List of Publications on
PULP AND PAPER

August 1960

No. 444
INSTRUCTIONS FOR OBTAINING PUBLICATIONS

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

Single 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 prices 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, if not available from the publishers, 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.
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Journal Articles


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Method of integrating concentric ring areas, by E. R. Schafer and J. C. Pew. (Applicable to the measurement of springwood.) Instruments, May 1939.


Processed Reports

*P&I-60 Partial list of references on the chemical debarking of trees. 1955.


*PP-107 Summary of certain physical properties of domestic hardwoods and foreign woods used in pulping experiments at the Forest Products Laboratory July 1927 to December 1940.

*PP-108 Summary of certain physical properties of softwoods (except pines) used in pulping experiments at the Forest Products Laboratory--July 1927 to July 1935.

*PP-109 Summary of certain physical properties of domestic and foreign pine woods used in pulping experiments at the Forest Products Laboratory--July 1927 to July 1935.
Processed Reports (continued)

*PP-110 Physical characteristics and chemical analysis of certain domestic hardwoods received at the Forest Products Laboratory for pulping from October 1, 1948 to November 1957.

*PP-111 Physical characteristics and chemical analysis of foreign pine woods received at the Forest Products Laboratory for pulping from October 1, 1948 to June 15, 1957.

*PP-112 Physical characteristics and chemical analysis of certain domestic pine woods received at the Forest Products Laboratory for pulping from October 1, 1948 to September 4, 1956.

*PP-113 Fiber length, specific gravity, and chemical analysis of certain foreign hardwood pulpwoods received at the Forest Products Laboratory from October 1, 1948 to December 31, 1957.

*PP-114 Physical characteristics and chemical analysis of certain softwoods (other than pine) received at the Forest Products Laboratory from October 1, 1948 to August 7, 1957.


*1417 Procedure for determining the properties and characteristics of pulpwood. 1955.


*1730 Bark-peeling machines and methods, by E. W. Fobes. 1957.

*2038 Debarkers used in the South and East, by R. H. P. Miller. 1955.

*2071 Developments in debarking, by E. W. Fobes. 1956.
PULPWOOD (continued)

Miscellaneous

*Summary of chemical and color properties of various woods used in pulping experiments at the Forest Products Laboratory, July 1927 to July 1935. M 27582 F.

*Physical and chemical properties of various pulping hardwoods and softwoods received at Forest Products Laboratory from July 1935 to October 1, 1948. M 85183 F, -4 F, -5 F.

*Amount and moisture content of bark on pulpwood received at the Forest Products Laboratory, July 1927 to July 1946. M 80571 F.

Technical Notes

*B-14  Methods of determining the specific gravity of wood.
*189  Differences between heartwood and sapwood.
*218  Weights of various woods grown in the United States.
*229  Comparative decay resistance of heartwood of different native species when used under conditions that favor decay.

PULP

Bulletins and Circulars


Journal Articles


*Comparison of several freeness testers on board stock--Williams freeness values, by C. E. Hrubesky. Tappi 32(7):315-318, July 1949.

Comparison of several freeness testers on board stock, by C. E. Hrubesky. TAPPI Papers 31, 1948.


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Journal Articles (continued)


Effect of different-sized fibers on the physical properties of ground-wood pulp, by E. R. Schafer and Matti Santaholma. Paper Trade Jour., Nov. 9, 1933.


Processed Reports


CHEMICAL CONSTITUTION OF WOOD AND PULP

Journal Articles

Processed Reports

PAPER AND PAPERBOARD

Journal Articles

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Paper (continued)

Journal Articles (continued)


Sorption of water vapor by paper-making materials: (See Section II for Parts 1 and 3.)


Relation of sheet properties and fiber properties in paper:
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Journal Articles


Processed Reports

*PP-118 Use of sweetgum and aspen cold soda pulp in making boxboard. 1959.


Technical Notes

*150 Direction of fibers affects strength of fiber boxes.
**Structural Fiberboard and Hardboard**

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**Journal Articles**


Journal Articles (continued)


Processed Reports

*1786 Relation of several formation variables to properties of phenolic resin-bonded wood-waste hardboards, by H. Dale Turner and John K. Kern. 1956.


*2125 Hardboard from red alder and from a mixture of slow-growth southern oaks, by S. L. Schwartz. 1958.

PLASTICS AND MOLDED PULP PRODUCTS

Bulletins and Circulars


PLASTICS AND MOLDED PULP PRODUCTS (continued)

Bulletins and Circulars (continued)

H&HFA Technical Papers. FPL in cooperation with the Housing and
Home Finance Agency. Copies available from Housing and Home
Finance, Washington 25, D. C.

No. 7. Physical properties and fabrication details of experimental
honeycomb-core and sandwich house panels. 1948.

No. 9. Some properties of paper-overlaid veneer and plywood. 1948.

Journal Articles


*Paper-overlaid planks provide smooth, durable stadium seats, by B.

*Some potentialities of overlaid lumber, by B. G. Heebink, R. J. Seidl,
D. F. Laughnan, and R. F. Blomquist. Forest Products Jour.,

*Dimensional stabilizing effect of paper overlays when applied to lumber,
by B. G. Heebink. Jour. of Forest Products Research Society,
pp. 149-151, June 1954.

*Thermal conductivity of paper honeycomb cores and sound absorption
of sandwich panels, by D. J. Fahey, M. E. Dunlap, and R. J.


*Paper and plastic overlays for veneer and plywood, by R. J. Seidl.
Natl. Hardwood Mag., Dec. 1947; Forest Products Research Society
Jour., 1947, reissued 1952.

New goods from wood, by A. J. Stamm and G. H. Chidester. Year-
book (USDA) Separate No. 1973 (discusses in part pulp and paper
plastics).


*Pulps for pulp-reinforced plastics, by S. L. Schwartz, J. C. Pew, and
H. R. Meyer. Paper Trade Jour., July 12, 1945; South. Pulp & Paper
Jour., Aug. 1945; Pulp & Paper Mag. of Canada, Sept. 1945; Paper

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Journal Articles (continued)


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Processed Reports (continued)

*1579  Physical and mechanical properties of lignin-filled laminated paper plastics. 1956.


PULPING PROCESSES

Sulfite

Journal Articles

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PULPING PROCESSES (continued)

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Chemistry of the alkaline wood pulp processes: (See Section II for Parts 1, 2, and 3.)


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Semichemical and High-Yield (continued)

Journal Articles (continued)


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*PP-118 Use of sweetgum and aspen cold soda pulp in making boxboard. 1959.


*2101 Special considerations affecting improvement in the cold soda pulping process, by K. J. Brown. 1957.
Processed Reports (continued)

*2141 Boards and papers from shortleaf pine, black tupelo, and southern white oak neutral sulfite semichemical pulps, by E. L. Keller, R. M. Kingsbury, and D. J. Fahey. 1959.

*2142 Cold soda pulping of southern oaks, sweetgum and cottonwood, by K. J. Brown. 1959.

*2162 Continuous cold soda pulping of west coast red alder, tanoak, madrone, and bigleaf maple, by J. F. Laundrie. 1959.


Groundwood

Journal Articles


PULPING PROCESSES (continued)

Groundwood (continued)

**Journal Articles (continued)**


**Processed Reports**


**Miscellaneous and General**

**Journal Articles**


**Processed Reports**

*RPI-70*  Fact sheet on commercial processes of pulping woods. 1958.

**Technical Notes**

*204*  Commercial processes of pulping woods.
PULPING CHARACTERISTICS OF WOODS

Hardwoods

(See also Foreign Woods)

Journal Articles


Journal Articles (continued)


High yield sulfate and soda semichemical pulps from selected southern hardwoods and southern yellow pine for the production of paperboards, by M. W. Bray and J. S. Martin. Paper Trade Jour., Jan. 18, 1945; TAPPI Papers, 1944.

Hardwoods (continued)

Journal Articles (continued)


Processed Reports

PULPING CHARACTERISTICS OF WOODS (continued)

Hardwoods (continued)

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*2067  Neutral sulfite corrugating boards from southern red, scarlet, and black oak, by E. L. Keller, and D. J. Fahey. 1956.

*2088  Papers and boards from hickory neutral sulfite semichemical pulps, by E. L. Keller, R. M. Kingsbury, and D. J. Fahey. 1957.


*2141  Boards and papers from shortleaf pine, black tupelo, and southern white oak neutral sulfite semichemical pulps, by E. L. Keller, R. M. Kingsbury, and D. J. Fahey. 1959.

*2142  Cold soda pulping of southern oaks, sweetgum, and cottonwood, by K. J. Brown. 1959.


Aspen Rept. Available at Lake States Forest Experiment Station,
14 University Farm, St. Paul 8, Minn.

Beech Utilization Pulping of beech, by F. W. O'Neil, E. L. Keller, and J. S. Martin. 1958. Available from Director, North-eastern Forest Experiment Station, 102 Motors Ave.,

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Processed Reports (continued)

*Forest Service USDA Feasibility of using Lake States hardwoods for newsprint and other pulp and paper products. 1959.

Eastern and Northern Woods

Journal Articles


Processed Reports


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Eastern and Northern Woods (continued)

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Southern Pines

Journal Articles


PULPING CHARACTERISTICS OF WOODS (continued)

Southern Pines (continued)

Journal Articles (continued)


Sulfate pulping of southern yellow pine:


Evaluation of southern pines for pulp production:
Journal Articles (continued)

White paper from southern pines:


Processed Reports


*2141 Boards and papers from shortleaf pine, black tupelo, and southern white oak neutral sulfite semichemical pulps, by E. L. Keller, R. M. Kingsbury, and D. J. Fahey. 1959.

Western Woods

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<td>*R1404</td>
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<td>E. R. Schafer and Axel Hyttinen</td>
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*2162  Continuous cold soda pulping of west coast red alder, tanoak, madrone, and bigleaf maple, by J. F. Laundrie. 1959.


*2181  Pulping and papermaking experiments on redwood, by J. S. Martin, F. A. Simmonds, and D. J. Fahey. 1960.


Foreign Woods

Journal Articles

PULPING CHARACTERISTICS OF WOODS (continued)

Foreign Woods (continued)

Processed Reports


*2126  Summary of pulping and papermaking experiments on eucalyptus, 1926 to June 1957. 1958.

*2127  Neutral sulfite semichemical pulping of guaba (Inga vera), yagrumo hembra (Cecropia peltata), and eucalyptus (Eucalyptus robusta) from Puerto Rico, by E. L. Keller, R. M. Kingsbury, and D. J. Fahey. 1958.

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*191  Density, fiber length, and yields of pulp for various species of wood.
*212  American woods for papermaking.

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Beating and Papermaking

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PULP, PAPER, AND WOOD WASTES

Journal Articles


Journal Articles (continued)


Processed Reports

*564 Partial list of reference works on pulp and paper. 1959.
*1207 Pollution of streams from pulp and paper mills, by E. R. Schafer. 1956.
*1666-5 Chemical composition and uses of bark. 1957.
*1666-9 Wood flour, by L. H. Reineke. 1956.
*1666-21 Board materials from wood waste. 1954.

MISCELLANEOUS

Bulletins and Circulars


Journal Articles


Report No. 11 of the Annual Technical Conference of the American Paper and Pulp Association and the Forest Products Laboratory, May 1954:

- Diffusion through and swelling of cellophane, by A. J. Stamm.
- Greater pulp yields per acre per year, by H. L. Mitchell.
- Pulpwood storage problems, by R. M. Lindgren.
- Recent observations on the bleaching of hardwood semichemical pulps, by R. M. Kingsbury.
- Structure of pulpwood barks, by B. F. Kukachka.
- Techniques for the study of the mechanical properties of adhesive bonds, by C. B. Norris.
Journal Articles (continued)

Report No. 13 of the Annual Technical Conference of the American Paper and Pulp Association and the Forest Products Laboratory May 24, 1955:

Characterization of nitrating pulps, by M. A. Millett and J. F. Saeman.

Chemical composition of pulpwood barks, by Ying-Pe Chang and R. L. Mitchell.

A continuous method for making cold soda pulp, by K. J. Brown.

Decay problems in pulpwood storage, by R. M. Lindgren.

Forest genetics, by H. L. Mitchell.

Heat decomposition of wood and cellulose, by A. J. Stamm.

Overlaid lumber--a composite product of paper and wood, by R. J. Seidl.

Principles of package cushioning, by R. E. Jones.


**Processed Reports**

*399*  
Some books about wood (a list). 1955.

*564*  
Partial list of reference works on pulp and paper. 1959.

*1499*  
Facilities for pulp and paper research at the U. S. Forest Products Laboratory, by G. H. Chidester. 1960.

*1698*  

*1972*  
Wood—A simple explanation, what it is, and how we use it, by F. J. Champion. 1960.

**Technical Notes**

*240*  
A hundred definitions pertaining to wood and other forest products.

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**LIST OF PUBLICATIONS ON PULP AND PAPER—SECTION II**

(Publications listed in this section are designated (a) if of limited interest, (b) superseded by later material, and (c) if of historical value.)

**Pulp**

**Journal Articles**

Morphology of cellulose fibers as related to the manufacture of paper, by G. J. Ritter. Paper Trade Jour., Oct. 31, 1935. (b)

Application of elementary statistical methods in the testing of pulp and paper, by F. A. Simmonds and R. H. Doughty. Paper Trade Jour., Dec. 21, 1933. (c)


Further studies on ground wood evaluation, by E. R. Schafer and M. Heinig. Paper Trade Jour., Sept. 3, 1931. (c)
Journal Articles (continued)

Ground wood pulp evaluation: By means of static bending, screen analysis, and rate of flow tests, by E. R. Schafer and L. A. Carpenter. Paper Trade Jour., July 17, 1930. (c)

Rate of flow test for evaluating ground wood pulp, by L. A. Carpenter and E. R. Schafer. Paper Trade Jour., July 1930; TAPPI Papers, May 1930. (c)

CHEMICAL ANALYSIS OF WOOD AND PULP

Journal Articles

Methods used at the Forest Products Laboratory for the chemical analysis of pulps and pulpwoods, by M. W. Bray. Paper Trade Jour., Dec. 20, 1928. (a)

Chemical analysis of the fractions obtained by screening blackgum and slash pine groundwood pulp, by M. Santaholma and E. R. Schafer. Paper Trade Jour., Nov. 9, 1933. (a, c)

A comparison of four methods for the determination of lignin, by P. S. Billington, F. A. Simmonds, and P. K. Baird. Paper Trade Jour., Jan. 26, 1933. (b, c)


Chemistry of the cellulose determination, by C. E. Peterson and M. W. Bray. Indus. & Eng. Chem., Nov. 1928. (b, c)

Improved method for the determination of alpha, beta, and gamma cellulose, by M. W. Bray and T. M. Andrews. Indus. & Eng. Chem., Apr. 1923. (b, c)

Comparison of wood cellulose and cotton cellulose, by S. A. Mahood and D. E. Cable. Indus. & Eng. Chem., Aug. 1922. (c)

Chemical constitution of soda and sulfate pulps from coniferous woods and their bleaching qualities, by S. D. Wells. Indus. & Eng. Chem., Oct. 1921. (c)
Comparative resistance to vapor transmission of commercial building papers, by M. Heinig, L. V. Teesdale, and C. E. Curran. Paper Indus. & Paper World, Apr. 1939; TAPPI Papers, 22, 1939. (a)


Sorption of water vapor by paper-making materials:

Forest Products Laboratory research on paper machine variables, by W. A. Chilson and P. K. Baird. Paper Trade Jour., Oct. 5, 1933; Pulp & Paper Mag. of Canada, Nov. 1933. (a)

The volumetric composition of paper: (a)

A survey of the drying of paper and cellulose paper-making materials, by F. A. Simmonds. Paper Trade Jour., May 18, 1933. (c)

Research in the use requirements of papers, by P. K. Baird. Paper Trade Jour., Oct. 1, 1931. (a)

Opacity determination with the Ives tint photometer, by R. H. Doughty. Paper Trade Jour., Nov. 8, 1928. (c)


W5c fiberboard boxes for canned foods, by E. C. Myers. The American Box Maker, Oct.-Nov. 1945. (a)

Some factors affecting interweb adherence of single plies used in laminated sheets, by R. H. Doughty and P. K. Baird. Paper Trade Jour., Sept. 7, 1933. (a)


The requirements for fiber containers in service, by C. A. Plaskett. Paper Trade Jour., May 30, 1929. (b, c)

Influence of moisture on tests of container boards, by S. D. Wells. Paper Indus., Dec. 1922. (c)

Effect of varying humidities on strength of fiberboard and its component plies, by Otto Kress and G. C. McNaughton. Paper, May 22, 1918. (c)
PULPING PROCESSES

Sulfite

Journal Articles

A mill scale demonstration of temperature control in sulfite pulping, by G. H. Chidester. Paper Trade Jour., Oct. 11, 1928. (c)

Temperature schedule in sulfite pulping, by W. H. Swanson. Paper Trade Jour., Nov. 25, 1926. (c)

Chemistry of the sulfite process: (a)

Relation between cooking conditions and yield and quality of sulfite wood pulp, by R. N. Miller. Paper Trade Jour., Dec. 3, 1925. (c)

Journal Articles (continued)

Advantages of liquid sulfur dioxide in sulfite pulp manufacture, by V. P. Edwardes. Pulp & Paper Mag. of Canada, Aug. 5, 1920. (c)

Alkaline

Journal Articles

Chemistry of the alkaline wood pulp process: (a)

Analysis of alkaline black liquors of varying sulfidity by the ammonia distillation method, by M. A. Heath, M. W. Bray, and C. E. Curran. Paper Trade Jour., Nov. 16, 1933. (c)

The influence of chemical concentration in the alkaline pulping processes, by M. W. Bray and C. E. Curran. Paper Trade Jour., Aug. 3, 1933. (b, c)

An improved method for the analysis for spent "black" liquors from the soda and sulfate pulping processes, by M. A. Heath. Paper Trade Jour., Feb. 23, 1933. (c)

Use of preliminary impregnation in cooking wood by the alkaline process, by S. D. Wells, J. A. Staidl, and R. H. Grabow. Paper Trade Jour., Mar. 12, 1925. (c)

Distribution of methoxyl in the products of cooking jack pine by the soda process, by S. S. Aiyar. Indus. & Eng. Chem., July 1923. (c)

Influence of sulfur in the cooking of jack pine by the sulfate process, by S. D. Wells. Pulp & Paper Mag. of Canada, June 21, 1923. (c)
Chemistry of pulps: Comparison of the chemical changes of jack pine and aspen woods cooked by the soda process, by M. W. Bray and T. M. Andrews. Paper Trade Jour., May 10, 1923. (c)

Consumption of chemicals by the sulfate process: Results of experiments to determine the consumption of chemicals in pulping of unbarked wood by the kraft process, by Otto Kress and C. K. Textor. Paper, July 26, 1916. (c)

Effect of moisture introduced into the digester in the cooking of soda pulp, by S. D. Wells. Indus. & Eng. Chem., July 1916. (c)

Semichemical (Acid)

Semisulfite process: (c)


Groundwood


PULPING PROCESSES (continued)

Groundwood (continued)

Bulletins and Circulars (continued)


Journal Articles

Improved pulpwood grinder for experimental work, by E. R. Schafer and J. C. Pew. Paper Trade Jour., June 20, 1935. (c)

Miscellaneous

Processed Reports

*1418 Chemical properties of white spruce pulp prepared by the use of phenol, by P. S. Billington and E. L. Fiedler. Inf. Rev. & Reaf. Mar. 1956. (a)

PULPING CHARACTERISTICS OF WOODS AND PLANT MATERIALS

Hardwoods

Journal Articles

Utilization of hardwoods for pulp and paper, by C. E. Curran. Paper Trade Jour., Jan. 17, 1929. (c)

Eastern and Northern Softwoods

Journal Articles

Comparative pulping value of Russian and Canadian spruce by the sulfite process, by W. H. Monsson and G. H. Chidester. Paper Trade Jour., Feb. 11, 1932. (c)
PULPING CHARACTERISTICS OF WOODS AND PLANT MATERIALS
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Eastern and Northern Softwoods (continued)

Journal Articles (continued)

Pulping eastern hemlock by the sulfite process: (a)

Southern Woods

Journal Articles

Contributions of Forest Products Laboratory research to southern pulp and paper developments, by C. P. Winslow. American Paper & Pulp Association Monthly Review, May-June 1939. (c)

Frontiers of the Southern pulping industry, by C. E. Curran. Presented to Mississippi Farm Chemurgic Council, Apr. 12-14, 1937. (c)

Pulps and papers from southern woods, by C. P. Winslow. Mfrs. Record, Mar. 24 and 31, 1932. (c)


What is the future of the pulp and paper industry in the South? by C. E. Curran. South. Lbrmn., Dec. 15, 1931. (c)


Present and future trends in the pulping of southern woods, by C. E. Curran. Paper Trade Jour., Jan. 16, 1930. (c)
PULPING CHARACTERISTICS OF WOODS AND PLANT MATERIALS

(continued)

Western Woods

Journal Articles

Forest products research in the pulping of western woods, by C. E. Curran. Pacific Pulp & Paper Indus., June 1939. (c)

Problems of the western pulp paper industry, and forest utilization, by C. C. Heritage. Pacific Pulp & Paper Indus., Annual Review Number, 1929. (c)

Plant Materials

Journal Articles


Pulping flax straw: (c)


Journal Articles (continued)

Pulping flax straw: (c) (continued)


New methods of cooking straw for strawboard, by J. D. Rue and W. H. Monsson. Paper Trade Jour., Oct. 8 and Nov. 12, 1925. (c)

Chemical constituents of flax straw, by S. D. Wells and E. R. Schafer. Paper Trade Jour., Apr. 23, 1925. (c)

A study of flax straw for paper making, by J. D. Rue, S. D. Wells, and E. R. Schafer. Paper Ind., Oct. 1924. (c)

Oat hulls for strawboard and paper pulp, by S. D. Wells. Paper Trade Jour., Nov. 3, 1921. (c)


Processed Reports


General

Journal Articles

PULPING CHARACTERISTICS OF WOODS AND PLANT MATERIALS
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General (continued)

Bulletins and Circulars

Wood pulp and pulpwood. A report to the U. S. Senate in compliance with Senate Resolution 200, Aug. 24, 1935, on the pulpwood and wood pulp industry in the United States. Tariff Com. Rept. No. 126, 2nd Series, 1938. (a)


PULP PROCESSING AND PAPERMAKING

Bleaching

Journal Articles

Bleaching of wood pulp: (c)


Bleaching (continued)

Journal Articles (continued)

Bleaching of wood pulp: (c) (continued)


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Some observations on the retention of china clay by paper pulp, by Otto Kress and George McNaughton. Paper Trade Jour., Oct. 4, 1917. (c)

PULP, PAPER, AND WOOD WASTES

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Surveying the mill for white water losses to indicate possible savings, by G. H. Chidester and E. R. Schafer. Paper Trade Jour., Dec. 13, 1928. (c)

Proposal for reducing the contamination of streams by strawboard mills, by J. D. Rue and F. G. Rawlings. Paper Trade Jour., Oct 8, 1925. (c)
PULP, PAPER, AND WOOD WASTES (continued)

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How to measure white water losses, by V. P. Edwardes. Paper Indus., May 1925. (c)


Broadening the basis of America's pulpwood supply, by C. E. Curran. Jour. Forestry, Sept. 1938. (c)

Relation of the work of the U. S. Forest Products Laboratory to the pulp and paper industry, by C. C. Heritage. Pacific Pulp & Paper Indus., Dec. 1928. (c)

OTHER PUBLICATION LISTS ISSUED BY THE FOREST PRODUCTS LABORATORY

The following lists of publications which deal with 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 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.

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

**Furniture Manufacturers, Woodworkers and Teachers of Wood Shop Practice**—Partial list of publications for 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 and packaging data.

**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 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.

**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.

**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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