List of Publications on WOOD PRESERVATION

September 1960

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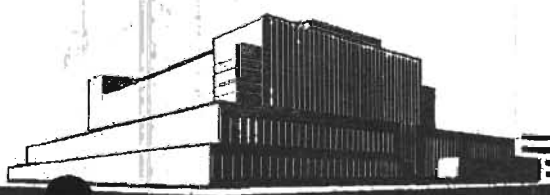

FOREST PRODUCTS LABORATORY
MADISON 5, WISCONSIN

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
In Cooperation with the University of Wisconsin

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This list, which begins on page 3, includes publications that give general information and the results of research by the Forest Products Laboratory on preservative materials, methods of application, durability and service records of treated and untreated wood in various forms.

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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, Wis.

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 be purchased from the publishers or 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.

DETERIORATION

Chemical

Journal Articles

*Wood in chemical engineering construction, by R.H. Baechler. Preprint For. Prod. Res. Soc. 8th Annual Natl. Meeting, Grand Rapids, Mich., May 1954.

*Iron stain from metal fastenings may accelerate decay in some woods, by R.L. Krause, Jour. For. Prod. Res. Soc. 4(2):103, Apr. 1954.

Decay and Durability

Bulletins and Circulars

*Protection from wood-destroying organisms (mold, stain, decay). Separate from the Forest Products Laboratory's "Wood Handbook," USDA Handbook No. 72.[1]

Journal Articles

*Decay resistance of Baldcypress heartwood, by R.N. Campbell and J.W. Clark. For. Prod. Jour. 10(5):250-253. May 1960.

*Comparative decay resistance of some common pines, hemlock, spruce, and true fir, by Joe W. Clark. Forest Science 3(4):314-20, Dec. 1957.

A partial list of fungi associated with decay of wood products in the United States, by E.B. Cowling. Plant Disease Reporter 41(10):894-96, Oct. 15, 1957.

*Decay and toughness losses in southern pine infected by peniophora, by R.M. Lindgren and E.C.O. Erickson. For. Prod. Jour. 7(6):201, June 1957.

*Decay resistance of western redcedar, by T.C. Scheffer. Jour. of Forestry, 55(6):434-42, June 1957.

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[1]Available from the Supt. of Documents, Government Printing Office, Washington 25, D.C.

Decay and Durability (Continued)

Journal Articles (Continued)

Tests of decay resistance of four western pole species, by Theodore C. Scheffer, and George H. Englerth. Jour. Forestry 58(3):556-561, 1955.

A study of timber decay in the Crucible mine of the Crucible Fuel Co., by E. R. Maize, T. C. Scheffer, and H. P. Greenwald. Bur. Mines, Rept. Invest. 3544, 17 pp., illus., Jan. 1941.

Defects in crossties caused by fungi, by C. Audrey Richards. Cross Tie Bull., V. 19, pp. 3-31, March 1938.

Decay of poles and the fungi which cause it, by C. J. Humphrey. Report of special committee on wood preservation, Amer. Elec. Ry. Eng. Assn., 312 Appendix A, 1923. pp. 52-63.

Processed Reports

*68 Factors that influence the decay of untreated wood in service and comparative decay resistance of different species. 1958.

Technical Notes

*F-15 Effect of time of cutting timber on its durability.
*F-33 Comparative durability of green and seasoned timber.
*101 Comparative value of timber cut from live and dead trees.
*189 Differences between heartwood and sapwood.
*221 Weathering and decay.
*229 Comparative decay resistance of heartwood of different native species when used under conditions that favor decay.
*251 Prevention and control of decay in dwellings.

Heat

Journal Articles

*Rate of temperature change in short-length round timbers, by J. D. MacLean. Trans. Amer. Soc. Mech. Engr., V. 68, No. 1, pp. 1-16, incl., Jan. 1946. Reviewed and reaffirmed 1956.

Effect of oven heating and hot pressing on strength properties of wood, by J. D. MacLean. AWPA Proc.[2] 1955.

*Effect of heating in water on the strength properties of wood, by J. D. MacLean. AWPA Proc. 1954.

Effect of steaming on the strength of wood, by J. D. MacLean. AWPA Proc. 1953.

Effect of temperature on the dimensions of green wood, by J. D. MacLean. AWPA Proc. 1952.

Rate of disintegration of wood under different heating conditions, by J. D. MacLean. AWPA Proc. 1951.

Processed Reports

*R1471 Effect of heat on the properties and serviceability of wood: Experiments on thin wood specimens, by J. D. MacLean. 1954.

Marine Borers

Processed Reports

*D1773 Results of experiments on the effectiveness of various preservatives in protecting wood against marine-borer attack, by J. D. MacLean. 1959.

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[2] AWPA Proc. = American Wood-Preservers' Association Proceedings.

HEAT CONDUCTION STUDIES RELATING TO WOOD PRESERVATION

Technical Notes

*259 Temperatures necessary to kill fungi in wood.

Journal Articles

*Effect of oven heating and hot pressing on strength properties of wood, by J. D. MacLean. AWPA Proc. 1955.

Studies of heat conduction in wood:

Pt. 1. Results of steaming green round southern pine timber, by J. D. MacLean. AWPA Proc. 1930.

Pt. 2. Results of steaming green sawed southern pine timber, by J. D. MacLean. AWPA Proc. 1932.

Processed Reports

*1299 The rate of temperature change in wood panels heated between hot plates, by J. D. MacLean. Information reviewed and reaffirmed 1960.

*1406 Method of computing the rate of temperature change in wood and plywood panels when the two opposite surfaces are maintained at different temperatures, by J. D. MacLean. Information reviewed and reaffirmed 1956.

*1434 Rate of temperature change in laminated timbers heated in air under controlled relative humidity conditions, by J. D. MacLean. Information reviewed and reaffirmed 1954.

*1609 Temperatures obtained in timbers when the surface temperature is changed after various periods of heating, by J. D. MacLean. Apr. 1946; AWPA Proc. Information reviewed and reaffirmed 1956.

PRESERVATIVES

Application Methods

Bulletins and Circulars

*Preservative treatment of fence posts and farm timbers, by J.O. Blew and F.J. Champion. U.S. Dept. Agr. Farm. Bull. 2049. Slightly revised 1956.

*Preservative treatment of wood by pressure methods, by J.D. MacLean. U.S. Dept. Agr. Handbook 40, 1952.

Passage of liquids, vapors and dissolved materials through softwoods, by A.J. Stamm. U.S. Dept. Agr. Tech. Bull. 929, 1946. Out of Print.

Journal Articles

*The gluing of treated lumber, by M.L. Selbo, AWPA Proc. Vol 56, 1960.

*Treating hardwood posts by the double-diffusion method, by R.H. Baechler, E. Conway, and H.G. Roth. For. Prod. Jour. 9(7):216-220, July 1959.

*Improving wood's durability through chemical modification, by R.H. Baechler. For. Prod. Jour. 9(5):166-171, May 1959.

Development and use of results-type specifications for pressure and nonpressure treatments--heavy retentions of creosote, piling, by R.H. Baechler. AWPA Proc. 1957, Vol. 53, pp. 73-76.

*Influence of fungus infection associated with chemipeeling on pressure impregnation and cold soaking of jack pine posts, by Edward Panek. For. Prod. Jour. 7(4):124, April 1957.

*Newer preservative treatments for wood, by R.H. Baechler. Applied Microbiology 4(5):229-232, Sept. 1956.

*Exploratory tests to increase preservative penetration in spruce and aspen by mold infection, by George Schulz. For. Prod. Jour. 6(2):77-80, Feb. 1956.

Journal Articles (Continued)

*Relations between gage retentions and amounts of creosote extractable from borings taken from treated pine poles, by R.H. Baechler, AWPA Proc. 1954. pp. 113-121.

Double diffusion treating of wood, by R.H. Baechler. Chem. & Eng. News 32(43):4288, Oct. 25, 1954.

*Effects of treating variables on absorption and distribution of chemicals in pine posts treated by double diffusion, by R.H. Baechler. Jour. For. Prod. Res. Soc. 3(5):170-176, Dec. 1953.

Protecting wood from decay and fire, by G.M. Hunt, Arch. Record, Dec. 1953.

*Production of preservative-treated laminated timbers, by T.R. Truax, J.O. Blew, and M.L. Selbo. AWPA Proc. 1953.

Treatability of southern yellow pine as influenced by fungus infection, by J.O. Blew. For. Prod. Res. Soc. Jour. 2(3):85-86, Sept. 1952.

*Permeability of southern pine as affected by mold and other fungus infection, by R.M. Lindgren. AWPA Proc. V. 48, p. 158, 1952.

Factors that have an important bearing on the preservative treatment of round timbers, by J.D. MacLean. AWPA Proc. 1950.

Diffusion in wood, by H.K. Burr and A.J. Stamm. Jour. Phys. Chem. 51,240, Jan. 1947.

Determination of nickel and copper chromates and nickel, copper, and magnesium arsenates in treated wood, by R.H. Baechler and Philip Servais. AWPA Proc. 1942.

Effect of blue stain on the penetration of liquids into air dry southern pine wood, by R.M. Lindgren and T.C. Scheffer. AWPA Proc. 1939. pp. 325-36.

Application Methods (Continued)

Processed Reports

*WP-39	Some companies that design or build wood-preserving plants. 1959.
Aspen Rept. No. 19	The preservative treatment of aspen, by Frank Kaufert. Available at the Lake States Forest Experiment Station, University Farm, St. Paul, Minn.
*621	Preservation of timber by the steeping process. 1959.
*761	The preservative treatment and staining of shingles, by F. L. Browne. Information reviewed and reaffirmed 1953.
*919	Preservative treatment of window sash and other millwork, by F. L. Browne. Information reviewed and reaffirmed 1953.
*982	Making log cabins endure. Revised 1960.
*1006	Wood seats for stadiums. 1958.
*1158	Tire-tube method of fence post treatment, by R. M. Wirka, Information reviewed and reaffirmed 1956.
*1260	Determination of nickel and copper chromates and nickel, copper, and magnesium arsenates in treated wood. Information reviewed and reaffirmed 1960.
*1445	Treating wood in pentachlorophenol solutions by the cold-soaking method, by J. O. Blew. Revised 1956.
*1448	Effect of moisture changes on the shrinking, swelling, specific gravity, air or void space, weight and similar properties of wood, by J. D. MacLean. Information reviewed and reaffirmed 1958.

Application Methods (Continued)

Processed Reports (Continued)

*1674 Diffusion in wood. Information reveiwed and reaffirmed, March 1956.

*1955 How to treat fence posts by double diffusion, by R.H. Baechler. 1958.

*2043 Study of the preservative treatment of lumber--A comparison of the results of treatment, by pressure and non-pressure processes, on end matched Douglas-fir and shortleaf pine lumber, by J.O. Blew. Information reviewed and reaffirmed 1960.

*2054 Condition of preservative treated field boxes after 5 years of outdoor exposure, by R.S. Kurtenacker, T.C. Scheffer, and J.O. Blew, 1956.

*2085 Preservative treatment of jack pine and longleaf pine posts by the hot-and-cold bath and its boiling-in-water adaptation, by Edward Panek. 1957.

*2098 The preservative treatment of wood for farm use, by J.O. Blew. 1957.

*WP-10 The osmose preservatives and processes.

Technical Notes

*165 When preservative treatment of wood is an economy.

Evaluation of Properties

Journal Articles

*Effect of preservatives on block-shear values of laminated red oak over a 3-year period, by M.L. Selbo. AWPA 55:155-164, 1959

Evaluation of Properties (Continued)

Journal Articles (Continued)

*The relative preservative tolerances of 18 wood-destroying fungi, by E.B. Cowling. For. Prod. Jour. 7(10):355-59, Oct. 1957.

*Effects of some preservative treatments on the flammability of wood, by H.D. Bruce. AWPA Proc. 1956, Vol. 52, pp. 11-23.

*Laboratory leaching and decay tests on pine and oak blocks treated with several preservative salts, by R.H. Baechler and H.G. Roth. AWPA Proc. 1956, Vol. 52, pp. 24-33.

An international termite exposure test, by G.M. Hunt and T.E. Snyder. AWPA Proc. 1947, 1948, 1949, 1952.

*An international termite exposure test, by J.O. Blew and H.R. Johnston, Proc. 1956 and 1957 (Final report).

*The toxicity of preservative oils before and after artificial aging, by R.H. Baechler. AWPA Proc. 1949, reviewed and reaffirmed 1956.

*Corrosion of metal fastenings in zinc chloride-treated-wood after 20 years, by R.H. Baechler. AWPA Proc. 1949, reviewed and reaffirmed 1956.

*Relations between the chemical constitution and toxicity of aliphatic compounds, by R.H. Baechler. AWPA Proc. 1947, reviewed and reaffirmed 1956.

ASTM--Tentative standard method of soil-block testing. Report of Committee D-7. 1956.

*Toxicity of normal aliphatic alcohols, acids, and sodium salts, by R.H. Baechler. AWPA Proc. 1939, reviewed and reaffirmed 1956.

*First report on tests of service life of poles in REA--financed electric systems, by J.W. Kulp and J.O. Blew. Rural Electrification Administration Bull. 169-29, May 1955.

...*Same: Second report by J.W. Kulp. Rural Electrification Administration Bull. 169-32, Feb. 1957.

Evaluation of Properties (Continued)

Journal Articles (Continued)

Some experiences of the Forest Service with treated wood, by J.O. Blew. AWPA Proc. 1955. p. 251.

*Evaluating wood preservatives by soil-block tests: 1. Effect of the carrier on pentachlorophenol solutions; 2. Comparison of a coal-tar creosote, a petroleum containing pentachlorophenol or copper naphthenate and mixtures of them; 3. The effect of mixing a coal tar creosote and a pentachlorophenol solution with a petroleum; a creosote with a coke-oven tar or pentachlorophenol solution; 4. Creosotes; 5. Lignite-tar and oil-tar creosotes; 6. Exploratory tests toward improving the method; 7. Progress on the development of a laboratory weathering method; 8. Low temperature coal-tar creosote; 9. Influence of different boiling fractions of the petroleum carrier on the effectiveness of pentachlorophenol and copper naphthenate; 10. Effect of species of wood on preservative threshold values. Series published in AWPA Proc. 1950-58. By Cathrine G. Duncan.

*Relations between gage retentions and amounts of creosote extractable from borings taken from treated pine poles, by R.H. Baechler. AWPA Proc. 1954. pp. 113-121.

*Soil-block and agar-block techniques for evaluation of oil-type preservatives: Creosote, copper naphthenate, and pentachlorophenol, by C.G. Duncan. Forest Path. Spec. Release No. 37, 1953.

*Toxicity of various fractions of low-temperature coal-tar creosote, by R.H. Baechler. AWPA Proc. 1953.

*Some toxicity data and their practical significance, by E. Bateman and R.H. Baechler. AWPA Proc. 1937; Report No. R1222, Information reviewed and reaffirmed 1959.

Reports of preservatives committees, by R.H. Baechler, et al. Prepared for annual meeting of AWPA, April 1951-52-53.

Evaluation of Properties (Continued)

Journal Articles (Continued)

*Evaluating wood preservatives, by J.O. Blew, C.A. Richards, and R.H. Baechler. For. Prod. Res. Soc. Proc., 1951.

*Naval stores and derivatives as wood preservatives, by R.H. Baechler. South. Lbrmn. 183(2297):160-62, Dec. 15, 1951.

*The durability of birch plywood treated with wood preservatives and fire-retarding chemicals, by J.O. Blew and W.Z. Olson. AWPA Proc. 1950.

*Post service records: Report of Committee U-5 (Committee 7-9 prior to 1948). AWPA Proc. annually.

Laboratory methods for evaluating wood preservatives: Preliminary comparison of agar and soil culture techniques using impregnated wood blocks, by C.A. Richards and R.M. Addoms. AWPA Proc. 1947.

A gelatin test as a possible means of analyzing creosote-petroleum solutions by R.H. Baechler. AWPA Proc. 1945.

*Oxidation of creosote: Its significance in timber treating operations, by M.S. Hudson and R.H. Baechler. AWPA Proc. 1940.

A relation between chemical constitution and toxicity, by R.H. Baechler and E. Bateman. AWPA Proc. 1936.

Toxicity in relation to the position and number of chlorine atoms in certain chlorinated benzene derivatives, by Ira Hatfield. AWPA Proc. 1935.

A theory of the mechanism of the protection of wood by preservatives:
Pt. 1. A theory of the mechanism of protection of wood by preservatives, by E. Bateman. AWPA Proc. 16:251, 1920.
Pt. 2. Isolation of barren oil from coal-tar creosote and a mathematical proof of the existence of solubility partition, by E. Bateman. AWPA Proc. 17:506, 1921.

Evaluation of Properties (Continued)

Journal Articles (Continued)

A theory of the mechanism of the protection of wood by preservatives (Continued):

Pt. 3. Experimental proof of the theory by means of the toxicity and solubility partition of a number of tar acids, by E. Bateman. AWPA Proc. 18:70, 1922.

Pt. 4. Experiments with hydrocarbons, by E. Bateman and C. Henningsen. AWPA Proc. 19:136, 1923.

Pt. 5. Further work on hydrocarbons, by E. Bateman and C. Henningsen. AWPA Proc. 20:33, 1924.

Pt. 6. Toxic principles of creosote, by E. Bateman and C. Henningsen. AWPA Proc. 21:22, 1925.

Pt. 7. Some experiments on the toxicity of inorganic salts, by E. Bateman and R.H. Baechler. AWPA 23:41, 1927.

Processed Reports

*R1180 Experiments on toxicity, leaching, and fire-retarding effectiveness of Wolman salts, by R.H. Baechler. Information reviewed and reaffirmed 1959.

*1447 Experiments with preservatives for soybean glue and soybean-glued plywood, by F.H. Kaufert and J.O. Blew. Information reviewed and reaffirmed 1959.

*1682 Effects of wood preservatives on electrical moisture-meter readings. Information reviewed and reaffirmed. 1958.

*1726 Service tests on posts as a means of evaluating wood preservatives and methods of treatment, by J.O. Blew. 1960.

*1757 Comparison of wood preservatives in Mississippi post study (progress report), by J.O. Blew and John W. Kulp. 1960.

*1761 Comparison of wood preservatives in stake tests (progress report), by J.O. Blew. 1960.

Evaluation of Properties (Continued)

Processed Reports (Continued)

*D1773 Results of experiments on the effectiveness of various preservatives in protecting wood against marine-borer attack, by J.D. MacLean. Information reviewed and reaffirmed 1959.

*2005 Service records on treated and untreated fence posts, by J.O. Blew and J.W. Kulp. Revised 1959.

*2114 Studies of the methodology of soil-block testing, by C.G. Duncan. 127 pp. 1958.

Technical Notes

*163 Determining penetration of wood preservatives.

Materials

Journal Articles

*Wood preservation statistics. Reported annually for the previous year. Forest Service, U.S. Dept. Agr. in cooperation with the AWPA (Proc.)

Wood seats for stadiums, by R.M. Wirka. Eng. News-Record, Apr. 30, 1931.

*Water-repellent preservatives for wood, by F.L. Browne. Arch. Rec. 105(3):131-32, 174, illus., 1949. Information reviewed and reaffirmed 1956.

*Wood preservatives in the national emergency, by G.M. Hunt. For. Prod. Res. Soc. Proc. 1951.

Preservatives for wood poles, by J.O. Blew. Purchasing, Apr. 1946.

Processed Reports

Misc. *WP-7 Coal-tar creosote producers and dealers in the United States.

*WP-9 Zinc chloride producers and dealers in the United States.

Materials (Continued)

Processed Reports (Continued)

*WP-50 Partial list of suppliers of pentachlorophenol wood preservatives.

*WP-6 Partial list of producers and dealers of chemicals used in double-diffusion treatment of wood.

*761 The preservative treatment and staining of shingles, by F. L. Browne. Information reviewed and reaffirmed 1953.

*1006 Wood seats for stadiums, by R. M. Wirka. 1958.

Technical Notes

*177 Properties of a good wood preservative.

PRODUCTS

Crossties

Bulletins and Circulars

*Poles, piling, and ties. Separate from the Forest Products Laboratory's "Wood Handbook," USDA Handbook No. 72.[1]

Journal Articles

Forest Products Laboratory research, by J. O. Blew. Ry. Purchases & Stores 50(5):116-20, May 1957.

*Percentage renewals and average life of railway ties, by J. D. MacLean. Eng. News-Record, August 26, 1926; Cross Tie Bulletin, September 1926.

Defects in crossties caused by fungi, by C. Audrey Richards. Cross Tie Bulletin, Volume 19, pages 3-31, March 1938.

Crossties (Continued)

Journal Articles (Continued)

Comparative strength properties of wood for crossties, by L. J. Markwardt. Cross Tie Bulletin, November 1930; Ry. Eng. & Maintenance, January 1931.

Preservative treatment of Engelmann spruce ties, by J.D. MacLean, AWPA Proc. 1930, pages 164-82.

Processed Reports

*886 Percentage renewals and average life of railway ties, by J.D. MacLean. Information reviewed and reaffirmed 1957.

*1944-3 Englemann spruce and its preservative treatment for ties and mine timbers. by L. W. Wood and J. O. Blew. 1953.

Lumber, Millwork, and Timbers

Journal Articles

Wood seats for stadiums, by R.M. Wirka. Eng. News-Record, April 30, 1931.

*Laminating of preservative-treated wood, by M.L. Selbo. AWPA Proc. 1957, Volume 53, pp. 73-76.

*Some experiences of the Forest Service with treated wood, by J.O. Blew. AWPA Proc. 1955.

Lumber, Millwork, and Timbers (Continued)

Journal Articles (Continued)

*Production of preservative-treated laminated timbers, by T.R. Truax, J.O. Blew, and M.L. Selbo. AWPA Proc. 1953.

*The durability of birch plywood treated with wood preservatives and fire-retarding chemicals, by J.O. Blew and W.Z. Olson. AWPA Proc. 1950.

*Water-repellent preservatives for wood, by F. L. Browne. Arch. Rec. 105(3):131-32, 174, illus., 1949.

Processed Reports

*621 Preservative of timber by the steeping process. Information reviewed and reaffirmed 1959.

*761 The preservative treatment and staining of shingles, by F.L. Browne. Information reviewed and reaffirmed 1953.

*919 Preservative treatment of window sash and other millwork, by F. L. Browne. Information reviewed and reaffirmed 1958.

*982 Making log cabins endure. Revised 1960.

*1006 Wood seats for stadiums. 1958.

*1445 Treating wood in pentachlorophenol solutions by the cold-soaking method, by J.O. Blew. Revised 1956.

*2043 Study of the preservative treatment of lumber--A comparison of the results of treatment, by pressure and non-pressure processes, on end matched Douglas-fir and shortleaf pine lumber, by J.O. Blew. Information reviewed and reaffirmed 1960.

Lumber, Millwork, and Timbers (Continued)

Processed Reports (Continued)

*2077 Effects of moisture on bacterial weakening of casein-bonded plywood, by C.G. Duncan. 1957.

Technical Notes

*251 Prevention and control of decay in dwellings.

Posts, Poles, and Piling

Bulletins and Circulars

*Poles, piling, and ties. Separate from the Forest Products Laboratory's "Wood Handbook." USDA Handbook No. 72.[1]

*Preservative treatment of fence posts and farm timbers, by J.O. Blew and F.J. Champion. U.S. Dept. Agr. Farm. Bull. 2049. Slightly revised 1956.

Journal Articles

*Extraction of creosote from marine piles of variable age and condition, by R.H. Baechler and H.G. Roth. AWPA Proc. 1960.

*Results of groundline treatments one year after application to western redcedar poles, by E. Panek. AWPA Proc. 1960.

*Extraction of borings from Douglas-fir piling, by R.H. Baechler. AWPA Proc. 1959.

*Determination of retentions of oil preservatives in heavily treated piling by the extraction of borings, by R.H. Baechler. AWPA Proc. 1958. Vol. 54, pp. 34-43.

*Decay and toughness losses in southern pine infected by peniophora, by R.M. Lindgren and E.C.O. Erickson. For. Prod. Jour. 7(6):201, June 1957.

*Influence of fungus infection associated with chemipeeling on pressure impregnation and cold soaking of jack pine posts, by E. Panek. For. Prod. Jour. 7(4):124, April 1957.

Posts, Poles, and Piling (Continued)

Journal Articles (Continued)

*First report on tests of service life of poles in REA -- financed electric systems, by J. W. Kulp and J. O. Blew, Rural Electrification Administration Bull. 169-29, May 1955.
*Same: Second report by J. W. Kulp, Rural Electrification Administration Bull. 169-32, Feb. 1957.

*Seasoning and checking of timbers before and after treatment, by J. D. MacLean. AWPA Proc. 1956, Vol. 52, pp. 35-48.

Pole service records: Report of Committee U-4 (Committee 7-7 prior to 1948). AWPA Proc. annually.

*Post service records: Report of Committee U-5 (Committee 7-9 prior to 1948). AWPA Proc. annually.

*Pole line maintenance, by J. O. Blew. Paper at Second Annual Engineering and Operations Workshop, American Public Power Association, Feb. 14, 1958, Chattanooga, Tenn.

Processed Reports

*1158 Tire-tube method of fence post treatment, by R. M. Wirka. Information reviewed and reaffirmed 1956.

*1726 Service tests on posts as a means of evaluating wood preservatives and methods of treatment, by J. O. Blew. 1955.

*1757 Comparison of wood preservatives in Mississippi post study (progress report), by J. O. Blew and John W. Kulp. 1960.

*1955 How to treat fence posts by double diffusion, by R. H. Baechler. 1958.

*2005 Service records on treated and untreated fence posts, by J. O. Blew and J. W. Kulp. 1959.

Posts, Poles, and Piling (Continued)

Processed Reports (Continued)

*2085 Preservative treatment of jack pine and longleaf pine posts by the hot-and-cold bath and its boiling-in-water adaptation, by Edward Panek. 1957.

*2172 Determining preservative retention in piling by the assay of borings, by R.H. Baechler, 1959.

Technical Notes

*135 Split posts and round posts.

OTHER GENERAL LITERATURE ON WOOD PRESERVATION

*Materials of construction: Wood, by A.J. Stamm and R.H. Baechler. Indus. & Eng. Chemistry 50(9)Pt. II:1496-1498, Sept. 1958.

*Materials of construction: Wood, by Roy H. Baechler. Ind. & Eng. Chem. 48(9)Pt. II:1798-1801, Sept. 1956.

American Wood-Preservers' Association Proceedings. Published annually, Washington 6, D. C. $15.

American Wood-Preservers' Association Manual of recommended practice. Revised annually. (A looseleaf handbook of specifications and data.)

American Railway Engineering Association Bulletin. Published monthly except in April, May, and August. Chicago 5, Ill.

Atwood, W. G., and Johnson, A. A. Marine structures: their deterioration and preservation: report of the Committee on Marine Piling Investigations of the Division of Engineering and Industrial Research, National Research Council, Washington 25, D. C. 1924. 534 pp., illus.

Humphrey, C. J. Railroad tie decay: comprising the decay of ties in storage, by C. J. Humphrey; and, defects in crossties caused by fungi, by C. Audrey Richards. Washington 5, D. C., Amer. Wood-Preservers' Assn. 1939. 54 pp., illus. (All the material in this publication was prepared in cooperation with the Forest Products Laboratory.)

Hunt, G. M., and Garratt, G. A. Wood preservation. N. Y., McGraw-Hill Book Co. 1953. 417 pp., illus. A general discussion of the various phases of the subject. Second edition.

Kofoid, C. A., editor-in-chief. Termites and termite control; a report to the Termite Investigations Committee. Berkeley, Calif., Univ. of California Press, 1934. 734 pp., illus.

San Francisco Bay Marine Piling Committee. Marine borers and their relation to marine construction on the Pacific Coast, being the final report of Committee prepared in cooperation with the National Research Council and the American Wood-Preservers' Assn., San Francisco. Berkeley, Calif., Univ. of California Press, 1927. 357 pp., illus. (Digest in AWPA Proc. 1928, pp. 253-59.)

Snyder, T. E. Our enemy the termite. Ithaca, N. Y. Comstock Publishing Co., 1935. 196 pp., illus.

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, engineers, and retail lumbermen.

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

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 timber buildings, and various wood products; antiseptic properties of protective materials.

Furniture Manufacturers, Woodworkers and Teachers of Woodshop Practice -- Partial list of Government 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 and Plywood -- 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 strength 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.

Logging, Milling, and Utilization of Timber Products -- 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; uses for little-used species and commercial woods; and low-grade and wood-waste surveys.

Mechanical Properties of Timber -- 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.

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.