	Combination skidder-loader. Inf. Rev. & Reaf. 1960.
-57	Transportation and handling of whole trees. 1958.
-58	Improved handhooks. Inf. Rev. & Reaf. 1960.
-59	Log dimensions and the selection of equipment. 1960.

BARKING AND CHIPPING

*Wood-chipping equipment and materials handling, by E. W. Fobes. FPL Report No. 2160. 1959.

*Saw-log barkers, by E. W. Fobes. FPL Report No. 2091. 1957.

*Bark-peeling machines and methods, by E. W. Fobes. FPL Report No. 1730. 1957.

*Developments in debarking, by E. W. Fobes. FPL Report No. 2071. 1956.

*The use of debarkers in the South, by E. W. Fobes. South. Lbrmn. 193(2417):239-240, Dec. 15, 1956.

*Debarkers used in the South and East, by R. H. P. Miller. FPL Report No. 2038. Inf. Rev. & Reaf. 1960.

*Portable barking equipment, by E. W. Fobes. Forest Products Research Society Proceedings, 1952.

*Sawmill bark peelers, by E. W. Fobes. FPL Report No. II-21. 1955.

Status of portable wood chippers, by E. W. Fobes. Forest Products Research Society Proceedings, 1949.

MILLING

*Pendulum cutting test standardization and pertinent cutting fundamentals, by L. H. Reineke. Forest Products Jour. Part I, Oct. 1960; Part II, Nov. 1960.

*Factors influencing an expanded sawmilling industry for Hawaii, by F. B. Malcolm. FPL Report No. 2190. 1960.

MILLING (continued)

- *Feed-speed relationships for cutting tools, by L. H. Reineke. FPL Report No. 2184. 1960.
- What are the relationships of feed speeds for cutting tools? by L. H. Reineke. Hitchcock's Woodworking Digest 62(3):83-85, Mar. 1960.
- *Yield and value of finished lumber from western white pine trees and logs, by E. W. Fobes. FPL Report No. 2163. 1959.
- *Advances in sawing from forest to shop, by L. H. Reineke. FPL Report No. 2100. 1958.
- Can logs containing sweep be straightened before sawing? by E. C. Peck. South. Lbrmn. 194(2422):70, Mar. 1, 1957. Timber Tech. 65(2221):58-81, Nov. 1957.
- Why blame the saw? by F. B. Malcolm. South. Lbrmn. 194(2420):54, 56, Feb. 1, 1957.
- *Motion energy of wood particles, by L. H. Reineke. Forest Products Jour. 6(12): 507-509, Dec. 1956.
- *Sawing rates, sawdust chambering, and spillage, by L. H. Reineke. Forest Products Jour. 6(9):348-354, Sept. 1956.
- *Taming the saw, by L. H. Reineke. Wood, May 1950.
- *Quality control in manufacture of lumber from second growth, by B. H. Paul and C. V. Sweet. South. Lbrmn., Mar. 1, 1949. FPL Report No. 1781. Inf. Rev. & Reaf. 1956.
- Strr-ike one--you' re out, by L. H. Reineke. Natl. Safety News 73(4):36-37, 107-114, Apr. 1956.
- *Thickness variation of lumber cut by circular mills, by C. J. Telford. South. Lbrmn. 192(2397):54, 56, Feb. 15, 1956.
- *Why joint saws? by L. H. Reineke. For. Science 1(1):31-36, Mar. 1955.
- *Milling equipment for small logs, by C. J. Telford. South. Lbrmn., Dec. 15, 1954.
- *Volume loss from inaccurate log sawing, by L. H. Reineke. South. Lbrmn., Sept. 15, 1954.
- *Small sawmills, a pocket guide, by C. J. Telford. U. S. Department of Agriculture Handbook No. 70. 1954.
- *Production performance of equipment used to saw small logs, by C. J. Telford. FPL Report No. 1971. Inf. Rev. & Reaf. 1960.
- *Small sawmill operator's manual, by C. J. Telford, U. S. Department of Agriculture Handbook No. 27. 1952.
- *Sawteeth in action, by L. H. Reineke. Forest Products Research Society Proceedings, 1950, Roanoke, Va.; FPL Report No. II-5.

MILLING (continued)

- *Open season on saws, by L. H. Reineke. Forest Products Research Society Proceedings, 1950, Roanoke, Va.; FPL Rept. No. II-5.
- *Energy requirements for insert-point circular headsaws, by C. J. Telford, Forest Products Research Society Proceedings, 1949.
- *Small sawmill improvement, practical pointers to field agencies:

Rept. No.

- 899-2 Waste from variation in sawing precision. 1953.
- 3 When to move portable mills. 1953.
- 6 Dipping tanks and truck loading scaffolds. 1931.
- 11 Setting up a ground mill. 1935.
- 12 Small sawmill accounting. Inf. Rev. & Reaf. 1960.
- 14 Plan of semipermanent small mill. 1941.
- 15 Plans for small mill lumber treating equipment. Inf. Rev. & Reaf. 1960.
- 16 Methods of loading lumber at the rear of the mill. Inf. Rev. & Reaf. 1960.
- 17 A truck-mounted hoist. 1944.
- 18 Scale boards. Inf. Rev. & Reaf. 1960.
- 21 Small mill conveyor. 1958.
- 22 Burning waste material. Inf. Rev. & Reaf. 1960.
- 23 Methods of loading lumber at the rear of the mill (second in series). Inf. Rev. & Reaf. 1960.
- 25 Burning waste material at small plants remanufacturing wood products. Inf. Rev. & Reaf. 1953.
- 26 Summary of tests on power used on insert-point circular headsaws. 1949.
- 27 Instructions on sawing hardwood logs and edging and trimming hardwood lumber for grade and value recovery. 1951.
- 28 Mechanically powered deck equipment. Inf. Rev. & Reaf. 1957.
- 29 Slab-disposal devices for portable mills. 1951.
- 30 Methods of handling lumber at the rear of the mill (third in series). 1956.

MACHINING

- *Bumps and dents on lumber, by E. M. Davis. Forest Products Jour. 10(10):522-523. Oct. 1960.
- The danger of excessive rough planing, by E. M. Davis. Hitchcock's Wood Working Digest 62(9):78-79, Sept. 1960.
- Trouble-shooting in woodworking by E. M. Davis. Hitchcock's Wood Working Digest 62(8):77-83, Aug. 1960.
- Conventional planer shavings vs. special planer chips for pulp, by E. M. Davis. Paper Industry, pp. 20-22, Apr. 1960.
- *Machining ponderosa pine and Douglas-fir: Effect of growth rate and density, by E. M. Davis. Forest Products Jour. 10(1):1-3, Jan. 1960.
- *Three "musts" for good machining, by E. M. Davis. Wood-Worker. Mar. 1959.

MACHINING (continued)

- Good planing practices in Engelmann spruce and lodgepole pine require attention to moisture, knife cuts, and depth of cut, by E. M. Davis. Lumberman 85(10):44-46, Oct. 1958.
- *Development of methods for evaluating the machining qualities of wood and wood-base materials, by E. M. Davis. FPL Report No. 2108. 1958.
- Machining properties of eight Philippine hardwoods, by E. M. Davis and D. G. Faustino. Wood-Worker 76(9):8-10, Nov. 1957.
- *Some machining properties of nine Liberian hardwoods, by E. M. Davis. FPL Report No. 2093. 1957.
- *Machining tests for particle board; some factors involved, by E. M. Davis. FPL Report No. 2072. 1957.
- Developments in woodworking machinery during the last 75 years, by E. M. Davis. The Wood-Worker 76(1):8-11, 22-29, Mar. 1957.
- *Testing hardboard for machinability, by E. M. Davis. The Wood-Worker 75(4):24-35, 79-90, June 1956.
- Grain separation and related defects in Douglas-fir door stock, by E. M. Davis. The Wood-Worker 74(11):12-13, 26-30, Jan. 1956.
- *Exploratory tests on machining and related properties of 15 tropical American hardwoods, by E. M. Davis. FPL Report No. 1744. Inf. Rev. & Reaf. 1956.
- *Woodworking machines, by E. M. Davis. FPL Report No. 1706. Inf. Rev. & Reaf. 1954.
- *Portable planers, by F. B. Malcolm. Wood, Aug. 1950; South. Lbrmn., Nov. 15, 1950; FPL Report No. II-29.
- Machining of madrone, California laurel, tanbark oak, and chinquapin, by E. M. Davis. California Lumber Merchant, Dec. 15, 1947.
- *Machining and related characteristics of southern hardwoods, by E. M. Davis. USDA Tech. Bull. 824. May 1942.

MARKETING (FARM AND WOODLOT TIMBER)

- Measuring and marketing farm timber, by Forest Service. USDA Farm. Bull. 1210. Revised 1955. 15 cents.
- Managing the small forest, by Forest Service, Soil Conservation Service and Extension Service. USDA Farm. Bull. 1989. Revised Jan. 1948. 15 cents.

GRADES, SPECIFICATIONS, AND STANDARDIZATION

- *A method of indirect calculation for use in log grade analyses, by D. O. Yandle, FPL Report No. 2194. July 1960.

GRADES, SPECIFICATIONS, AND STANDARDIZATION (continued)

- *Overall work plan for development of log and bolt grades for hardwoods, by C. L. Vaughan, R. H. P. Miller, A. C. Wollin, and A. O. Benson, TGUR-16, Aug. 1958.
- *Simplified principles for structural grading of timber, by L. J. Markwardt and L. W. Wood. FPL Report No. 2120. 1958.
- *A simplified procedure for developing grade lumber from hardwood logs, by F. B. Malcolm. FPL Report No. 2056. 1956.
- *Grading problems that challenge the lumber industry, by R. P. A. Johnson. Forest Products Research Society Proceedings, 1950; Wood Products, Dec. 1950, Inf. Rev. & Reaf. 1956.
- *Pocket edition--Hardwood log grades for standard lumber and how to apply them. FPL Rept. No. 1737-A. Inf. Rev. & Reaf. 1956.
- An evaluation of defect orientation methods in grade sawing northern hardwoods, by J. W. Creighton, F. B. Malcolm, and A. C. Wollin. Michigan State University Quarterly Bull. 38(3):216-224, Nov. 1955. (Michigan Agricultural Experiment Station, East Lansing, Mich.)
- Oregon maple log and lumber grading, by A. C. Wollin and J. R. Pfeiffer. Oregon Forest Products Laboratory, Corvallis, Ore. Rept. No. G-5, 1955.
- *Hardwood log grades for standard lumber--Proposals and results. FPL Report No. 1737. Inf. Rev. & Reaf. 1959.
- *New log studies to aid graders, by C. V. Sweet and E. W. Fobes. Wood 9(5): 22-23, May 1951; Timber Topics 14(2):4, Apr.-May 1951.

UTILIZATION

Waste

*Waste utilization reports:

<u>Rept. No.</u>	
1666	General recommendations regarding methods for wood waste utilization. Inf. Rev. & Reaf. 1960.
-1	Uses for sawdust and shavings. Inf. Rev. & Reaf. 1957.
-2	Uses for slabs, edgings, and trims. Inf. Rev. & Reaf. 1960.
-3	Uses for forest residues. Inf. Rev. & Reaf. 1958.
-5	Chemical composition and uses of bark. 1957.
-6	Uses of wood wastes in pulp and paper products. Inf. Rev. & Reaf. 1960.
-7	Wood residues in compression-molded and extruded products. Inf. Rev. & Reaf. 1960.
-8	Fabrication of wood products at small sawmills and woodworking plants. Inf. Rev. & Reaf. 1960.

UTILIZATION (continued)

Waste (continued)

*Waste utilization reports: (continued)

Rept. No.

- 1666- 9 Wood flour. Inf. Rev. & Reaf. 1956.
- 11 Charcoal production. Inf. Rev. & Reaf. 1956.
- 13 Briquets from wood waste. Inf. Rev. & Reaf. 1960.
- 14 Sawdust floor-sweeping compounds. Inf. Rev. & Reaf. 1960.
- 17 Use of short boards in sheathing crates. Inf. Rev. & Reaf. 1958.
- 18 Wood fuel combustion practice. Inf. Rev. & Reaf. 1956.
- 19 Wood fuel preparation. Inf. Rev. & Reaf. 1960.

General

- *Forest industry opportunities in rural development. U. S. Department of Agriculture Inf. Bull. No. 222. Mar. 1960.
- *Recent progress in forest products research, by E. G. Locke. South. Lbrmn. Dec. 15, 1959.
- *How to treat fence posts by double diffusion, by R. H. Baechler. FPL Report No. 1955. 1958.
- *Timber resources, by J. A. Hall. FPL Report No. 2080. 1957.
- *Opportunities and problems in utilizing wood products of the southern and south central forests, by J. A. Hall. Society of American Foresters Proc. 1956.
- Stadium seating: A Madison project for the use of low-grade timber overlaid with resin-treated paper, by B. G. Heebink. Wood 21(7):266-267, July 1956.
- *Making log cabins endure. FPL Report No. 982. 1960.
- *Cut-stock possibilities in wood-consuming industries in Midwestern States. FPL Report No. 1724. Inf. Rev. & Reaf. 1956.
- *Excelsior manufacture. FPL Report No. 1711. Inf. Rev. & Reaf. 1956.
- *Wood slat snow fence, by A. O. Benson. FPL Report No. 1085. Inf. Rev. & Reaf. 1956.
- *Fiber products as a factor in utilization by E. G. Locke and K. G. Johnson. Forest Products Jour. 5(3):153-156, June 1955.
- Overlays promise better utilization of timber, by R. J. Seidl. Society of American Foresters Proc. 1955, pp. 110-115.
- *Utilization of farm woodlot woods for roofing felt, by E. A. Anderson and C. E. Hrubesky. FPL Report No. 1739. Inf. Rev. & Reaf. 1960.
- *Prospective wood quality and species requirements in forest industries, by J. A. Hall. Society of American Foresters Proc. 1954, pp. 75-77.
- *Effect of time of cutting timber on its durability. Technical Note F-15. 1953.

UTILIZATION (continued)

General (continued)

- *How to make a laminated diving board. Technical Note 244. 1953.
- *Suitability of woods for use in barns and other farm structures. Technical Note 246. 1953.
- *Weights of various woods grown in the United States. Technical Note 218. 1953.
- *The wood pallet industry, its development and progress toward standardization. FPL Report No. 1957. 1953.
- *Suitability of woods for use in the frame house. Technical Note 245. 1952.
- *Characteristics of wood as fuel, by R. H. P. Miller. Forest Products Research Society, May 1951.
- *Gasogens, by R. H. P. Miller. FPL Report No. 1463. Inf. Rev. & Reaf. 1958.
- *Hickory-ash bats get baseball trial, by J. K. McDonald. South. Lbrmn., Dec. 15, 1951.

By Industries

Buildings

- *Selecting farm framing lumber for strength, by Lyman W. Wood. USDA Leaflet No. 481. 1960.
- *Strength tests of spliced studs, by E. C. O. Erickson. FPL Report No. 1275. 1959.
- *Nailing dense hardwoods. Technical Note 247. 1953.
- *Wood siding for buildings, by F. A. Streng. FPL Report No. 1929. Inf. Rev. & Reaf. 1960.
- *Finishing and maintaining wood floors, by F. L. Browne. FPL Report No. 2169. 1959.
- Use and abuse of wood in house construction, by R. P. A. Johnson and E. M. Davis. USDA Misc. Pub. 358. 1939. 10 cents.
- Selection of lumber for farm and home building, by C. V. Sweet and R. P. A. Johnson. USDA Farm. Bull. 1756. Slightly revised 1958. 20 cents.

Containers

- *Hardwood pallet manufacturing, by T. B. Heebink and E. W. Fobes. FPL Report No. 2132. 1958.
- *Bin pallets for agricultural products, by T. B. Heebink. FPL Report No. 2115. 1958.
- Species of wood suitable for use in contact with foodstuffs, by R. P. A. Johnson. Cold Storage Locker Operator's Conference Proc. 1939. (Copies of Proceedings available from Prof. Marvin A. Schaars, Room 204, Agriculture Hall, University of Wisconsin, Madison, Wis., for 75 cents.)

UTILIZATION (continued)

By Industries (continued)

Containers (continued)

Tests of wood for butter containers with reference to imparting odor and flavor, by E. M. Davis. USDA Misc. Pub. 250. 1936. 5 cents.

Description of the tests made of southern hardwoods for butter boxes and tubs. Barrel and Box and Packages, Oct. 1934.

Veneer and Plywood

*The manufacture of veneer. FPL Report No. 285. Inf. Rev. & Reaf. 1959.

*Properties of ordinary wood compared with plywood. Technical Note 131. 1952.

*Veneer cutting and drying properties:

<u>Rept. No.</u>		<u>Rept. No.</u>	
1766- 1	Water oak. 1960.	1766- 9	Tupelo. 1960.
- 2	Red alder. 1960.	-10	Engelmann spruce. 1960.
- 3	Cottonwood. 1958.	-11	Southern pine. 1956.
- 4	Western larch. 1960.	-12	Ponderosa pine. 1956.
- 7	Western hemlock. 1960.	-13	Aspen and hybrid poplar. 1957.
- 8	Redwood. 1960.	-14	Pacific madrone. 1959.
		-15	Tanoak. 1959.

By Species

*U. S. Forest Service American woods series:

Alder, red	Fir, balsam
Ash	Douglas-
Aspen	noble
Baldcypress	white
Basswood, American	Hackberry
Beech, American	Hemlock, eastern
Buckeye	western
Butternut	Hickory
Cedar, incense-	Holly, American
eastern red	Larch, western
western red	Locust, black
Atlantic white-	Magnolia
northern white-	Maple
Port Orford white-	Oaks
Alaska	Osage-orange
Cherry, black	Pecan
Chestnut	Persimmon
Cottonwood	Pine, jack
Dogwood, flowering	lodgepole
Elm	ponderosa

UTILIZATION (continued)

By Species (continued)

*U. S. Forest Service American woods series: (continued)

Pine, red
 southern
 sugar
 eastern white
 western white

Poplar, balsam
 yellow-

Redwood

Spruce, eastern

Spruce, Engelmann
 Sitka
Sweetgum
Sycamore, American
Tamarack
Tupelo
Walnut, black
Willow, black

*Lake States aspen reports. Lake States Forest Experiment Station, St. Paul 1, Minnesota. A series of twenty-two reports on the utilization of aspen.

*Northeastern Forest Experiment Station beech utilization reports. Northeastern Forest Experiment Station, 102 Motors Avenue, Upper Darby, Pa. A series of nineteen reports on the utilization of beech.

*Second growth oak, by B. H. Paul. South. Lbr. Jour., Jan.-Feb. 1959.

*Some properties of California white oak and Oregon white oak, by B. H. Paul, A. W. Dohr, and J. T. Drow. FPL Report No. 2135. 1958.

*Mechanical properties of Coulter pine from California, by A. W. Dohr. FPL Report No. 2102. 1958.

*Mechanical properties of red oak related to drying, by R. L. Youngs. Forest Products Jour. 7(10):315-24, Oct. 1957.

*Southeastern Forest Experiment Station Hickory Task Force reports. Southeastern Forest Experiment Station, P.O. Box 2570, Asheville, N. C. A series of eight reports on the utilization of hickory.

*Some publications on domestic and foreign woods (a list). FPL Report No. 1479. 1956.

*Red hickory as strong as white hickory. Technical Note 171. 1953.

*Paper birch utilization in the Lake States, by E. M. Davis. FPL Report No. 1953. Inf. Rev. & Reaf. 1959.

*The white pine group. Technical Note 215. 1952.

*Puerto Rican woods and their utilization: A bibliography, compiled by Eloise Gerry and Frances J. Flick. FPL Report No. 1793. Inf. Rev. & Reaf. 1957.

*Some characteristics of Brazilian parana pine affecting its use for millwork, by M. Y. Pillow. Forest Products Research Society Proceedings, Vol. 5, pp. 297-302. 1951.

Properties of white fir and their relation to the manufacture and uses of the wood, by R. P. A. Johnson and M. R. Brundage. USDA Technical Bull. 408. 1934. Out of print.

UTILIZATION (continued)

By Species (continued)

- Properties of western larch and their relation to uses of the wood, by R. P. A. Johnson and M. Bradner. USDA Technical Bull. 285. 1932. Out of print.
- *Utilization of black locust, by J. B. Cuno. USDA Circ. 131. 1930.
- *Properties of western hemlock and their relation to uses of the wood, by R. P. A. Johnson and W. H. Gibbons. USDA Technical Bull. 139. 1929.
- *Engelmann spruce reports:
Use of Engelmann spruce for house construction, by R. F. Luxford. FPL Report No. 1944-1. Inf. Rev. & Reaf. 1960.
Engelmann spruce and its preservative treatment for ties and timbers, by L. W. Wood and J. O. Blew. FPL Report No. 1944-3. 1953.
Mechanical properties of Engelmann spruce, by J. T. Drow. FPL Report No. 1944-4. 1960.
The air drying of Engelmann spruce, by E. C. Peck. FPL Report No. 1944-5. Inf. Rev. & Reaf. 1960.
Kiln drying of Engelmann spruce, by R. C. Rietz. FPL Report No. 1944-6. 1960.
Some machining properties of Engelmann spruce, by E. M. Davis. FPL Report No. 1944-7. 1954.
- *U. S. Forest Service foreign woods series:
- *Agba, Gossweilerodendron balsamiferum (Verm.) Harms., by B. F. Kukachka. FPL Report No. 2024. 1960.
- *Albarco, Bacu Cariniana pyriformis, by Eloise Gerry. FPL Report No. 1921. 1952.
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OTHER LISTS OF PUBLICATIONS

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Index to publications of the U. S. Department of Agriculture, 1901-25, by M. A. Bradley, assisted by G. M. Hunt. Superintendent of Documents, Government Printing Office, Washington 25, D. C., 1932. \$3.25.

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OTHER PUBLICATION LISTS ISSUED BY THE FOREST PRODUCTS LABORATORY

The following lists of publications, which deal with the other investigative projects of the Forest Products Laboratory, are obtainable upon request:

Boxing and Crating--Strength and serviceability of shipping containers, methods of packing.

Building Construction Subjects--Partial list of Government publications of interest to architects, builders, retail lumbermen, and engineers.

Chemistry of Wood and Derived Products--Chemical properties and uses of wood and chemical products from wood, such as sugars, turpentine, alcohol, charcoal, and acetic acid; chemical stabilization of wood.

Fire Protection--Fire test methods, fire retarding chemicals and treatments and fire behavior of treated and untreated wood, wood products, and wood structures.

Fungus Defects in Forest Products--Decay, stains, and molds in lumber, buildings, and various wood products; antiseptic properties of protective materials.

Furniture Manufacturers, Woodworkers and Teachers of Woodshop Practice--Partial list of publications on growth, structure, and identification of wood; moisture content, physical properties, air seasoning, and kiln drying; grading, manufacturing, and waste utilization; strength and related properties and joints and fastenings; glues and gluing, veneer and plywood fabrication; box and crate construction.

Glue, Glued Products, and Veneer--Development of waterproof glues, preparation and application of various glues, plywood manufacturing problems.

Growth, Structure, and Identification of Wood--Structure and identification of wood; the effect of cellular structure of wood on its strength, shrinkage, permeability, and other properties; the influence of environmental factors, such as light, soil, moisture, and fire, on the quality of wood produced; and secretions of economic value produced by trees and their exploitation.

OTHER PUBLICATION LISTS ISSUED BY THE
FOREST PRODUCTS LABORATORY (continued)

Mechanical Properties and Structural Uses--Strength of timber and factors affecting strength; design of wooden articles or parts where strength or resistance to external forces is of importance.

Pulp and Paper--Suitability of various woods for pulp and paper; fundamental principles underlying the pulping and bleaching processes; methods of technical control of these processes; relation of the chemical and physical properties of pulps and the relation of these properties to the papermaking qualities of the pulps; waste in the industry, for example, decay in wood and pulp, utilization of bark, white water losses, etc.

Seasoning of Wood--Experimental and applied kiln drying, physical properties, air drying, steam bending.

Structural Sandwich, Plastic Laminates, and Wood-Base Aircraft Components--Strength, selection, and character of aircraft wood, plywood, and wood and composite laminated and sandwich materials; fabrication and assembly problems; methods of calculating the strength.

Wood Finishing Subjects--Effect of coatings in preventing moisture absorption; painting characteristics of different woods, and weathering of wood.

Wood Preservation--Preservative materials and methods of application; durability and service records of treated and untreated wood in various forms.

Note: Since Forest Products Laboratory publications are so varied in subject matter no single big list is issued. Instead a list is made up for each Laboratory division. Twice a year, December 31 and June 30, a list is made up 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 descriptions of all other subject lists.

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