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LISTS OF PUBLICATIONS AND PATENTS

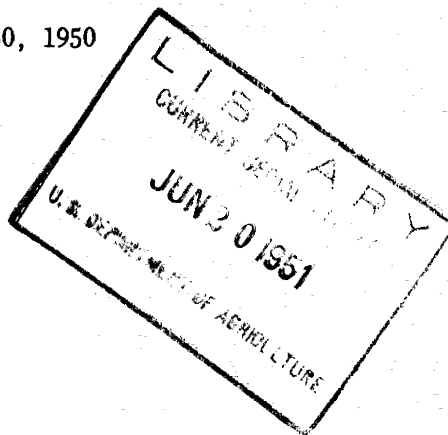
BUREAU OF AGRICULTURAL AND INDUSTRIAL CHEMISTRY  
AGRICULTURAL RESEARCH ADMINISTRATION  
U. S. DEPARTMENT OF AGRICULTURE

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By

T. D. Jarrell



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## PUBLICATIONS

NORTHERN REGIONAL RESEARCH LABORATORY  
825 North University Street  
Peoria 5, Illinois

## RESEARCH

Evaluation of fibrous agricultural residues for structural building board products. III. A process for the manufacture of high-grade products from wheat straw. By E. C. Lathrop and T. R. Naffziger. TAPPI (Tech. Assoc. Pulp and Paper Indus.) 32(7): 319-330. 1949.

Agricultural residues in plastics. III. Evaluation of residue flours as fillers in thermosetting phenolics. By T. F. Clark. Mod. Plastics 26(12): 111-116, 164-165. 1949.

Agricultural residue flours as extenders in phenolic resin glues for plywood. By R. V. Williamson and E. C. Lathrop. Mod. Plastics 27(2): 111-112, 169-170, 172, 174. 1949.

Hop vines for paper. By H. M. Sutcliffe, A. J. Ernst, and S. I. Aronovsky. Hopper (The Hop Grower's Mag.) 6(10): 4-7. Jan. 1950.

Soft grits provide low cost method for blast cleaning metals. By T. F. Clark and E. C. Lathrop. Materials and Methods 31(5): 67-69. May 1950. A condensed version under title "Soft Grits for Blast Cleaning" pub. in Amer. Mach. 94(12): 127. June 12, 1950.

Chemical composition of grain and seed hulls, nut shells, and fruit pits. By G. H. Nelson, L. E. Talley, and S. I. Aronovsky. Amer. Assoc. Cereal Chem. Trans. 8(1): 58-68. 1950.

Saccharification lignin concentrates in phenolics. By T. F. Clark. Mod. Plastics 27(1): 119, 168-169. 1949.

Preparation and reactions of dialkoxytetrahydrofurans. By Jorgen Fakstorp, Dolores Raleigh, and L. E. Schniepp. Amer. Chem. Soc. Jour. 72(2): 869-874. 1950. (With American-Scandinavian Found.)

A new soybean product - Gelsoy. By A. C. Beckel, P. A. Belter, and A. K. Smith. Soybean Digest 10(1): 17-18, 40. 1949.

The flavor problem of soybean oil. V. Some considerations in the use of metal scavengers in commercial operations. By H. J. Dutton, A. W. Schwab, Helen A. Moser, and J. C. Cowan. Amer. Oil Chem. Soc. Jour. 26(8): 441-444. 1949.

Calcium oxide-soybean oil paints having reduced tack and increased durability. By A. J. Lewis, J. C. Cowan, and N. C. Schieltz. Amer. Oil Chem. Soc. Jour. 26(9): 488-492. 1949.

- Fractionation and structure of soybean glycerides. By Herbert J. Dutton, Catherine R. Lancaster, and Ordean L. Brekke. *Amer. Oil Chem. Soc. Jour.* 27(1): 25-30. 1950.
- Reactions of tertiary butyl hypochlorite with vegetable oils and their derivatives. III. Chlorination of soybean oil in the pilot plant. By E. W. Bell and H. M. Teeter. *Amer. Oil Chem. Soc. Jour.* 27(3): 102-105. 1950.
- Reaction of tertiary butyl hypochlorite with vegetable oils and their derivatives. II. Methyl oleate. By Howard M. Teeter and John E. Jackson. *Amer. Oil Chem. Soc. Jour.* 26(10): 535-540. 1949.
- Conducting a taste panel for the evaluation of edible oils. By Helen A. Moser, H. J. Dutton, C. D. Evans, and J. C. Cowan. *Food Technol.* 4(3): 105-109. 1950.
- Adsorption analysis of lipids. IV. Fractionation of cholesterol and ergosterol. By Fred K. Kawahara and Herbert J. Dutton. *Amer. Oil Chem. Soc. Jour.* 27(5): 161-164. 1950.
- Color evaluation of edible fatty oils. By Duncan Macmillan. *Amer. Oil Chem. Soc. Jour.* 26(10): 615-617. 1949.
- Cyanoethylation of alpha amino acids. I. Monocyanoethyl derivatives. By L.L. McKinney, E. H. Uhing, E. A. Setzkorn, and J. C. Cowan. *Amer. Chem. Soc. Jour.* 72(6): 2599-2603. 1950.
- Saponification of adducts of maleic anhydride and methyl linoleate. By H. M. Teeter and J. C. Cowan. *Oil and Colour Chem. Assoc. Jour.* 32(351): 473. 1949.
- Polymerization of drying oils. Rubberlike products from polymeric fat acids. By J. C. Cowan, D. H. Wheeler, H. M. Teeter, *et al.* *Indus. and Engin. Chem.* 41(8): 1647-1653. 1949.
- Polymerization of drying oils. V. Further observations on the reaction of unsaturated dibasic anhydrides with methyl linoleate. By H. M. Teeter, U. S. Kini, R. A. Myren, and J. C. Cowan. *Amer. Oil Chem. Soc. Jour.* 26(11): 660-663. 1949.
- The chemical composition of various wheats and factors influencing their composition. By J. H. Shollenberger, J. J. Curtis, C. M. Jaeger, F. R. Earle, and B. B. Bayles. *U. S. Dept. Agr. Tech. Bul.* 995. 33 pp. 1949. (With Bureau Plant Indus., Soils, and Agr. Engin.)
- Breeding for niacin content in a sorghum cross, Westland X Cody. By Fred W. Tanner, Jr., A. F. Swanson, and J. J. Curtis. *Cereal Chem.* 26(4): 333-338. 1949. (With Kansas Agr. Expt. Sta. and Bureau Plant Indus., Soils, and Agr. Engin.)
- Niacin content of waxy, sugary, and dent  $F_2$  segregating kernels in corn. By Earl R. Leng, J. J. Curtis, and M. C. Shekleton. *Science* 111(2894): 665-666. 1950. (With Ill. Agr. Expt. Sta.)

- Stabilization of zein filaments. Curing with formaldehyde in acidic nonaqueous mediums. By C. Bradford Croston. *Indus. and Engin. Chem.* 42(3): 482-484. 1950.
- Some characteristics of the starches of three South American seeds used for food. By M. J. Wolf, M. M. MacMasters, and C. E. Rist. *Cereal Chem.* 27(3): 219-222. 1950.
- Periodate oxidation of dextran. By Allene Jeanes and C. A. Wilham. *Amer. Chem. Soc. Jour.* 72(6): 2655-2657. 1950
- Condensation of sugar acids with sulfanilamides. By C. L. Mehlretter. *Rec. des Trav. Chim. des Pays-Bas (Netherlands)* 69(4): 185. April 1950.
- The preparation of calcium *D*-arabonate from calcium 2-keto-*D*-gluconate by electrolytic bromine oxidation. By C. L. Mehlretter, W. Dvonch, and C. E. Rist. *Amer. Chem. Soc. Jour.* 72(5): 2294-2295. 1950
- Alcohol-water injection for spark-ignition engines. By Richard Wiebe and J. C. Porter. AIC-240. (Processed.) 1949.
- Truck operation with alcohol-water injection. By James C. Porter. *South. Motor Cargo* 5(9): 10-11, 36. 1949.
- Alcohol-water injection for high compression tractor and automobile engines. By J. C. Porter, M. M. Gilbert, H. A. Lykins, and Richard Wiebe. *Agr. Engin.* 31(2): 71-75. 1950.
- Liquid-vapor equilibrium of ethanol-methylcyclohexane solutions. By Carl B. Kretschmer and Richard Wiebe. *Amer. Chem. Soc. Jour.* 71(9): 3176-3179. 1949.
- The use of fungal amylase in the industrial production of alcohol and alcohol products. By Richard W. Jackson, Russell H. Blom, and Henry M. Tsuchiya. *Recent Advances in the Fermentation Industries; a symposium held at Royal Inst. Chem., Univ. St. Andrews, St. Andrews, Scotland.* Pages 93-107. July 1949.
- Factors affecting riboflavin production by *Ashbya gossypii*. By F. W. Tanner, Jr., C. Vojnovich, and J. M. Van Lanen. *Jour. Bact.* 58(6): 737-745. 1949.
- Production of riboflavin (vitamin B<sub>2</sub>) with *Ashbya gossypii*. By Thomas G. Pridham, Harlow H. Hall, and Virgil F. Pfeifer. AIC-271. (Processed.) 1950.
- Further investigations on the preservation of mold cultures. By Dorothy I. Fennell, Kenneth B. Raper, and May H. Flickinger. *Mycologia.* 42(1): 135-147. 1950.
- Hydrolysis of the alpha-1,6-glucosidic linkage in isomaltose by culture filtrate of *Aspergillus niger* NRRL 330. By Henry M. Tsuchiya, Edna M. Montgomery, and Julian Corman. *Amer. Chem. Soc. Jour.* 71(9): 3265. 1949.
- The fungi concerned in fiber deterioration. II. Their ability to decompose cellulose. By P. B. Marsh, K. Bollenbacher, M. L. Butler, and K. B. Raper. *Textile Res. Jour.* 19(8): 462-484. (With Bureau Plant Indus., Soils, and Agr. Engin.) 1949.

**INFORMATIONAL**

- The Northern Regional Research Laboratory. Its purpose, organization, and achievements. AIC-243. (Processed.) 1949.
- Research on flavor stability of soybean oil at the Northern Regional Research Laboratory. By J. C. Cowan. Soybean Digest 9(11): 48-50, 89. 1949.
- Lime as a hardening agent in soybean oil paints. By A. J. Lewis. Soybean Digest 10(8): 17-18. 1950. Reprinted in Paint, Oil and Chem. Rev. 113(15): 25-26, 28. 1950.
- The place of straw pulp in fine paper manufacture. By S. I. Aronovsky. Chemurgic Digest 8(7): 4-6, 16. 1949. Also published under title "Straw Pulp in Fine Paper Manufacture" in Paper Indus. and Paper World 32(1): 88-89. 1950.
- Industrial alcohol. A study of the technology, production, and uses of alcohol in relation to agriculture. By P. Burke Jacobs. U.S. Dept. Agr. Misc. Pub. 695. 101 pp. 1950.
- Alcohol from agricultural sources as a potential motor fuel. By G. E. Hilbert. AIC-233, Revised. (Processed.) 1950.
- Patent applications for interference only. By W. L. Cheesman. Patent Office Soc. Jour. 32(2): 147-154. 1950.

**BIBLIOGRAPHICAL**

- List of publications and patents of the Northern Regional Research Laboratory. July - December 1949. AIC-187, Supplement 4. (Processed.) 1950.
- List of publications and patents of the Northern Regional Research Laboratory. January - June 1950. AIC-187, Supplement 5. (Processed.) 1950.
- List of patents with abstracts granted to the Northern Regional Research Laboratory. January - December 1949. AIC-230, Supplement 1. (Processed.) 1950.
- List of publications of the Northern Regional Research Laboratory on vegetable oils and related subjects. 1949. AIC-184, Supplement 2. (Processed.) 1950.
- List of publications of the Northern Regional Research Laboratory on proteins and related subjects. 1949. AIC-228, Supplement 2. (Processed.) 1950.

**SOUTHERN REGIONAL RESEARCH LABORATORY**

2100 Robert E. Lee Boulevard  
New Orleans 19, La.

**RESEARCH**

- Detection of "honeydew" on raw cotton. By Mack F. Stansbury and Carroll L. Hoffpauir. AIC-262. (Processed.) 1950.
- The application on the differential dyeing test for fiber maturity to the processing of cotton. Contribution of the Southeastern Sec., Intersectional Contest, Amer. Assoc. Textile Chem. and Colorists. James D. Dean, Com. Chairman. Amer. Dyestuff Rptr. 39(3): 74-77, 90. 1950.

Special dyeing of cotton on the seed gives visual evidence of changes during fiber development. By Charles F. Goldthwait, Herbert O. Smith, and Florence T. Roberts. *Textile Res. Jour.* 20(2): 100-104. 1950.

The preparation and properties of alkali-soluble metal carboxymethylcellulose fibers. By J. David Reid and George C. Daul. *Textile Res. Jour.* 19(12): 794-801. 1949.

Stabilization of periodate-oxidized cotton. By Richard E. Reeves and Felix F. Darby, Jr. *Textile Res. Jour.* 20(3): 172-174. 1950.

A rotating specimen mount for use with X-ray spectrometer in measuring crystal-lite orientation of cellulosic and other textile fibers. By Leon Segal, Joseph J. Creely, and Carl M. Conrad. *Rev. Sci. Instruments* 21(5): 431-435. 1950.

Insect-proofing cotton bags. By Richard T. Cotton, Justus C. Frankenfeld, and Winston B. Strickland. *Bureau Ent. Plant Quar.* E-783. (Processed.) 1949. *Textile Indus.* 113(10): 94, 264-266. 1949. Republished under title "Insect-Repellent Cotton Bags" in *Mod. Packaging.* 23(3): 126-127. 1949. (With *Bureau Ent. and Plant Quar.*)

Pore-size distribution in textiles. By Edward G. Burleigh, Jr., Helmut Wakeham, Edith Honold, and Evald L. Skau. *Textile Res. Jour.* 19(9): 547-555. 1949.

Measurement and theory of absorbency of cotton fabrics. By Edmund M. Buras, Jr., Charles F. Goldthwait, and Rita M. Kraemer. *Textile Res. Jour.* 20(4): 239-248. 1950.

Flexibility of nitrocellulose molecules in acetone. By Seymour Newman. *Jour. Phys. and Colloid Chem.* 54(6): 964-966. 1950.

Preparation and properties of cellulose phosphates. By J. David Reid and Laurence W. Mazzeno, Jr. *Indus. and Engin. Chem.* 41(12): 2828-2831. 1949.

Composition of two types of cellulose phosphates. By J. David Reid, Laurence W. Mazzeno, Jr., and Edmund M. Buras, Jr. *Indus. and Engin. Chem.* 41(12): 2831-2834. 1949.

2,3-Benzylidene-1,4-anhydro-D-mannitol. A case of benzylidene migration. By Richard E. Reeves. *Amer. Chem. Soc. Jour.* 71(8): 2868-2870. 1949.

The shape of pyranoside rings. By Richard E. Reeves. *Amer. Chem. Soc. Jour.* 72(4): 1499-1506. 1950.

Determination of glycosidic methoxyl. By Carroll L. Hoffpauir and Richard E. Reeves. *Analyt. Chem.* 21(7): 815-817. 1949.

Tetrabenzoyl- $\alpha$ -D-glucopyranosyl bromide-carbon tetrachloride addition compound. By Laurence W. Mazzeno, Jr. *Amer. Chem. Soc. Jour.* 72(2): 1039. 1950.

Effect of temperature on the content of pigments of stored cottonseed. By L. E. Castillon, C. M. Hall, R. T. O'Connor, and C. B. Miller. *Amer. Oil Chem. Soc. Jour.* 26(11): 655-659. 1949.

- Pilot-plant fractionation of cottonseed. II. Differential settling. By H.L.E. Vix, J. J. Spadaro, C. H. Murphey, Jr., R. M. Persell, E. F. Pollard, and E.A. Gastrock. *Amer. Oil Chem. Soc. Jour.* 26(10): 526-530. 1949.
- Effect of processing conditions on the chemical properties of cottonseed meals. By R. Haddon, A. K. Schwartz, P. A. Williams, F. H. Thurber, M. L. Karon, Jos. Dechary, W. Guice, R. Kupperman, Robert O'Connor, and Aaron M. Altschul. *Cotton Gin and Oil Mill Press* 52(9): 18-20. April 29, 1950. (With South Texas Oil Co.)
- Cottonseed protein fiber. By Jett C. Arthur, Jr. and Hugh G. Many. *Textile Res. Jour.* 19(10): 605-608. 1949. *Oil Mill Gaz.* 54(8): 55-57. 1950.
- Determination of free gossypol in cottonseed materials. By Walter A. Pons, Jr. and John D. Guthrie. *Amer. Oil Chem. Soc. Jour.* 26(11): 671-676. 1949. *Oil Mill Gaz.* 54(7): 11, 13-18. 1950.
- Boiling points of cottonseed and peanut oil miscellas in English units. By Kenneth M. Decossas, Harvey A. Mackey, and Gordon P. Heughan. AIC-257. (Processed.) 1950.
- Electrophoretic analysis of peanut and cottonseed meals and proteins. By M. L. Karon, Mabelle E. Adams, and A. M. Altschul. *Jour. Phys. and Colloid Chem.* 54(1): 56-66. 1950.
- Modification of vegetable oils. VIII. Conversion of monoesters of peanut oil fatty acids to triglycerides. By Audrey T. Gros and R. O. Feuge. *Amer. Oil Chem. Soc. Jour.* 26(12): 704-709. 1949.
- Modification of vegetable oils. IX. Purification of technical monoglycerides. By R.O. Feuge and Audrey T. Gros. *Amer. Oil Chem. Soc. Jour.* 27(4): 117-122. 1950.
- The influence of processing on the spectral properties of vegetable oils. By Robert T. O'Connor, Elsie T. Field, M. E. Jefferson, and F. G. Dollear. *Amer. Oil Chem. Soc. Jour.* 26(12): 710-718. 1949.
- Phase investigations of fats. III. Systems containing oleic and palmitic acids and an organic solvent. By W. S. Singleton. *Amer. Oil Chem. Soc. Jour.* 26(7): 332-336. 1949.
- Physical properties of fatty acids. I. Some dilatometric and thermal properties of stearic acid in two polymorphic forms. By W. S. Singleton, T. L. Ward, and F. G. Dollear. *Amer. Oil Chem. Soc. Jour.* 27(4): 143-146. 1950.
- Nomographs for calculating the fatty acid composition of oils and fats from iodine and thiocyanogen values. By S. A. Hussain and F. G. Dollear. *Amer. Oil Chem. Soc. Jour.* 27(6): 206-210. 1950. (With State of Hyderabad, India.)
- Peanut protein for window shade sizes. By Jett C. Arthur, Jr. and F. W. Cheng. *Amer. Dyestuff Rptr.* 38(14): 535-537. 1949. (With University of Econ. Affairs, Republic of China.)



- Heat capacity of stabilized peanut butter. By T. L. Ward, W. S. Singleton, and A. F. Freeman. *Food Res.* 15(2): 146-149. 1950.
- Isolation of xanthine, guanine, adenine, protease, oxalic acid, and glutathione from peanut kernels. By Wilson A. Reeves and John D. Guthrie. *Arch. Biochem.* 26(2): 316-318. 1950.
- Rice bran oil. III. Utilization as an edible oil. By R. O. Feuge and P. B. V. Reddi. *Amer. Oil Chem. Soc. Jour.* 26(7): 349-353. 1949. (With Dept. of Indus. and Com., Govt., of Madras.)
- Rice bran oil. IV. Storage of the bran as it affects hydrolysis of the oil. By J. R. Loeb, N. J. Morris, and F. G. Dollear. *Amer. Oil Chem. Soc. Jour.* 26(12): 738-743. 1949.
- Rice bran oil. V. The stability and processing characteristics of some rice bran oils. By C. E. Swift, Sara P. Fore, and F. G. Dollear. *Amer. Oil Chem. Soc. Jour.* 27(1): 14-16. 1950.
- Sesame oil. I. Properties of a solvent-extracted sesame oil. By Victor Andraos, C. E. Swift, and F. G. Dollear. *First Internatl. Sesame Conf. Proc.* 1949. Pages 6-13. *Amer. Oil Chem. Soc. Jour.* 27(1): 31-34. 1950. (With Societe Nationale Industrielle, Beirut, Lebanon.)
- Sesame oil. II. Some chemical and physical properties of the oils from different varieties of sesame seed. By G. T. Menezes, Pierre Budowski, and F. G. Dollear. *First Internatl. Sesame Conf. Proc.* 1949. Pages 14-22. *Amer. Oil Chem. Soc. Jour.* 27(5): 184-186. 1950. (With Govt. of Madras, India, and Ministerio de Agricultura y Cria, Div. de Quimica, El Valle, D. F. Venezuela.)
- Sesame oil. III. Antioxidant properties of sesamol: a constituent of sesame oil. By Pierre Budowski. *First Internatl. Sesame Conf. Proc.* 1949. Pages 23-31. Also published under title "Sesame Oil. III. Antioxidant properties of sesamol", in *Amer. Oil Chem. Soc. Jour.* 27(7): 264-267. 1950. (With Govt. of Madras, India, and Ministerio de Agricultura y Cria, Div. de Quimica, El Valle, D. F. Venezuela.)
- Some physical and chemical properties of sesame protein. By Jett C. Arthur, Jr. and E. C. Volkert. *First Internatl. Sesame Conf. Proc.* 1949. Pages 2-5. *Jour. South. Res.* 2(1): 5-6. 1950.
- Oil from the kernels of lalob fruit, *Balanites aegyptiaca*. By S. A. Hussian, F. G. Dollear, and R. T. O'Connor. *Amer. Oil Chem. Soc. Jour.* 26(12): 730-732. 1949. (With State of Hyderabad, India.)
- Instrumentation for pilot plants. Operation and application fundamentals. By E. F. Pollard, R. M. Persell, H. J. Molaison, and E. A. Gastrock. *Indus. and Engin. Chem.* 42(4): 748-752. 1950.
- Instrumentation for pilot plants. pH Control aids in production of sweet potato starch. By R. M. Persell, E. F. Pollard, W. F. Guilbeau, L. H. Greathouse, P. R. Dawson, and E. A. Gastrock. *Indus. and Engin. Chem.* 42(5): 931-932. 1950.
- Pilot plant equipment costs. By Henri J. Molaison, Frederick A. Dackbar, and Norman C. Cook. *Chem. Engin.* 57(4): 110-111. 1950.

## INFORMATIONAL

- The advancing utilization of southern farm crops. By James A. Kime. Tex. Agr. Workers' Assoc. Proc. 1950. Pages 39-45.
- Cotton today and tomorrow through technical research on fiber utilization. By Walter M. Scott. AIC-245. (Processed.) 1949.
- Research in the cotton industry. By James A. Kime. South. Chem. 9(9): 344, 346, 348, 350. 1950.
- Research in textiles is paying off. New processes, products developed. By Walter M. Scott. South. Textile News 5(33): 29. Oct. 15, 1949.
- New dye test of fiber maturity aids cotton mills. Res. Achvt. Sheet 127(C). (Processed.) Jan. 1950.
- New process for stabilizing guncotton aids national defense. Res. Achvt. Sheet 123(C). (Processed.) Oct. 1949.
- Crystallinity of cellulose and its significance for the fiber properties. By Kyle Ward, Jr. Textile Res. Jour. 20(6): 363-372. 1950.
- Research on the storage of cottonseed. By Edith A. Jensen, Madeline G. Lambou, and A. M. Altschul. Cotton Gin and Oil Mill Press 52(2): 11-12, 31, 34, 36. Jan. 21, 1950. (With Natl. Cottonseed Prod. Assoc.)
- Pilot-plant fractionation of cottonseed. IV. A review of progress. By E. A. Gastrock, R. M. Persell, J. J. Spadaro, and H. L. E. Vix. Oil Mill Gaz. 54(3): 11-19. 1949.
- Research on fractionation of cottonseed meats. By C. G. Reuther, Jr., J. J. Spadaro, and E. A. Gastrock. Cotton Gin and Oil Mill Press 52(2): 12, 35, 39-40. Jan. 21, 1950. (With Natl. Cottonseed Prod. Assoc.)
- Research on effect of processing on the nutritional value of cottonseed meal. By J. M. Dechary and A. M. Altschul. Oil Mill Gaz. 54(2): 13-15. 1949.
- More products from peanuts. By Jett C. Arthur, Jr. Mfrs. Record 118(10): 40-41. 1949.
- Evaluation of peanut protein for industrial utilization. A review. By Jett C. Arthur, Jr. Amer. Oil Chem. Soc. Jour. 26(11): 668-671. 1949.
- Peanut protein for industrial utilization. A literature survey. By Jett C. Arthur, Jr. Jour. South. Res. 1(4): 6-14. Oct. 1949.
- Rice bran oil. VI. Some aspects of processing and utilization of rice bran and oil. By K. S. Markley. Rice Jour. 52(10): 14, 30-35. 1949.
- Sesame - a new oilseed crop for the South. By K. S. Markley. Cotton Gin and Oil Mill Press 51(12): 10, 12, 60-61. June 10, 1950.

## BIBLIOGRAPHICAL

Publications and patents of the Southern Regional Research Laboratory. July-December 1949. AIC-188, Supplement 4. (Processed.) 1950.

List of publications and patents of the Southern Regional Research Laboratory. January-June 1950. AIC-188, Supplement 5. (Processed.) 1950.

Abstract bibliography of the chemistry and technology of peanuts, 1830 - 1939. By Nelle J. Morris and F. G. Dollear. AIC-151. (Processed.) 1949.

## EASTERN REGIONAL RESEARCH LABORATORY

Chestnut Hill Station  
Philadelphia 18, Pa.

## RESEARCH

Production of buckwheat leaf meal in rotary alfalfa driers. By G. W. Macpherson Phillips, Nicholas Aceto, Roderick K. Eskew, and Rita Hurley. AIC-264. (Processed.) 1950.

Chemical composition of dehydrated buckwheat meals and extraction residues. By Charles F. Krewson, Joseph Naghski, and James F. Couch. *Feedstuffs* 22(25): 50-51. June 24, 1950.

Production of rutin from buckwheat. By Charles F. Krewson and James F. Couch. *Amer. Pharm. Assoc. Jour., Sci. Ed.* 39(3): 163-169. 1950.

Rutin content of several varieties of *Nicotiana rustica* and *N. glauca*. By C. O. Badgett, E. G. Beinhart, Jeanne Maher, and J. A. Connelly. *Arch. Biochem.* 24(2): 245-250. 1949.

Determination of rutin in plant materials. By J. Naghski, C. S. Fenske, Jr., C. F. Krewson, and J. F. Couch. AIC-236. (Processed.) 1949.

Concentrates of fat-soluble constituents of leaf meal extracts. Preparation by molecular distillation. By Monroe E. Wall. *Indus. and Engin. Chem.* 41(7): 1465-1469. 1949.

Composition of a volatile fraction of apples. By Jonathan W. White, Jr. *Food Res.* 15(1): 68-78. 1950.

New progress in fruit flavor recovery. By Edward L. Griffin, Jr., Lyle L. Davis, Nelson H. Eisenhardt, and Margaret E. Heller. *Food Indus.* 21(11): 1545-1547, 1694, 1696. 1949. (With Va. Agr. Expt. Sta.)

Two-pass concentration technic obtains full-flavor grape juice. By R. P. Homiller, G. W. Macpherson Phillips, R. K. Eskew, and N. H. Eisenhardt. *Food Indus.* 22(6): 1026-1028. 1950.

Metal-nicotine double sulfates. By Claude R. Smith. *Amer. Chem. Soc. Jour.* 71(8): 2844-2846. 1949.

- Nicotine extraction from water with kerosene. By J. B. Claffey, C. O. Badgett, J. J. Skalamera, and G. W. Macpherson Phillips. *Indus. and Engin. Chem.* 42(1): 166-171. 1950.
- Plant growth-regulating properties of some nicotinium compounds. By John W. Mitchell, J. W. Wirwille, and Leopold Weil. *Science* 110(2854): 252-254. 1949. (With Bureau Plant Indus., Soils, and Agr. Engin.)
- Partition of tobacco alkaloids and some nicotine transformation products on a paper sheet support. By William L. Porter, Joseph Naghski, and Abner Eisner. *Arch. Biochem.* 24(2): 461-463. 1949.
- Effect of ammonium salts on determination of nicotine. By C. L. Ogg, C. O. Willits, and Constantine Ricciuti. *Analyt. Chem.* 22(2): 335-337. 1950.
- Spectrophotometric determination of nicotine. By C. O. Willits, Margaret L. Swain, J. A. Connelly, and B. A. Brice. *Analyt. Chem.* 22(3): 430-433. 1950.
- Identification of pseudo-oxynicotine and its conversion to *N*-methylmyosmine. By Paul G. Haines and Abner Eisner. *Amer. Chem. Soc. Jour.* 72(4): 1719-1721. 1950.
- Tannin content and other characteristics of native sumac in relation to its value as a commercial source of tannin. By Ira D. Clarke, J. S. Rogers, A. F. Sievers, and Henry Hopp. *U.S. Dept. of Agr. Tech. Bul.* 986. 76 pp. 1949. (With Bureau Plant Indus., Soils, and Agr. Engin., and Soil Conserv. Serv.)
- Methods of drying sumac. By A. F. Sievers and I. D. Clarke. *Amer. Leather Chem. Assoc. Jour.* 55(8): 573-596. 1949. (With Bureau Plant Indus., Soils, and Agr. Engin.)
- Canaigre investigations. VI. Extraction with organic solvent-water solutions. By F. P. Luvisi, T. C. Cordon, C. W. Beebe, and J. S. Rogers. *Amer. Leather Chem. Assoc. Jour.* 44(10): 707-721. 1949.
- Protection of Army Ordnance leather equipment from molds. By T. C. Cordon, J. S. Rogers, C. W. Mann, and L. Teitell. *Amer. Leather Chem. Assoc. Jour.* 44(7): 472-503. 1949. (With Dept. of the Army, Ordnance Corps, Frankford Arsenal.)
- Microscopic Method for determining shrinkage temperatures of collagen and leather. By R. Borasky and G. C. Nutting. *Amer. Leather Chem. Assoc. Jour.* 44(12): 830-841. 1949.
- Water absorption of proteins. IV. Effect of physical structure. By Edward F. Mellon, Alfred H. Korn, and Sam R. Hoover. *Amer. Chem. Soc. Jour.* 71(8): 2761-2764. 1949.
- Amino acid composition of alpha-casein and beta-casein. By William G. Gordon, William F. Semmett, Robert S. Cable, and Myron Morris. *Amer. Chem. Soc. Jour.* 71(10): 3293-3297. 1949.

- Apparent specific volume of alpha-casein and beta-casein and the relationship of specific volume to amino acid composition. By T. L. McMeekin, M. L. Groves, and N. J. Hipp. *Amer. Chem. Soc. Jour.* 71(10): 3298-3300. 1949.
- Plastic flow properties of casein. By Leif Hougen and N. J. Hipp. *Jour. Colloid Chem.* 5(3): 218-227. 1950 (With Norwegian Govt.)
- Stabilization of casein fibers by desamination. By R. F. Peterson, and R. L. McDowell. *Textile Res. Jour.* 20(2): 95-99. 1950.
- X-Ray study of keratin and other protein fibers. By G. C. Nutting. *Amer. Soc. Testing Materials Standards on Textile Materials (With Related Information)*, prepared by A.S.T.M. Com. D-13 on Textile Materials. Pages 525-531. Oct. 1949.
- Application of polarization theory to sorption of water vapor by high polymers. By Sam R. Hoover and Edward F. Mellon. *Amer. Chem. Soc. Jour.* 72(6): 2562-2566. 1950.
- Photochemical oxidation of amino acids, beta-lactoglobulin and lysozyme in the presence of methylene blue. (Abs.) By Leopold Weil and Jeanne Maher. *Fed. Amer. Socs. Expt. Biol. Proc.* 9 (No. 1, pt. 1): 244. 1950.
- Permanent glass color standards for maple sirup. By B. A. Brice, A. Turner, Jr., F. L. Southerland, and Elmer P. Bostwick. AIC-260. (Processed.) 1950. *Food Indus.* 22(5): 818. 1950. *Canner* 110(6): 10-11. 1950. (With Prod. and Market Adm.)
- Maple sirup. II. A new high-flavored maple sirup. By C. O. Willits and W. L. Porter. AIC-269. (Processed.) 1950.
- Flavor modification of low-grade honey. By Jonathan W. White, Jr., and George P. Walton. AIC-272. (Processed.) 1950.
- Report on honey. By G. P. Walton. *Assoc. Off. Agr. Chem. Jour.* 33(2): 298-300. 1949.
- Benzyl allyl starch and other mixed allyl starch ethers. By E. A. Talley, J. H. Schwartz, A. S. Hunter, and C. A. Brown. AIC-261. (Processed.) 1950.
- Preparation and properties of styrenated allyl starch. By A. N. Wrigley, James Siciliano, W. C. Mast, and C. H. Fisher. AIC-266. (Processed.) 1950.
- Preparation and properties of allylsucrose. By Morris Zief and Elias Yanovsky. *Indus. and Engin. Chem.* 41(8): 1697-1700. 1949. (With Sugar Res. Found.)
- Allylsucrose: A potential upgrader for drying oils. By Morris Zief. *Off. Digest, Fed. Paint and Varnish Prod. Clubs.* No. 297, pp. 711-715. Oct. 1949. (With Sugar Res. Found.)
- Styrenation of allylsucrose improves its properties as a coating material. By A. N. Wrigley and Morris Zief. *Off. Digest, Fed. Paint and Varnish Prod. Clubs.* No. 303, pt.1, pp. 302-308. April 1950. (With Sugar Res. Found.)

- Properties of allylsucrose and allylsucrose coatings. By Morris Zief and E. Yanovsky. AIC-265. (Processed.) 1950. (With Sugar Res. Found.)
- Unsaturated esters of sucrose. By Morris Zief. Amer. Chem. Soc. Jour. 72(3): 1137-1140. 1950. (With Sugar Res. Found.)
- Biochemical oxidation of dairy wastes. I. Methods of study. By Nandor Porges, Janet B. Pepinsky, Nancy C. Hendler, and Sam R. Hoover. Sewage and Indus. Wastes 22(3): 318-325. 1950.
- Effects of borate and other ions on the alkaline phosphatase of bovine milk and intestinal mucosa. By Charles A. Zittle and Edward S. Della Monica. Arch. Biochem. 26(1): 112-122. 1950.
- Effects of glutamic acid, lysine and certain inorganic ions on bovine alkaline phosphatases. By Charles A. Zittle and Edward S. Della Monica. Arch. Biochem. 26(1): 135-143. 1950.
- Effects of onions, cations and amino acids on bovine alkaline phosphatases. (Abs.) By Charles A. Zittle and Edward S. Della Monica. Fed. Amer. Soc. Expt. Biol. Proc. 9 (No. 1, pt.1): 251. 1950.
- A crystalline compound of beta-lactoglobulin with dodecyl sulfate. By T. L. McMeekin, B. D. Polis, E. S. Della Monica, and J. H. Custer. Amer. Chem. Soc. Jour. 71(11): 3606-3609. 1949.
- Molecular weight of beta-lactoglobulin as determined by light-scattering measurements. By M. Halwer and B. A. Brice. Jour. Colloid Sci. 4(4): 439-440. 1949.
- Composition and densities of beta-lactoglobulin crystals in sucrose and in serum albumin solutions. (Abs.) By T. L. McMeekin, M. L. Groves, and N. J. Hipp. Fed. Amer. Soc. Expt. Biol. Proc. 9 (No. 1, pt. 1): 203. 1950.
- Preparation and properties of diethylene glycol bis-carbonates of alkyl lactates. By C. E. Rehberg, Marion B. Dixon, and C. H. Fisher. Jour. Organic Chem. 14(4): 593-601. 1949.
- Preparation of N-substituted lactamides by aminolysis of methyl lactate. By William P. Ratchford and C. H. Fisher. Jour. Organic Chem. 15(2): 317-325. 1950.
- Preparation and properties of N-n-alkyllactamides. By William P. Ratchford, Jour. Organic Chem. 15(2): 326-332. 1950.
- Diethylene glycol bis-carbonates of lactic esters. By C. E. Rehberg, Marion B. Dixon, and C. H. Fisher. Jour. Organic Chem. 15(3): 560-564. 1950.
- Laurates of lactic acid esters. By M. L. Fein and C. H. Fisher. Jour. Organic Chem. 15(3): 530-534. 1950.
- Mixed esters of lactic and carbonic acids. n-Alkyl carbonates of methyl and butyl lactates, and butyl carbonates of n-alkyl lactates. By C. E. Rehberg and Marion B. Dixon. Jour. Organic Chem. 15(3): 565-571. 1950.

- n*-Alkyl lactates and their acetates. By C. E. Rehberg and Marion B. Dixon. Amer. Chem. Soc. Jour. 72(25): 1918-1922. 1950.
- Acrylic acid. By W. P. Ratchford, and C. E. Rehberg. Organic Synthesis (book). Vol. 29, pp. 2-6. 1949.
- Preparation and purification of 2-chloroethyl vinyl ether. Copolymers of 2-chloroethyl vinyl ether and ethyl acrylate. By C.E. Rehberg and C. H. Fisher. AIC-255. (Processed.) 1949.
- Preparation and properties of monomeric and polymeric acrylic esters of ether-alcohols. By C. E. Rehberg and W. A. Faucette. Jour. Organic Chem. 14(6): 1094-1098. 1949.
- Acrylic esters of amino alcohols. By C. E. Rehberg and W. A. Faucette. Amer. Chem. Soc. Jour. 71(9): 3164-3165. 1949.
- 2-(2-Chloroethoxy) - ethyl acetate and 2-chloroethyl vinyl ether. By C. F. Rehberg. Amer. Chem. Soc. Jour. 71(9): 3247-3248. 1949.
- Preparation of aryl acrylates and methacrylates by pyrolysis of the corresponding acetoxy esters. By E. M. Filachione, J. H. Lengel, and William P. Ratchford. Amer. Chem. Soc. Jour. 72(2): 839-841. 1950.
- Beta-alkoxy- and aryloxypropionates. By C. E. Rehberg and Marion B. Dixon. Amer. Chem. Soc. Jour. 72(5): 2205-2206. 1950.
- Alkyl alpha-acyloxyacetates and propionates from soaps and alpha-halogeno esters. By J. K. Weil, A. J. Stirton, and Anna A. Stawitzke. Amer. Oil Chem. Soc. Jour. 27(5): 187-189. 1950.
- Metal deactivation in lard. By S. G. Morris, J. S. Myers, Jr., Mary L. Kip, and R. W. Riemenschneider. Amer. Oil Chem. Soc. Jour. 27(3): 105-107. 1950.
- Unit cell and optical properties of *t,t*,  $\Delta$  9, 11-linoleic acid. By Lee P. Witnauer and Frederic R. Senti. Amer. Chem. Soc. Jour. 72(6): 2803-2804. 1950.
- Analyses of mixtures of *t,t*  $\Delta$  9,11- and *t,t*  $\Delta$  10,12-linoleic acids by X-ray diffraction patterns and solidification points. By Lee P. Witnauer, Peter L. Nichols, Jr., and Frederic R. Senti. Amer. Oil Chem. Soc. Jour. 26(11): 653-655. 1949.
- Reactions of fatty materials with oxygen. IV. Quantitative determination of functional groups. By H. B. Knight and Daniel Swern. Amer. Oil Chem. Soc. Jour. 26(7): 366-370. 1949.
- Isolation of pure natural linoleic and linolenic acids as their methyl esters by adsorption fractionation on silicic acid. By R. W. Riemenschneider, S. F. Herb, and Peter L. Nichols, Jr. Amer. Oil Chem. Soc. Jour. 26(7): 271-274. 1949.

- Antioxidant properties of polyhydroxybenzoic acids and their esters, and other nuclear substituted polyphenols. By Steward G. Morris and R. W. Riemenschneider. *Amer. Oil Chem. Soc. Jour.* 26(11): 638-640. 1949.
- Polyunsaturated fatty acid retarders in the emulsion polymerization of GR-S synthetic rubber. By Waldo C. Ault, B. A. Brice, Margaret L. Swain, B. B. Schaeffer, and M. J. Copley. *Amer. Oil Chem. Soc. Jour.* 26(12): 700-704. 1949.
- Comparison of infrared spectrophotometric and lead salt-alcohol methods for determination of trans octadecenoic acids and esters. By Daniel Swern, H. B. Knight, O. D. Shreve, and M. R. Heether. *Amer. Oil Chem. Soc. Jour.* 27(1): 17-21. 1950 (With E. I. du Pont de Nemours and Co.)
- Preparation of some polymerizable esters of 10-hendecenoic (undecylenic) acid. By E. F. Jordan, Jr., and Daniel Swern. *Amer. Chem. Soc. Jour.* 71(7): 2377-2379. 1949.
- Solubility and specific rotation of *l*-ascorbyl palmitate and *l*-ascorbyl laurate. By Daniel Swern. *Amer. Chem. Soc. Jour.* 71(9): 3256. 1949.
- Chemistry of epoxy compounds. X. Polymerization of the isomeric 9,10-epoxy-octadecanols. By Daniel Swern and Geraldine N. Billen. *Amer. Chem. Soc. Jour.* 71(11): 3849-3851. 1949.
- Fatty acid amides. II. Amides as derivatives for the identification of some long-chain unsaturated fatty acids. By Daniel Swern, Jeanne M. Stutzman, and Edward T. Roe. *Amer. Chem. Soc. Jour.* 71(9): 3017-3019. 1949.
- Determination of unsaturation by microhydrogenation. Method and apparatus. By Clyde L. Ogg and Frances J. Cooper. *Analyt. Chem.* 21(11): 1400-1402. 1949.
- Note on carotene paper by Derby and DeWitt. By Monroe E. Wall and Edward G. Kelley. *Assoc. Off. Agr. Chem. Jour.* 32(4): 804. 1949.
- Report on standardization of microchemical methods. Carbon, hydrogen, and nitrogen. By C. O. Willits and C. L. Ogg. *Assoc. Off. Agr. Chem. Jour.* 32(3): 561-586. 1949.
- Determination of glucose, galactose, and rhamnose in mixtures. By William L. Porter and Charles S. Fenske, Jr. *Assoc. Off. Agr. Chem. Jour.* 32(4): 714-717. 1949.
- Boiling temperatures of Kjeldahl digestion mixtures. By C. L. Ogg and C. O. Willits. *Assoc. Off. Agr. Chem. Jour.* 33(1): 100-103. 1950.
- Report on standardization of microchemical methods. Micro Kjeldahl nitrogen determination. By C. O. Willits and C. L. Ogg. *Assoc. Off. Agr. Chem. Jour.* 33(2): 179-188. 1950.
- An improved tensimeter-still. By William P. Ratchford and C. E. Rehberg. *Analyt. Chem.* 21(11): 1417-1419. 1949.



- Improved manostat and manometer. By William P. Ratchford and M. L. Fein. *Analyt. Chem.* 22(6): 838-839. 1950.
- Simple low power electronic relay. By W. P. Ratchford and M. L. Fein. *Rev. Sci. Instruments* 21(2): 188. 1950.
- Adjustment of temperature scale of Cox charts. By C. E. Rehberg. *Indus. and Engin. Chem.* 42(5): 829-830. 1950.
- Notes on Karl Fischer reagent. By C. Ricciuti and C. O. Willits. *Assoc. Off. Agr. Chem. Jour.* 33(2): 469-473. 1950.

#### INFORMATIONAL

- Rutin and the medical application of the glycosides. By James F. Couch. (Abstract of talk) *Chemurgic Digest* 9(6): 19. 1950.
- Utilization of white potatoes. Estimates in accordance with the 1949 goal. By R. H. Treadway. AIC-242. (Processed.) 1949.
- Pre-peeled potatoes for commercial use. By R. L. Olson and R. H. Treadway. AIC-246. (Processed.) 1949. (With Western Reg. Res. Lab.)
- Research aids production of flour from surplus potatoes. *Res. Achvt. Sheet* 125(C). (Processed.) Jan. 1950.
- Potato flour and its use in the baking industry. By R. H. Treadway. *Bakers Digest* 23(4): 82-84. 1949.
- Volatile fruit concentrates now free from tax. By P. A. Wells. *Fruit Prod. Jour. and Amer. Food Mfr.* 29(3): 67, 89. 1949. *Food Technol.* 3(12): 418. 1949. *Food Packer* 30(12): 21. 1949. *Canner* 109(19): 34. 1949.
- Volatile constituents of apples identified. *Res. Achvt. Sheet* 126 (C). (Processed.) Jan. 1950.
- Maple sirup. I. Research program on maple products at the Eastern Regional Research Laboratory. By C. O. Willits and W. L. Porter. AIC-268. (Processed.) 1950.
- Animal fat and oil research. By Waldo C. Ault and P. A. Wells. *Butchers' Advocate* 127(18): 9-10, 23. May 3, 1950.
- Milk proteins. By Thomas L. McMeekin and B. David Polis. Pages 201-228 of book entitled "Advances in Protein Chemistry", Vol. 5, edited by M. L. Anson and John T. Edsall. 1949.
- Bristles outlet for casein. By T. L. McMeekin. *News for Farmer Cooperatives* (pub. by Farm Credit Adm.) 16(4): 17. July 1949.
- The overall report on lactic acid. By C. F. Woodward. *Chemurgic Digest* 9(6): 9. 1950.

Farm and factory [tobacco] leaf curing technology of our processing. By Ernest G. Beinhart. Tobacco 130(13): 23, 155, 158. March 30, 1950.

Organic microchemistry. By C. O. Willits and C. L. Ogg. Analyt. Chem. 22(2): 268-271. 1950.

Organic peracids. By Daniel Swern. Chem. Rev. 45(1): 1-68. 1949.

#### BIBLIOGRAPHICAL

Publications and patents of the Eastern Regional Research Laboratory. 1939-December 1949. AIC-180, including Supplements 1,2,3,4. (Processed.) 1950.

Publications and patents of the Eastern Regional Research Laboratory. January - June 1950. AIC-180, Supplement 5. (Processed.) 1950.

#### WESTERN REGIONAL RESEARCH LABORATORY

800 Buchanan Street

Albany 6, Calif.

#### RESEARCH

Carotene retention in alfalfa meal. Effect of moisture content. By G. F. Bailey, M. E. Atkins, and E. M. Bickoff. Indus. and Engin. Chem. 41(9): 2033-2036. 1949.

Stability of carotene in alfalfa meal. Effect of antioxidants. By C. Ray Thompson. Indus. and Engin. Chem. 42(5): 922-925. 1950.

Determination of beta-carotene stereoisomers in alfalfa. By E. M. Bickoff and C. R. Thompson. Assoc. Off. Agr. Chem. Jour. 32(4): 775-780. 1949.

Stereoisomeric analysis of beta-carotene. By E. M. Bickoff, M. E. Atkins, G. F. Bailey, and Fred Stitt. Assoc. Off. Agr. Chem. Jour. 32(4): 766-775. 1949.

Western Laboratory plans tests to find new food uses for rice. By E. B. Kester. Rice Jour. 52(7): 16, 20. 1949.

Rice curls - a new food product from rice. By R. L. Roberts, E. B. Kester, and D. F. Houston. AIC-258. (Processed.) 1950.

Rice curls - production and cost. By Otto R. Vasak. AIC-273. (Processed.) 1950.

Steam blanching of fresh rough rice curbs spoilage by fatty acids. By R. L. Roberts, G. R. Van Atta, I. R. Hunter, D. F. Houston, E. B. Kester, and H. S. Olcott. Food Indus. 21(8): 1041. 1949.

Preservation of foods with antibiotics. I. The complementary action of subtilin and mild heat. By Ariel A. Andersen and H. David Michener. Food Technol. 4(5): 188-189. 1950.

- Esterification of subtilin and its effect on solubility and *in vitro* bacteriostatic activity. By J. F. Carson, E. F. Jansen, and J. C. Lewis. *Amer. Chem. Soc. Jour.* 71(7): 2318-2322. 1949.
- Absorption of subtilin in the rabbit. By Robert H. Wilson, E. M. Humphreys, D. M. Reynolds, and J. C. Lewis. *Soc. Expt. Biol. and Med. Proc.* 71(4): 700-705. 1949. (With Pharmacology Lab.)
- Lupulon and humulon- antibiotic constituents of hops. By J. C. Lewis, Gordon Alderton, J. F. Carson, D. M. Reynolds, and W. D. Maclay. *Jour. Clin. Invest.* 28(No. 5, pt. 1): 916-919. 1949.
- Protection of lupulon and humulon by ascorbic acid. By H. David Michener and A. A. Andersen. *Science* 110(2846): 68-69. 1949.
- Method of isolation of usnic acid from *Ramalina reticulata*. By J.B. Stark, E.D. Walter, and H. S. Owens. *Amer. Chem. Soc. Jour.* 72(4): 1819-1820. 1950.
- Optical, crystallographic and X-ray diffraction data for usnic acid. By Francis T. Jones and Kenneth J. Palmer. *Amer. Chem. Soc. Jour.* 72(4): 1820-1822. 1950.
- Mushroom mycelium production by submerged propagation. By Harry Humfeld and T. Frank Sugihara. *Food Technol.* 3(11): 355-356. 1949.
- Studies on cultural requirements of *Claviceps purpurea* and inactivation of ergotamine. By H. David Michener and Neva Snell. *Amer. Jour. Bot.* 37(1): 52-59. 1950.
- Fermentation process for production of Vitamin B<sub>12</sub>. By J. C. Lewis, K. Ijichi, N. S. Snell, and J. A. Garibaldi. AIC-254. (Processed.) 1949.
- Permeability of pectinate films to water vapor. By T. H. Schultz, J. C. Miers, H. S. Owens, and W. D. Maclay. *Jour. Phys. Colloid Chem.* 53(9): 1320-1330. 1949.
- Gelation properties of partially acetylated pectins. By E. L. Pippen, R. M. McCready, and H. S. Owens. *Amer. Chem. Soc. Jour.* 72(2): 813-816. 1950.
- The structure of (I) some pectin esters and (II) guar galactomannan. By K. J. Palmer and Merle Ballantyne. *Amer. Chem. Soc. Jour.* 72(2): 736-741. 1950.
- The essential groups of lysozyme, with particular reference to its reaction with iodine. By Heinz Fraenkel-Conrat. *Arch. Biochem.* 27(1): 109-124. 1950.
- Phosvitin, the principal phosphoprotein of egg yolk. By Dale K. Mecham and Harold S. Olcott. *Amer. Chem. Soc. Jour.* 71(11): 3670-3679. 1949.
- Shear - not pressure- harms egg white. By L. R. MacDonnell, H. L. Hanson, R. B. Silva, Hans Lineweaver, and R. E. Fenney. *Food Indus.* 22(2): 273-276. 1950.
- Production of a friable meal from feathers. By Charles H. Binkley and Otto R. Vasak. AIC-274. (Processed.) 1950.

- The freezing preservation of turkey meat steaks. By A. A. Klose, H. L. Hanson, and Hans Lineweaver. *Food Technol.* 4(2): 71-74. 1950.
- Effect of prefreezing hold time and antioxidant spray on storage stability of frozen eviscerated turkeys. By M. F. Pool, H. L. Hanson, and A. A. Klose. *Poultry Sci.* 29(3): 347-350. 1950.
- Dehydrofreezing improves food quality. By R. R. Legault and W. F. Talburt. *Refrig. Engin.* 57(12): 1175-1177. 1949.
- Sulfite disappearance in dehydrated vegetables during storage. By R.R. Legault, Carl E. Hendel, William F. Talburt, and Lois B. Rasmussen. *Indus. and Engin. Chem.* 41(7): 1447-1451. 1949.
- Value of starch coating in the preservation of quality of dehydrated carrots. By M. P. Masure, G. S. Bohart, E. J. Eastmond, and M. M. Boggs. *Food Technol.* 4(3): 94-97. 1950.
- Convergence criteria in numerical solution of the diffusion equation. By W. B. Van Arsdell. AIC-287. (Processed.) 1950.
- Effect of storage temperature on quality of frozen peas. By F. E. Lindquist, W. C. Dietrich, and Mildred M. Boggs. *Food Technol.* 4(1): 5-9. 1950.
- Effect of steam blanching on quality of frozen peas. By R. R. Legault, William F. Talburt, Helen L. Hanson, and L. R. Leinbach. *Food Technol.* 4(5): 194-199. 1950.
- Role of bruising and delay in the development of off-flavor in peas. By Rachel Uhvits Makower and Alice Collings Ward. *Food Technol.* 4(2): 46-49. 1950.
- Time lapse gets top blame for shelled pea off-flavor. By W.F. Talburt and R. R. Legault. *Food Indus.* 22(6): 1021-1023. 1950.
- Sirup treatment of apple slices for freezing preservation. By D. G. Guadagni. *Food Technol.* 3(12): 404-408. 1949.
- Laboratory studies on factors affecting leaching losses during the processing of apples. By Ann M. Mylne and C. G. Seegmiller. *Food Technol.* 4(2): 43-46. 1950.
- Enzymatic oxidation of phenolic compounds in frozen peaches. By D. G. Guadagni, D. G. Sorber, and J. S. Wilbur. *Food Technol.* 3(11): 359-364. 1949.
- Bacteriological studies on frozen orange juice stored at  $-10^{\circ}\text{F}$ . By E. R. Wolford. *Food Technol.* 4(6): 241-245. 1950.
- Sucrose hydrates. The sucrose-water phase diagram. By Frank E. Young and Francis T. Jones. *Jour. Phys. Colloid Chem.* 53(9): 1334-1350. 1949.
- A defrosting indicator for frozen foods. By A. A. Andersen. *Food Technol.* 3(11): 357-358. 1949.

- An improved heated-thermocouple anemometer for use in air-blast freezers. By E. Lowe and J. R. Hawes. *Food Technol.* 3(7): 241-243. 1949.
- How to test your air-blast freezer. By E. Lowe, G. S. Smith, and O. H. Spaugh. *Food Indus.* 22(4): 638-641. 1950.
- Activity of wetting agents--temperature effects. By F.H. Lucas and A. H. Brown. *Food Technol.* 4(4): 121-124. 1950.
- Processing quality of varieties and strains of dry beans. By H. J. Morris, R. L. Olson, and R. C. Bean. *Food Technol.* 4(6): 247-251. 1950.
- Quick test of sweet corn quality. By Kenneth T. Williams, Elizabeth A. McComb, and Barbara L. Washauer. *Food Indus.* 22(3): 458-459. 1950.
- Texture problems in raspberry canning. By William F. Talburt, C. C. Nimmo, M. J. Powers, and C. D. Schwartz. *West. Canner and Packer* 42(6): 16,19. 1950. (With Wash. Agr. Expt. Sta.)
- Commercial fresh prune products--technical feasibility. Processing studies and probable costs. By L. H. Walker, J. D. Ponting, William F. Talburt, and Clyde L. Rasmussen. AIC-263. (Processed.) 1950.
- Application of wax treatment to berry boxes (hallocks) to control molds. By Western Regional Research Laboratory. AIC-270. (Processed.) 1950. (Supersedes AIC-239.)
- Ascorbic acid from walnut hulls. By A. A. Klose, J. B. Stark, G. G. Purvis, Jean Peat, and H. L. Fevold. *Indus. and Engin. Chem.* 42(2): 387-391. 1950.
- Phenothiazine derivatives: mono-oxygenated compounds. By David F. Houston, E. B. Kester, and Floyd DeEds. *Amer. Chem. Soc. Jour.* 71(11): 3816-3818. 1949. (With Pharmacology Laboratory.)
- Phenothiazine derivatives: di-oxygenated compounds. By David F. Houston, E. B. Kester, and Floyd DeEds. *Amer. Chem. Soc. Jour.* 71(11): 3819-3822. 1949. (With Pharmacology Laboratory.)
- Sugars of citrus juices. By R. M. McCready, E. D. Walter, and W. D. Maclay. *Food Technol.* 4(1): 19-20. 1950.
- A study of the effect of clarification on the determination of reducing sugars in plant materials. By Arthur Bevenue and Barbara Washauer. *Assoc. Off. Agr. Chem. Jour.* 33(1): 122-127. 1950.
- Study of clarification methods in the determination of sugars in white potatoes. By Kenneth T. Williams, Earl F. Potter, Arthur Bevenue, and Warren R. Scurzi. *Assoc. Off. Agr. Chem. Jour.* 32(4): 698-706. 1949.
- A method for the determination of calcium in apple firming baths. By Kenneth T. Williams and Arthur Bevenue. *Fruit Prod. Jour. and Food Mfr.* 29(5): 136-137, 155. 1950.

The "browning" reaction of proteins with glucose. By Ali Mohammad, Heinz Fraenkel-Conrat, and Harold S. Olcott. Arch. Biochem. 24(1): 157-178. 1949.

The reaction of proteins with acetaldehyde. By Ali Mohammad, Harold S. Olcott, and Heinz Fraenkel-Conrat. Arch. Biochem. 24(2): 270-280. 1949.

Preparation of wheat flour pentosans for use in reconstituted doughs. By J. W. Pence, Angeline H. Elder, and D. K. Mecham. Cereal Chem. 27(1): 60-66. 1950.

#### INFORMATIONAL

Pre-peeled potatoes for commercial use. By R. L. Olson and R. H. Treadway. AIC-246. (Processed.) 1949. (With Eastern Reg. Res. Lab.)

Sirup treatment of apple slices for freezing preservation. AIC-253. (Processed.) 1949.

Analysis of food by sensory difference tests. By Mildred M. Boggs and Helen L. Hanson. Pages 219-258 of book entitled "Advances in Food Research," Vol. II, edited by E. M. Mrak and George F. Stewart. 1949.

Protective packaging with molten thermoplastics. By William Rabak. Canner 110(19): 11-12. May 1950. Mod. Packaging 23(10): 140-141. June 1950.

#### BIBLIOGRAPHICAL

List of publications and patents [without abstracts] of the Western Regional Research Laboratory. 1941 to 1949. AIC-256. (Processed.) 1949.

List of publications and patents with abstracts of the Western Regional Research Laboratory. July 1-December 31, 1949. AIC-218, Supplement 4. (Processed.) 1950.

List of publications and patents with abstracts of the Western Regional Research Laboratory. Jan. 1-June 30, 1950. AIC-218, Supplement 5. (Processed.) 1950.

Annotated bibliography of subtilin: assay, microbiological production, purification and chemistry, biological activity, and related compounds. By J. C. Lewis. AIC-168, Revised, Feb. 1950. (Processed.) 1950.

Alfalfa - a selected bibliography of its composition, processing, and use. By Anne M. Avakian. AIC-241. (Processed.) 1949.

#### AGRICULTURAL CHEMICAL RESEARCH DIVISION

2100 Robert E. Lee Boulevard

New Orleans 19, La.

#### RESEARCH

Frozen purees from Florida citrus fruits. By Owen W. Bissett. Fla. State Hort. Soc. Proc., pp. 163-165. 1949. Citrus Indus. 31(2): 16-17, 22. 1950.

Microbiological surveys of citrus processing plants during the 1948-1949 season. By Roger Patrick. AIC-259. (Processed.) 1950.

- The role of micro-organisms and storage temperatures on the quality of orange concentrate. By Roger Patrick. Fla. State Hort. Soc. Proc., pp. 174-177 1949. Citrus Indus. 31(3): 8, 9, 13. 1950.
- Tangerine seed oil. By Lyle James Swift. Amer. Oil Chem. Soc. Jour. 26(8): 438-441. 1949.
- Effect of freezing temperatures on different varieties of sugarcane and the millability of damaged sugarcane in Louisiana. By John I. Lauritzen, R. T. Balch, Lester G. Davidson, and George Arceneaux. U. S. Dept. Agr. Tech. Bul. 991. 35 pp. 1949. (With Bur. Plant Indus., Soils, and Agr. Engin.)
- Powdered calcium carbonate (oyster shell flour) in processing of sugarcane. By Emil K. Ventre and R. T. Balch. AIC-252. (Processed.) 1949.
- Milk solids give candies longer-lasting freshness. By H. H. Hall and Fred J. Fahs. Food Indus. 21(8): 1042-1043. 1949. Republished under title "Milk Solids", in West. Confectioner 37(1): 8-9. 1950. (With Natl. Confectioners' Assoc.)
- Progress in candy research. Report No. 18. Report on utilization of agricultural products in confectionary in cooperation with the National Confectioners' Association from June 1, 1949 to Sept. 30, 1949. (Processed.) Natl. Confectioners' Assoc. 1949.
- Progress in candy research. Report No. 19. Report on utilization of agricultural products in confectionery in cooperation with the National Confectioners' Association from Oct. 1, 1949 to Jan. 31, 1950. (Processed.) Natl. Confectioners' Assoc. 1950.
- Progress in candy research. Report No. 20. Report on utilization of agricultural products in confectionery in cooperation with the National Confectioners' Association from Feb. 1, 1950 to May 31, 1950. (Processed.) Natl. Confectioners' Assoc. 1950.
- Cucumber varieties in pickle manufacture. By Ivan D. Jones and John L. Etchells. Canner 110(1): 34-40. Jan. 7, 1950. (With N. C. Agr. Expt. Sta.)
- Film yeasts on commercial cucumber brines. By John L. Etchells and Thomas A. Bell. Food Technol. 4(3): 77-83. 1950. (With N. C. Agr. Expt. Sta.)
- Softening of commercial cucumber salt-stock in relation to polygalacturonase activity. By Thomas A. Bell, John L. Etchells, and Ivan D. Jones. Food Technol. 4(4): 157-163. 1950. (With N.C. Agr. Expt. Sta.)
- Comparison of the whole fruit and component methods of analysis of tung fruit. By Frank C. Pack, Raiford L. Holmes, and Robert S. McKinney. Amer. Tung Oil Assoc. Proc., 1949. Part II, pp. 31-39. Amer. Oil Chem. Soc. Jour. 27(5): 164-166. 1950.
- Collaborative analysis of tung fruit by the whole fruit and component procedures. By Robert S. McKinney. Amer. Tung Oil Assoc. Proc., 1949. Part II, pp. 25-30.

## INFORMATIONAL

Sugarcane: its introduction, utilization, and processing. By Emil K. Ventre. South. Chem. 9(8): 302-304, 306, 308, 310. 1950.

Potential by-products of raw cane sugar manufacture. By L. F. Martin. Sugar Jour. 12(11): 12-13, 23. 1950.

New ingredients for candy production. By L.F. Martin. Mfg. Confectioner 29(9): 17-18. Sept. 1949.

Processing of tung nuts. By Robert S. McKinney. Dept. of Commerce, Office of Domestic Commerce booklet entitled "Tung Oil, a New American Industry", by Edmund C. Wood. Pages 17-23. 1949.

## BIBLIOGRAPHICAL

List of publications with abstracts [of the Bureau of Agricultural and Industrial Chemistry] on brining and pickling of cucumbers and other vegetables ~~September~~ 1938 to June 1950. Compiled by J. L. Etchells. AIC-183, Revised August 1950. (Processed.) 1950.

NAVAL STORES RESEARCH DIVISION  
Naval Stores Station  
Olustee, Fla.

## RESEARCH

Larger turpentine cups prove more efficient without effect on product yields or grade. By Ralph W. Clements and David N. Collins. Naval Stores Rev. 60(13): 16-18. June 24, 1950. (With Forest Service.)

The thermal isomerization of *allo*-ocimene. By E. D. Parker and L. A. Goldblatt. Amer. Chem. Soc. Jour. 72(5): 2151-2159. 1950.

The peroxide-catalyzed addition of carbon tetrachloride to beta-pinene. By Dorothy M. Oldroyd, G. S. Fisher, and L. A. Goldblatt. Amer. Chem. Soc. Jour. 72(6): 2407-2410. 1950.

Method for identifying isobutylene. By Edwin D. Parker and L. A. Goldblatt. Analyt. Chem. 21(7): 807-808. 1949.

## INFORMATIONAL

Applied research on pine gum at the Naval Stores Station. By D. N. Collins. AIC-251. (Processed.) 1949.

Role of Olustee gum cleaning in a new pine gum industry. By E. L. Patton and G. P. Shingler. Naval Stores Rev. Internatl. Yearbook, 1949. Pages 106-109. Aug. 31, 1949.



New methods improve turpentine. Better processing and distillation practices yield low-acid product. By E. P. Waite and N. C. McConnell. U. S. Dept. Agr. PA-107. (Processed.) 1950. Republished under title "Good Processing and Distillation Produce Low-Acid Turpentine" in Naval Stores Rev. 59(52): 18, 22-23. March 25, 1950.

Latest methods applied to naval stores processing. By F. L. McKennon and E. P. Waite. Paint, Oil and Chem. Rev. 113(12): 17-18, 20. June 8, 1950.

Synthetic rubber produced from turpentine. Res. Achvt. Sheet 124(C). (Processed.) December 1949.

New naval stores product ready for commercial evaluation. By E. L. Patton. Naval Stores Rev. 59(48): 16. Feb. 25, 1950.

#### BIBLIOGRAPHICAL

Publications of Naval Stores Research Division. 1941 to March 1949. Naval Stores Rev. Internat'l. Yearbook, 1949. Pages 114-117. Aug. 31, 1949.

#### ENZYME RESEARCH DIVISION 800 Buchanan Street, Albany 6, Calif.

#### RESEARCH

Isolation and properties of crystalline alpha-amylase from germinated barley. By Sigmund Schwimmer and A. K. Balls. Jour. Biol. Chem. 179(3): 1063-1074. 1949.

Starches and their derivatives as adsorbents for malt alpha-amylase. By Sigmund Schwimmer and A. K. Balls. Jour. Biol. Chem. 180(2): 883-894. 1949.

The bitter principle in Navel oranges. By Oliver H. Emerson. Food Technol. 3(7): 248-250. 1949.

Effect of high pressures on trypsin and chymotrypsin. By A. Laurence Curl and Eugene F. Jansen. Jour. Biol. Chem. 184(1): 45-54. 1950.

A crystalline, active oxidation product of alpha-chymotrypsin. (Abs.) By Eugene F. Jansen, M. D. Fellows Nutting, A. Laurence Curl, and A. K. Balls. Fed. Amer. Socs. Expt. Biol. Proc. 9(No. 1, pt. I): 186-187. 1950.

Effect of high pressures on activity of proteinases. (Abs.) By A. Laurence Curl and Eugene F. Jansen. Fed. Amer. Socs. Expt. Biol. Proc. 9(No. 1, pt. I): 164. 1950.

A micromethod for detecting the enzymatic breakdown of cephalins and/or phosphoserines. By W. Gordon Rose. Food Technol. 4(6): 230-232. 1950.

## BIBLIOGRAPHICAL

List of publications and patents with abstracts of the Enzyme Research Division.  
July 1, 1948 - December 31, 1948. AIC-219, Supplement II. (Processed.)  
1949.

List of publications and patents with abstract of the Enzyme Research Division.  
January, 1949 - July, 1950. AIC-219, Supplement III. (Processed.) 1950.

## PHARMACOLOGY LABORATORY

800 Buchanan Street,  
Albany 6, Calif.

## RESEARCH

Importance of diet in studies on chronic toxicity. By Robert H. Wilson and  
Floyd DeEds. Arch. Indus. Hyg. and Occupational Med. 1(1): 73-80. 1950.

The value of rutin and quercetin in scurvy. By Anthony M. Ambrose and Floyd  
DeEds. Jour. of Nutrition 38(3): 305-317. 1949.

Further observations on the effect of rutin and related compounds on cutaneous  
capillaries. By Anthony M. Ambrose and Floyd DeEds. Jour. Pharmacol. and  
Expt. Ther. 97(1): 115-119. 1949.

Effect of rutin and related compounds on experimental frostbite in rabbits.  
(Abs.) By Anthony M. Ambrose, Dorothy J. Robbins, and Floyd DeEds. (Fed.  
Amer. Socs. Expt. Biol. Proc. 9(No. 1, pt. I): 254. 1950.

Absorption of subtilin in the rabbit. By Robert H. Wilson, E. M. Humphreys,  
D. M. Reynolds, and J. C. Lewis. Soc. Expt. Biol. and Med. Proc. 71(4):  
700-705. 1949. (With Western Reg. Res. Lab.)

Toxicity studies on tomatine. (Abs.) By Robert H. Wilson, G. W. Poley, and  
Floyd DeEds. Fed. Amer. Socs. Expt. Biol. Proc. 9(No. 1, pt. I): 325. 1950.

Phenothiazine derivatives: mono-oxygenated compounds. By David F. Houston,  
E. B. Kester, and Floyd DeEds. Amer. Chem. Soc. Jour. 71(11): 3816-3818.  
1949. (With Western Reg. Res. Lab.)

Phenothiazine derivatives: di-oxygenated compounds. By David F. Houston, E. B.  
Kester, and Floyd DeEds. Amer. Chem. Soc. Jour. 71(11): 3819-3822. 1949.  
(With Western Reg. Res. Lab.)

Further studies on toxicity of thioacetamide in rats. By Anthony M. Ambrose,  
Floyd DeEds, and Lelland J. Rather. Soc. Expt. Biol. and Med. Proc. 74(1):  
132-134. 1950

## INFORMATIONAL

The significance of chronic toxicity studies. By Floyd DeEds. Food Technol.  
4(2): 40-42. 1950.

**BIBLIOGRAPHICAL**

Publications with abstracts of the Pharmacology Laboratory. July 1948-June 1950. AIC-220, Supplement II. (Processed.) 1950.

**FRUIT AND VEGETABLE CHEMISTRY LABORATORY**

263 Chester Ave.  
Pasadena 5, Calif.

**RESEARCH**

New frozen purees from citrus fruits. By E. A. Beavens. AIC-238. (Processed.) 1949.

Preliminary studies on debittering Navel orange products. By R. J. McColloch. Calif. Citrog. 35(7): 290,292. 1950.

The presence of hydrogen sulfide in citrus juices. By J. G. Kirchner, R. G. Rice, J. M. Miller, and G. J. Keller. Arch. Biochem. 25(1): 231-232. 1950.

Preparation of lycopene from tomato paste for use as a spectrophotometric standard. By W. B. Davis. Analyt. Chem. 21(10): 1226-1228. 1949.

Estimation of the color of tomato paste. By W.B. Davis. Analyt. Chem. 21(12): 1500-1503. 1949.

Processing and packaging of dates. I. A new method of canning and pasteurizing Deglet Noor dates. By B. W. Nielsen, R. J. McColloch, and E. A. Beavens. Food Technol. 4(6): 232-237. 1950.

Chromatography on treated filter paper. By J. G. Kirchner and G. J. Keller. Amer. Chem. Soc. Jour. 72(4): 1867-1868. 1950.

A simplified thermocouple seal. By B. W. Nielsen and Burton Borson. Canner 109(18): 10-11. Oct. 29, 1949.

**INFORMATIONAL**

The Chemistry of fruit and vegetable flavors. By Justus A. Kirchner. Pages 259-296 of book entitled "Advances in Food Research", Vol. 2, edited by E. M. Mraz and George F. Stewart. 1949.

**NATURAL RUBBER EXTRACTION AND PROCESSING INVESTIGATIONS**

P. O. Box 1609  
Salinas, Calif.

**RESEARCH**

A low-molecular-weight fraction of guayule rubber. By J. W. Meeks, T. F. Banigan, Jr., and R. W. Planck. India Rubber World 122(3): 301-304. June 1950.

## BIBLIOGRAPHICAL

List of publications and patents with abstracts of Bureau of Agricultural and Industrial Chemistry, pertaining to research on natural rubber-- 1944-1949. AIC-276. (Processed.) 1950.

**ALLERGEN RESEARCH DIVISION**  
Bureau of Agricultural and Industrial Chemistry  
U. S. Department of Agriculture  
Washington 25, D. C.

## RESEARCH

- On allergy to cottonseed oil. By H.S. ~~Bernton~~, E. J. Coulson, and Henry Stevens. Amer. Med. Assoc. Jour. 140(10): 869-871. 1949.
- The immunochemistry of allergens. X. Anaphylactogenic properties of allergenic fractions from castor beans. By E.J. Coulson, Joseph R. Spies, Henry Stevens, and James H. Shimp. Jour. Allergy 21(1): 34-44. 1950.
- Dimorphism of ~~formyl-D-~~ and ~~L-methionine~~ and the effect of hydrochloric acid on the reaction of ~~D-~~ and ~~L-methionine~~. By Joseph R. Spies. Jour. Biol. Chem. 182(1): 439-443. 1950.
- Utilization of optical isomers of methionine and formylmethionine by some lactobacilli. By Joseph R. Spies and Dorris C. Chambers. Jour. Biol. Chem. 183(2): 709-712. 1950.
- Chemical determination of tryptophan in proteins. By Joseph R. Spies and Dorris C. Chambers. Analyt. Chem. 21(10): 1249-1266. 1949.

**MICROBIOLOGY RESEARCH DIVISION**  
Bureau of Agricultural and Industrial Chemistry  
U. S. Department of Agriculture  
Washington 25, D. C.

## RESEARCH

- The utilization of some organic compounds by one strain each of *Salmonella anatum*, *Salmonella oranienburg*, and *Salmonella pullorium*. By Frank Davis and Mathilde Soloway. Jour. Bact. 59(3): 361-366. 1950.

**BIOLOGICALLY ACTIVE CHEMICAL COMPOUNDS DIVISION**  
Room 114, North Laboratory  
Agricultural Research Center  
Beltsville, Md.

## RESEARCH

- Synthetic plant-growth regulators. I. 2,4-Dichloro-5-iodophenoxyacetic acid and derivatives. By Winthrop C. Wolfe, John W. Wood, Loraine W. Klipp, Thomas D. Fontaine, and J. W. Mitchell. Jour. Organic Chem. 14(5): 900-901. 1949. (With Bureau and Plant Indus., Soils, and Agr. Engin.)

Synthetic plant-growth regulators. II. Radioactive labeled 2,4-dichloro-5-iodo<sup>131</sup>-phenoxyacetic acid and derivatives. By John W. Wood, Winthrop C. Wolfe, H. M. Doukas, L. W. Klipp, Thomas D. Fontaine, and J. W. Mitchell. Jour. Organic Chem. 14(5): 901-906. 1949. (With Bureau Plant Indus., Soils, and Agr. Engin.)

Effect of 2,4-dichloro-5-iodophenoxyacetic acid and its derivatives as plant growth regulators. By P. J. Linder, J. W. Mitchell, and J. W. Wood. Science 111(2889): 518-519. 1950. (With Bureau Plant Indus., Soils, and Agr. Engin.)

Plant-growth regulators in distillers solubles. By Paul L. Davis, Marian W. Kies, Thomas D. Fontaine, Dorothy P. Skaggs, and J. W. Mitchell. Fifth Distillers Feed Conf., Proc. (pub. by Distillers Feed Res. Council), pp. 32-37. 1950. (With Bureau Plant Indus., Soils, and Agr. Engin.)

The partial purification and properties of antibiotic substances from the sweet potato plant. (*Ipomoea batatas*). By B. H. Bruckner, Hazel H. McKay, P. S. Schaffer, and Thomas D. Fontaine. Jour. Clin. Invest. 28(5): 894-898. 1949.

The partial purification and properties of antibiotic substances from the banana (*Musa sapientum*). By William E. Scott, Hazel H. McKay, P. S. Schaffer, and Thomas D. Fontaine. Jour. Clin. Invest. 28(5): 899-902. 1949.

A one-and two-dimensional paper-partition chromatographic apparatus. By Roberta M. Ma and Thomas D. Fontaine. Science 110(2853): 232-233. 1949.

#### GENERAL

Bureau of Agricultural and Industrial Chemistry  
U. S. Department of Agriculture  
Washington 25, D. C.

#### RESEARCH

Preservation of agricultural specimens in plastics. By G. R. Fessenden. U. S. Dept. Agr. Misc. Pub. 679. 78 pp. 1949.

#### INFORMATIONAL

Report of the Chief of the Bureau of Agricultural and Industrial Chemistry, 1949 (for the fiscal year ended June 30, 1949.) 86 pp. (Review of this report pub. in Chem. and Engin. News 28(7): 459-462, under title "Agriculture Department Issues 1949 Progress Report".)

The contribution of chemurgy. By G. E. Hilbert. AIC-250. (Processed.) 1949. Chemurgic Digest 8(11): 15-18, 22. 1949. United Nations Sci. Conf. on the Conserv. and Util. of Resources Proc. Vol. 1, Plenary Meetings, Pages 135-138. 1950.

Advances in crop-use research. By G. E. Hilbert. AIC-267. (Processed.) 1950. Chemurgic Digest 9(5): 21-23. May, 1950.

New uses for agricultural products. By Frank L. Teuton. (Processed.) 1950.

Agriculture and the chemical industry. By P. H. Groggins. *Baskerville Chem. Jour.* 1(1): 22-28. Feb. 1950.

Glyceridic oils in our national economy. By P. H. Groggins. *Amer. Oil Chem. Soc. Jour.* 26(7): 356-359. 1949.

Friedel-Crafts reactions. By Philip H. Groggins. *Indus. and Engin. Chem.* 41(9): 1880-1882. 1949.

Research leads to flavorful new fruit products. By H. W. von Loesecke. *Agr. Situation* (pub. by Bureau Agr. Econ.) 33(9): 10. 1949.

#### **BIBLIOGRAPHICAL**

List of publications and patents of the Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, U. S. Department of Agriculture. (Issued during year ended June 30, 1949.) By T. D. Jarrell. U. S. Dept. Agr. Inform. Bul. 12. 32 pp. 1950.

\* \* \* \* \*

## UNITED STATES PATENTS

Copies of the patent specifications may be purchased from the  
U. S. Patent Office, Department of Commerce,  
Washington 25, D. C., for 25 cents each  
Stamps are not accepted.

**ASSIGNED TO UNITED STATES OF AMERICA AS  
REPRESENTED BY THE SECRETARY OF AGRICULTURE**

- Cord stretching apparatus. Ray C. Young and John J. Brown. U. S. Patent No. 2,474,927; July 5, 1949.
- Process of concentrating aqueous rubber dispersion by centrifuging. Edwin P. Jones. U. S. Patent No. 2,475,141; July 5, 1949.
- Starch recovery process. Richard L. Slotter and Justin M. Tuomy. U. S. Patent No. 2,475,261; July 5, 1949.
- Copolymers of unsaturated esters of 9, 10-dihydroxystearic acid. Daniel Swern and Geraldine B. Dickel. U. S. Patent No. 2,475,557; July 5, 1949.
- Treatment of fruits to prevent browning. Gestur Johnson and Dante G. Guadagni. U. S. Patent No. 2,475,838; July 12, 1949.
- Purification of subtilin. Keene P. Dimick, Joseph J. Stubbs, John A. Garibaldi, Howard D. Lightbody, and Harry L. Fevold. U. S. Patent No. 2,476,085; July 12, 1949.
- Method for production of penicillin. Andrew J. Moyer. U. S. Patent No. 2,476,107; July 12, 1949.
- Process for pasteurization and enzyme inactivity of fruits by electronic heating. Theodore L. Swenson. U. S. Patent No. 2,476,251; July 12, 1949.
- Double salts of nicotine. Claude R. Smith. U. S. Patent No. 2,476,514; July 19, 1949.
- Protective coating compositions and methods for producing the same. John C. Cowan and Howard M. Teeter. U. S. Patent No. 2,477,116; July 26, 1949.
- Aryl acrylates and methacrylates and their polymers. Edward M. Filachione, and Charles H. Fisher. U. S. Patent No. 2,477,293; July 26, 1949.
- Process for preserving foods. Louis B. Howard and William D. Ramage. U. S. Patent No. 2,477,605; Aug. 2, 1949.
- Process for obtaining rutin from buckwheat. Roderick K. Eskew. U. S. Patent No. 2,478,168; Aug. 9, 1949.

- Low-methoxyl pectins and process for their preparation. William D. Maclay and Rolland M. McCready. U. S. Patent No. 2,478,170; Aug. 9, 1949.
- Method of producing prolamine filaments. Clarence B. Croston and Cyril D. Evans. U. S. Patent No. 2,478,248; Aug. 9, 1949.
- Process of recovering nicotine from nicotine-bearing plant material. Roderick K. Eskew. U. S. Patent No. 2,478,473; Aug. 9, 1949.
- Process for the production of apple essence. Richard P. Homiller and Edward L. Griffin, Jr. U. S. Patent No. 2,479,745; Aug. 23, 1949.
- Isolation of polygalacturonase. Hans Lineweaver, Rosie Jang, and Eugene F. Jansen. U. S. Patent No. 2,479,751; Aug. 23, 1949.
- Fermentation process. Henry M. Tsuchiya, James M. VanLanen, and Asger F. Langlykke. U. S. Patent No. 2,481,263; Sept. 6, 1949.
- Separation of aconitic acid from molasses. Joseph A. Ambler and Earl J. Roberts. U. S. Patent No. 2,481,557; Sept. 13, 1949.
- Technique for isolating subtilin. Hans Lineweaver, Alvin A. Klose, and Gordon Alderton. U. S. Patent No. 2,481,763; Sept. 13, 1949.
- Heavy gravity liquid separation of cotton seed. Charlotte H. Boatner, Catherine M. Hall, and Arthur L. Merrifield. U. S. Patent No. 2,482,141; Sept. 20, 1949.
- Esters of polyhydroxy-benzoic acids. Steward G. Morris and Roy W. Riemenschneider. U. S. Patent No. 2,483,099; Sept. 27, 1949.
- Diene addition product and process for making it. Howard M. Teeter, Charles R. Scholfield, and John C. Cowan. U. S. Patent No. 2,483,791; Oct. 4, 1949.
- Esthers of 9, 10-dihydroxyoctadecanol. Daniel Swern. U.S. Patent No. 2,491,533; Dec. 20, 1949.
- Synthetic rubberlike materials from an alkyl acrylate and a diolefinically unsaturated ether. William C. Mast, Lee T. Smith, and Charles H. Fisher. U. S. Patent No. 2,492,169; Dec. 27, 1949.
- Synthetic rubberlike materials from an alkyl acrylate and a haloalkyl acrylate. William C. Mast, Chessie E. Rehberg, and Charles H. Fisher. U. S. Patent No. 2,492,170; Dec. 27, 1949.
- Method and apparatus for electrical heating. Ralph A. Rusca. U. S. Patent No. 2,492,187; Dec. 27, 1949.
- Hydroxylation process. Daniel Swern, John T. Scanlan, and Thomas W. Findley. U. S. Patent No. 2,492,201; Dec. 27, 1949.
- Esters of methacrylic acid. Robert H. Treadway. U. S. Patent No. 2,492,203; Dec. 27, 1949.



- Alcohol derivatives of subtilin. James C. Lewis and Eugene F. Jansen. U. S. Patent No. 2,495,743; Jan. 31, 1950.
- Prevention of degradation of textile fibers by acids. John D. Reid, Wesley, K. Ward, Jr., and Laurence W. Mazzeno, Jr. U. S. Patent No. 2,493,031; Jan. 3, 1950.
- Vacuum drier with automatic capping device. Horace K. Burr and Benjamin Makower. U. S. Patent No. 2,494,541; Jan. 17, 1950.
- Cold-setting resorcinol glue composition and process of preparation. Glen E. Babcock and Allan K. Smith. U. S. Patent No. 2,494,537; Jan. 17, 1950.
- Paint composition from catalytically conjugated oils. Arthur J. Lewis, Helen A. Moser, and John C. Cowan. U. S. Patent No. 2,494,565; Jan. 17, 1950.
- Pyrolysis of C-acetoxy aliphatic amides to acrylamides. William P. Ratchford and Charles H. Fisher. U. S. Patent No. 2,494,583; Jan. 17, 1950.
- Vegetable gel. Letta I. DeVoss, Arthur C. Beckel, and Paul A. Belter. U. S. Patent No. 2,495,706; Jan. 31, 1950.
- Alcohol derivatives of subtilin. J. C. Lewis and E. F. Jansen. U. S. Patent No. 2,495,743; Jan. 31, 1950.
- Process of neutralizing pectinic acid. Harry S. Owens, Rolland M. McCready, and William D. Maclay. U. S. Patent No. 2,495,756; Jan. 31, 1950.
- Low-methoxyl polyvalent metal pectinate fibers. Harry S. Owens and Harry Lotzkar. U. S. Patent No. 2,495,757; Jan. 31, 1950.
- Preparation of fibers from carboxymethylcellulose. John D. Reid and George C. Daul. U. S. Patent No. 2,495,767; Jan. 31, 1950.
- Preparation of beta-amylase from sweet potatoes. Arnold K. Balls, Mayo K. Walden, and Robert R. Thompson. U. S. Patent No. 2,496,261; Feb. 7, 1950.
- Process of drying fruit or vegetable materials containing added methyl cellulose. Clyde W. Eddy. U. S. Patent No. 2,496,278; Feb. 7, 1950.
- Process of culturing bacteria. Lewis Lockwood and Frank H. Stodola. U. S. Patent No. 2,496,297; Feb. 7, 1950.
- Isolation of low-methoxyl pectins. Harry S. Owens, Rolland M. McCready, and William D. Maclay. U. S. Patent No. 2,496,306; Feb. 7, 1950.
- Preparation of aqueous dispersions by polymerization in the presence of ammonium alginate. William C. Mast. U. S. Patent No. 2,498,694; Feb. 28, 1950.
- Nicotinic acid anhydride. Charles O. Badgett and Charles F. Woodward. U. S. Patent No. 2,498,634; Feb. 28, 1950.
- Preparation of peptides. Oliver H. Emerson. U. S. Patent No. 2,498,665; Feb. 28, 1950.

- Flash distillation of turpentine. Nealy C. McConnell, Lawrence W. Mims, Harry P. Poole, and Hubert R. Lanier. U. S. Patent No. 2,500,194; March 14, 1950.
- Process for refining rutin. James F. Couch, Charles F. Krewson, and William L. Porter. U. S. Patent No. 2,500,930; March 21, 1950.
- Electrolytic preparation of calcium D-arabonate. Charles L. Mehlretter and William Dvonch. U. S. Patent No. 2,502,472; April 4, 1950.
- Acid leaching of pectinous materials. Harry S. Owens. U. S. Patent No. 2,502,477; April 4, 1950.
- Lignocellulose, phenol formaldehyde, and inorganic filler molding composition. Robert V. Williamson and Thomas F. Clark. U. S. Patent No. 2,502,498; April 4, 1950.
- Neutralization of pectinic acids with sodium bicarbonate. Robert P. Graham and Allan D. Shepherd. U. S. Patent No. 2,503,258; April 11, 1950.
- Process of preparing methyl beta-furfuryloxypropionate. Chessie E. Rehberg and Charles H. Fisher. U. S. Patent No. 2,504,151; April 18, 1950.
- Separation of starch from wheat flour. Everette M. Burdick. U. S. Patent No. 2,504,962; April 25, 1950.
- Ethers of 7-hydroxyphenothiazone-3. David F. Houston and Ernest B. Kester. U. S. Patent No. 2,504,980; April 25, 1950.
- Modified rosin esters. Ray V. Lawrence and Muriel W. Kaufmann. U. S. Patent No. 2,504,989; April 25, 1950.
- Vegetable oil extraction. Arthur C. Beckel, Paul A. Belter, and Harold J. Deobald. U. S. Patent No. 2,505,749; May 2, 1950.
- Alkyl ethers of 3-hydroxyl-phenothiazine. David F. Houston. U. S. Patent No. 2,505,772; May 2, 1950.
- Solubilizing tanning bark extracts with waste sulfite liquors. Kenneth T. Williams and Earl F. Potter. U. S. Patent No. 2,505,818; May 2, 1950.
- Process for producing myrcene from beta-pinene. Theodore R. Savich and Leo A. Goldblatt. U. S. Patent No. 2,507,546; May 16, 1950.
- Method of cooling compressed blocks of dehydrated vegetable matter. George S. Smith. U. S. Patent No. 2,507,550; May 16, 1950.
- Method of preparing subtilin. Robert E. Feeney and John A. Garibaldi. U. S. Patent No. 2,508,378; May 23, 1950.
- Synthetic rubberlike materials. William C. Mast and Charles H. Fisher. U. S. Patent No. 2,509,513; May 30, 1950.
- Method of drying allyl starch. Thomas J. Dietz and John E. Hansen. U.S. Patent No. 2,510,089; June 6, 1950.

Production of tannin and soft-grit blasting material from nutshells. Elbert C. Lathrop. U. S. Patent No. 2,510,119; June 6, 1950.

Citrus juices and removal of volatile oils therefrom. George N. Pulley and Matthew K. Veldhuis. U. S. Patent No. 2,510,138; June 6, 1950.

Water-insoluble derivatives of nicotinic acid and process for preparing them. Charles F. Woodward and Charles O. Badgett. U. S. Patent No. 2,510,164; June 6, 1950.

N-cyclohexyl nicotinamide. Charles O. Badgett and Charles F. Woodward. U. S. Patent No. 2,510,945. June 13, 1950.

Method for stripping solvents from oils. Arthur C. Beckel and Paul A. Belter. U. S. Patent No. 2,511,833; June 20, 1950.

Resins of alkyl-substituted cyclo-alkanol esters of acrylic acids. Chessie E. Rehberg and Charles H. Fisher. U. S. Patent No. 2,511,880; June 20, 1950.

Self-advancing winding reel. Rudolph Hellbach. U. S. Patent No. 2,512,645; June 27, 1950.

Production of casein yarn. Robert F. Peterson. U. S. Patent No. 2,512,674; June 27, 1950.

Nicotine compounds containing univalent copper. Claude R. Smith. U. S. Patent No. 2,512,689; June 27, 1950.

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DIRECTOR OF THE OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT**

Derivatives of parahydroxy-pencillin. G. Frank H. Stodola, Jacques L. Wachtel, and Robert D. Coghill. U. S. Patent No. 2,504,161; April 18, 1950.