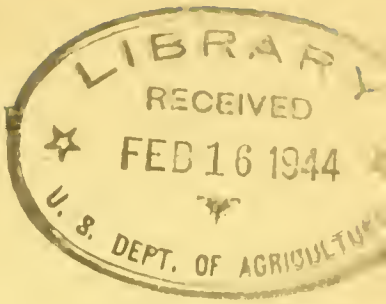
UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics



Agricultural Economics Bibliography No. 88

COTTON LINTERS

Selected References in English, 1900-July 1940

Compiled by Emily L. Day
Library Specialist in Cotton Marketing
Under the Direction of Mary G. Lacy, Librarian
Bureau of Agricultural Economics

Washington, D. C.
October 1940

UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics

Agricultural Economics Bibliography No. 88

COTTON LINTERS

Selected References in English, 1900-July 1940

Compiled by Emily L. Day
Library Specialist in Cotton Marketing
Under the Direction of Mary G. Lacy, Librarian
Bureau of Agricultural Economics

Washington, D. C.
October 1940

CONTENTS

FOREWORD

This bibliography lists references to books, pamphlets and periodical articles describing methods of recovering linters, the place of linters in commerce, quality, and uses for linters. References to methods of delinting cottonseed for planting purposes are omitted. Bibliographies in publications listed in the bibliography have been checked in addition to the sources listed in "Sources Consulted."

Call numbers following the citations are those of the U. S. Department of Agriculture Library, unless otherwise noted. "Libr. Cong." indicates that the publication is in the Library of Congress. Abbreviations of names of periodicals are taken from Miscellaneous Publication No. 337, "Abbreviations Used in the Department of Agriculture for Titles of Publications," issued by the Department.

Mary G. Lacy, Librarian
Bureau of Agricultural Economics
U. S. Department of Agriculture

October.1940.

DEFINITION

Linters: A commodity composed of the residue of vegetable hair found on cottonseed after ginning, and recovered by reginning or delinting, in one or more operations. Linters is generally produced as a step in preparing cottonseed for decotication and oil extraction or expression; when reocvered from cottonseed hulls after decortication, it is generally marketed under the name "Hull Fiber." The quality or grade of linters is influenced by the amount of residual hair on the seed, the intensity of and the number of delinting operations, and is generally based on the distribution of the long and short hairs. High grades of linters are felted into mattress, upholstery, and other felts. The lower grades are generally consumed as a source of alpha cellulose, in the plastics and explosives industries. -- G. S. Meloy, Senior Marketing Specialist, Agricultural Marketing Service.

SOURCES CONSULTED

Card catalogues of the following libraries:

U. S. Department of Agriculture
U. S. Department of Agriculture, Bureau of Agricultural Economics
U. S. Department of Agriculture, Division of Cotton Marketing Branch Library

Indexes and abstract journals:

Agricultural Index, 1916-18 to July 1940. Published by H. W. Wilson Co., New York, N. Y.
Chemical Abstracts, 1907-July 20, 1940. Published by American Chemical Society, Mills Building, Washington, D. C.
Cotton literature, 1931 to July 1940. Published by U. S. Department of Agriculture, Agricultural Marketing Service, Washington, D. C.
Current Literature on Cotton, July-December 1930. Published by U. S. Department of Agriculture, Bureau of Agricultural Economics, Washington, D. C.
Experiment Station Record, 1889-1901 to July 1940. Published by U. S. Department of Agriculture, Office of Experiment Stations, Washington, D. C.
Industrial Arts Index, 1913 to July 1940. Published by H. W. Wilson Co., New York, N. Y.

COTTON LINTERS

Selected References in English, 1900-July 1940

Compiled by Emily L. Day
Library Specialist in Cotton Marketing
Under the Direction of Mary G. Lacy, Librarian
Bureau of Agricultural Economics

GENERAL REFERENCES

1. Agelasto, A. M. Linters. U. S. Dept. Agr. Dept. Cir. 175, 10pp. Washington, D. C., 1921. 1 Ag84D
   Methods of obtaining linters, handling, sampling, selling, and uses are described. A table gives production in bales and in percentage of the cotton crop for 1900-1901 to 1919-20 inclusive.
   Extracts in Amer. Fert. 54(13): 100, 102, 104, 106, 108. June 18, 1921.

2. Baruch, Bernard Mannes. American industry in the war. A report of the War industries board. 421pp. Washington, D. C., Govt. print. off., 1921. 173 W192A
   Cotton linters, pp. 172-174.

3. Brown, Harry Bates. Cotton. History, species, varieties, morphology, breeding, culture, diseases, marketing and uses. Ed. 2. 592pp. New York & London, McGraw-Hill book co., inc., 1938. 72 B81
   References at ends of chapters.
   Delinting, pp. 509-510; Linters, pp. 516-517; Use of linters, p. 539.

4. Burrow, A. K. Cotton linters. Bedding Mfr. 32(6): 20, 22-24, 26. July 1936. 309.8 B39
   History, production, consumption, uses and grades of linters are discussed.

5. Carpenter, E. L., and Holdredge, Leo. The cottonseed-oil industry. Its history, economics, processes, and problems. Oil Miller and Cotton Ginner 38(3): 16-17, 22-24. May 1931. 307.8 Oi5
   Also in Mech. Engin. [N. Y.] 53: 353-359. May 1931.
   For presentation at the Semi-Annual Meeting, Birmingham, Ala., April 20 to 22, 1931, of the American Society of Mechanical Engineers.
   Includes linters.

6. Cohen, Milton B., Nelson, Tell, and Reinarz, E. H. Observations on the nature of the house dust allergen. Jour. Allergy 6(6): 517-524. Sept. 1935. 448.8 J8236
   References, p. 520.
   "It is probable that the house dust allergen is developed during the aging process in cotton linters and probably in other substances such as feathers and kapok."

7. Coulson, E. J., and Stevens, Henry. Sensitization of guinea pigs to cotton linters and house dust extracts. Soc. Expt. Biol. and Med. Proc. 40(3): 457-460. Mar. 1939. 442.9 Sol
Footnote references.

8. Freyer, Egbert. A modified procedure for determining amount of lint on cottonseed. The development of more rapid and accurate technique. Oil & Soap 12(9): 208-210. Sept. 1935. 307.8 J82
"Paper presented as a part of the Report of the Crude Mill Operations Committee, Memphis, Tenn., May 23-24, 1935."

9. Freyer, Egbert. A rapid visual method for estimating the amount of lint on cottonseed. Oil & Soap 12(11): 259-262. Nov. 1935. 307.8 J82

10. Millions of dollars a year from a once wasted product. Annalist 17(417): 85, 89. Jan. 10, 1921. 284.8 N48
Includes brief history of the development of the linters industry with British capital.

11. Results of A & M short course tests. Superintendents' short course--College station, Texas, June 14-19, 1937. Oil Mill Gazetteer 42(2): 17-20. Aug. 1937. 307.8 Oi53
Tests in linters production are reported.

12. Rettger, T. L. Lint on cottonseed by analysis and by nature. Oil & Soap 16(3): 58-60. Mar. 1939. 307.8 J82
"The determination of lint on cottonseed by analysis, while successful from the laboratory standpoint, does not and cannot indicate lint value to the mill."

13. Rettger, T. L. Quantitative determination of lint on cotton seed. Oil and Fat Indus. Jour. 3(4): 135-136. Apr. 1926. 307.8 J82
The method is described.

14. Volz, C. N. Efficiency in separation. Cotton and Cotton Oil Press 37(21): 22. May 23, 1936. 304.8 C822
Address "delivered at the joint convention of oil mill superintendents, Memphis, Tenn., May 22, 1936."
The author outlines his procedure for separating lint and hulls from cottonseed.

15. West, C. J. Bibliography of pulp and paper making, 1928-1935. 803pp. New York, Lockwood trade journal co., inc., 1936. 241.4 W52P
Cotton--cotton linters, pp. 385-386.

METHODS OF RECOVERY

16. Abell, M. H. Delinting seed in an English oil mill. Oil Miller and Cotton Ginner 50(2): 7. Apr. 1932. 307.8 Oi5
Letter describing use of the Segundo machine.

17. American chemical society. Division of industrial and engineering chemistry. Committee on cottonseed products. Report. Jour Indus. and Engin. Chem. 12(7): 707-711. July 1920. 381 J825

Procedure for determining the lint on cottonseed hulls is described.

18. American oil chemists' society. Seed analysis committee. Report ...[1939]. Oil and Soap 16(7): 138. July 1939. 307.8 J82

"The work of the Seed Analysis Committee was confined mainly to the study of a method for estimating lint on cottonseed which was submitted by Dr. David McNicoll, Chief Chemist of the British Oil and Cake Mills, Ltd., Hull, England, in comparison with a method which the Committee's report of May 1938 favored."

19. Ardashev, B. T. Chemical delinting of cottonseed and industrial utilization of the lint. Indus. and Engin. Chem. (Indus. ed.) 25(5): 575-581. May 1933. 381 J825

Literature cited, p. 581.

Describes experiments conducted by the chemical laboratory of the Cotton Trust, U.S.S.R.

"In delinting cottonseeds by the gaseous hydrochloric acid process, complete removal of the lint is accomplished with hydrochloric acid in quantity equal to 2 per cent of the weight of the seed."- Conclusions.

20. Beadle, Clayton, and Stevens, Henry P. By-products of cotton seed and their utilisation. Soc. Chem. Indus. Jour. 28(19): 1015-1019. Oct. 15, 1909. 382 M31

"A brief description of a process for separating the residual fibers from the cotton hulls, consisting of a beating followed by cyclonic winnowing. The yield of fiber varies from 26% in the Brazilian hulls to 10% in American. Their value as paper materials is discussed from the microscopic, macroscopic, practical and economical standpoints. The fibers are short enough so that they need not be 'broken in' before going to the 'rag boilers,' and yield a superior quality of paper. The very short fibers may be used in making nitrocellulose and are suitable for surgical absorptives... H. S. Bailey."- Chem. Abs. 4(3): 482. Feb. 10, 1910.

21. Beeching, W.E.J. Simplified mechanical defibration of Indian cotton seed. Textile Weekly 15(372): 433. Apr. 19, 1935. 304.8 T3127

The author describes a machine which will remove both short fibers and fuzz from cottonseed.

22. Bleached seed-lint half stuff. Paper Mill 47(50): 38, 40. Dec. 15, 1923. 302.8 P195

The method of delinting cottonseed used by a factory in England for producing "seed-lint" for use in paper making is described.

23. Campbell, C. R. Screening of linters vs. the condenser in lint flue systems. Oil Mill Gazetteer 43(12): 28-29. June 1939. 307.8 Oi53
Address at meeting of National Oil Mill Superintendents Association, Dallas, Texas, May 25, 1939.

24. De-fibrating cotton seed. Engineer [London] 127(3308): 516. May 23, 1919. Libr. Cong.
The machine invented by E. C. de Segundo is described and illustrations are given.

25. Dimpfel, M. C. Lint room operation made profitable--How. Cotton and Cotton Oil News 34(27): 9, 11. July 8, 1933. 304.8 C822
Urges greater care and reduced cost of production of cotton linters.

26. Fulson, H. O. Possible improvements in manufacturing. Oil Miller and Cotton Ginner 37(4): 9-10. Dec. 1930. 307.8 Oi5
Cottonseed products. The use of high density linter baling presses is suggested.

27. Greenwood, J. P. Cottonseed products manufacturing. Cotton Oil Press 12(5): 27-29; (6): 19. Sept., Oct. 1928. 307.8 C8234
Ch. IX, Linting of Cottonseed, describes methods of removing linters from cottonseed.
Ch. X, Linter Room Auxiliaries.

28. Hercules powder company. Virginia cellulose dept. Hercules chemical cotton, best source of cellulose. 30pp. Wilmington, Del. [1934.] 309 H41
The preparation of linters for use in the manufacture of cellulose products is described.
Excerpts in "Rayon and Staple Fiber Handbook," by H. R. Mauersberger and E. W. K. Schwarz, pp. 79-84.

29. Hildenbrand, Harry. Production of cotton linters of specific grades. Cotton Oil Press 11(2): 91-94. June 1927. 307.8 C8234
The author discusses the technique of producing linters of grades recommended by the U. S. Department of Agriculture.

30. Kitchel, Lloyd. Cellulose specifications. Preparation and uses of commercial grades of chemical cotton. Chem. Markets 32(6): 499-503. June 1933. 381 C426
Includes a description of the production of the various grades of linters.

31. Lamborn, Leebert Lloyd. Cottonseed products; a manual of the treatment of cottonseed for its products and their utilization in the arts. 240pp. New York, D. Van Nostrand co., 1920. 72 L17
Reginning or delinting process, pp. 34, 50-51; yield of linters per ton of seed, p. 36.

32. Lickle, C. H. Cooperation needed to hold linter market. Cotton Oil Press 16(8): 8-10. Dec. 1932. 307.8 C8234
"The production of cotton linters for the chemical trade is...the result of a partnership between the oil mills and the pulp mills."
Describes processes in manufacture of chemical cotton. Charts illustrate operations involved.

33. McKinley, C. S. Delinting and care of linter. Oil Miller and Cotton Ginner 36(6): 18-19. Aug. 1930. 307.8 Oi5
Address at Third Short Course for Oil Mill Operators, Texas A. & M. College, June 3-11, 1930.

34. Munson, W. Donald. Manufacture of chemical cotton. Indus. and Engin. Chem. 22(5): 467-471. May 1930. 381 J825
"Chem. cotton (linters) used in 1929 was 35% of the production in the cotton-seed oil industry of the U. S. Mech. sepn. from seeds, controlled by 'set' or pressure against revolving saws, gives 3 general grades of linters classified into 7 standards by the U.S. Dept. Agr. Chem. cotton must be highly purified by mech., phys. and chem. methods applied to original seeds and to sepd. linters. The methods are described...The principal uses are for rayons 60%, explosives, artificial leather, etc., 15%, films and celluloid 14%, lacquers 11%. A. K. Johnson."- Chem. Abs. 24(12): 3111. June 20, 1930.

35. New process of defibrating cottonseed and hulls. Segundo machines now being demonstrated in this country are showing remarkable results in meeting demands of rayon and cellulose industries for higher quality of fibre. Cotton Oil Press 12(1): 43-46. May 1928. 307.8 C8234

36. Partridge, Everett P. Developments in nitrocellulose production. Indus. & Engin. Chem. 21(11): 1044-1047. Nov. 1929. 381 J825
"P. clarifies the nitrocelluloses for various industrial uses by their N contents, and also by the viscosities of their solns. Statistics are given for the growth in production in recent years, especially for use in lacquers. A description is given of the treatment of linters for cellulose and manuf. of nitrocellulose from them, especially for use in various lacquers. The most important development appears to be in the utilization of Cr-Fe alloys in the equipment.- Charles E. Munroe." Chem. Abs. 24(3): 727. Feb. 10, 1930.

37. Rosson, J. L. Better linters. Cotton and Cotton Oil News 34(3): 11. Jan. 21, 1933. 304.8 C822
Defects in the linting process which cause nappy linters.

38. Seaman, Stewart E. Stamso--cotton linter pulp. Paper Trade Jour. 74(15): 265-267, 269. Apr. 13, 1922. 302.8 P196
Also in World's Paper Trade Rev. 77(23): 1836, 1838, 1840. June 9, 1922.
"General discussion of process of mfg. as used by Stamsocott Co...C.J.West."- Chem. Abs. 16(19): 3391. Oct. 10, 1922.

39. Segundo, Ed. C. de. Cottonseed hull fibre now available. Paper Trade Jour. 48(8): 24, 26, 30, 32. Feb. 25, 1909. 302.8 P196
Brief history of efforts to defibrate cottonseed hulls to produce a fiber suitable for papermaking.

40. Segundo, Ed. C. de. Defibrating cottonseed hulls. Paper Trade Jour. 48(24): 38, 42. June 17, 1909. 302.8 P196
"A brief description of the Minck Segundo machine and process in operation at Marseilles, France.- F. A. Olmsted."- Chem. Abs. 3(16): 1926. Aug. 20, 1909.

41. Segundo, Ed. C. de. The removal of the residual fibres from cotton seed and their value for non-textile purposes. Royal Soc. Arts Jour. 67(3456): 184-202. Feb. 14, 1919. 501 L847J
Paper presented before the Royal Society of Arts, February 5, 1919.
"A general review and discussion based on American and British practice.- F. W. Smither."- Chem. Abs. 13(8): 914. Apr. 20, 1919.
Reviewed in Nature [London] 103(2582): 153-154. Apr. 24, 1919.

42. Segundo, Ed. C. de. Some cotton seed products in their relation to present-day needs. Soc. Chem. Indus. Jour. 37(8): 118T-123T. Apr. 30, 1918. 382 M31
Discussion, pp. 121T-123T.
Abstract of a paper read before the London section of the Society of Chemical Industry, March 25, 1918. Mentions uses of linters and method of separating them.
Errata, Soc. Chem. Indus. Jour. 37(11): 172T. June 15, 1918.
Abstract also in Sci. Amer. Sup. no. 2241, pp. 382-383. Dec. 14, 1918.

43. Segundo, Ed. C. de. Some economic aspects of cotton and its secondary products. Royal Soc. Arts Jour. 67(3480): 583-590. Aug. 1, 1919. 501 L847J
Lecture at British Scientific Products Exhibition, July 23, 1919.
The situation in the world cotton trade is discussed and mention is made of the author's machine for separating linters from decorticated cottonseed hulls and results obtained with it.
Extracts in Agr. Jour. India 15(1): 93-95. Jan. 1920.

44. Sims, Redding. What can be done with a linter with the proper sharpening. Oil Miller and Cotton Ginner, 38(4): 25, 27. June 1931. 307.8 Oi5
Discusses cost of delinting cotton seed.

45. Texas A. & M. college short course for oil mill operators, College Station, Texas, June 19-23, 1939. Oil Mill Gazetteer 44(4, i. e. 5): 13-26. Nov. 1939. 307.8 Oi53
Summaries of linter tests are included.

46. Thornton, M. K. Cottonseed products. 268pp. Wharton, Tex., Oil mill gazetteer, 1932. 72 T392
Linters described, pp. 23-25. Machinery for removing linters described, pp. 70-91.

47. Thornton, M. K. Experimental results obtained during the 7th annual short course held at the A. & M. College of Texas, June 11-16, 1934. Oil Miller and Cotton Ginner 65(1): 6-7, 8-9. Sept. 1934. 307.8 Oi5.
Tables give results of experiments with linters and other products.

48. Tompkins, D. A. Cotton and cotton oil. Cotton... Cotton seed oil mills... Cattle feeding... Fertilizers... Full information for investor, student and practical mechanic. 494pp. Charlotte, N. C., The author, 1901. 72 T5960
Delinting cottonseed, pp. 225-226, 254-263. The machinery is shown in pictures and diagrams.

49. Verdery, M. C. Experimenting with delinting machinery. Cotton and Cotton Oil News 34(10): 3-4, 13. Mar. 11, 1933. 304.8 C822
"Paper read to senior class in chemical engineering, A. and M. College of Texas."
Tests "on the relations of capacity, yield and horse power consumption on a linter" are described.

50. Wesson, David. The cotton seed and its products. Indus. & Engin. Chem. 18(9): 938-940. Sept. 1926. 381 J825
Delinting of cottonseed is briefly described.

51. Woolrich, W. R., and Carpenter, E. L. Manual of mechanical processing of cottonseed with bibliography and report of research investigations. 154pp. Knoxville, Tenn., Engineering experiment station, University of Tennessee, 1935. 72 W88
Cottonseed processing bibliography, pp. 111-149.
Delinting and delinters, pp. 50-58.

52. Yuill, A. F. Some recent developments in connection with cottonseed disposal. Interesting experimental work in Hyderabad State. Agr. and Livestock in India, 1(6): 607-617. Nov. 1931. 22 Ag83A
Experiments with a cottonseed defibrating machine are described. Some uses of the "crude fibre and dust" are suggested.

QUALITY

53. American chemical society. 97th meeting, Baltimore, Maryland, April 3 to 7, 1939. Abstracts of papers. Various paging, processed. [Washington, D. C.] 1939. 381 Am33P
Includes abstracts of the following papers: The chemical and physical characteristics of various industrial pulps (including linters), by S. I. Aronovsky and E. C. Dryden, pp.C7-C8; The uses of cellulose as an insulating material, by G. T. Kohman, p. C9.

54. Ansel, O., and Wong, S. S. Raw cotton of different origin and quality and its behaviour during nitration. Lingnan Sci. Jour. 8: 587-592. Dec. 1929. 22.5 C16
Ningpo cotton, Cantonese cotton, cotton rags, and linters for gun cotton are compared as to behavior during nitration and as to price.

55. Association of bedding law enforcement officials hold meeting. Bedding Mfr. 34(4): 26. Nov. 1937. 309.8 B39
Summary of proceedings. The meaning of labels "cotton felt", "cotton linters", "cotton waste", etc. was discussed.

56. Beadle, Clayton, and Stevens, Henry P. Cotton from the cotton-seed. Paper Making 29(3): 104. Mar. 1910. 302.8 P191
"Many Indian cotton fibers, especially the small ones attached to the seed, are solid tubes. They are more like linen than cotton in appearance and sme are not much larger than esparto. Many fibers have trumpet-shaped ends by which they are attached to the seed. A photomicrograph shows the characteristics referred to. F. A. Olmsted."- Chem. Abs. 4(12): 1670. June 20, 1910.

57. Beadle, Clayton, and Stevens, Henry P. Fibers separated from cotton seed. Paper Making 29(3): 104. Mar. 1910. 302.8 P191
"Certain fibers separated from the hulls of Egyptian cotton-seed show warty protuberances on the surface. The textile fibers from Egyptian seed do not show this characteristic. The Egyptian fibers are much longer than the Indian and are better for paper making. The characteristics are illustrated by a photomicrograph. F. A. Olmstead."- Chem. Abs . 4(12): 1670. June 20, 1910.

58. Beadle, Clayton, and Stevens, Henry P. Impurities found in cotton badly separated from seed. Paper Making 29(3): 102, 104. Mar. 1910. 302.8 P191
"Cotton fibers which are not thoroughly separated from the hull contain, in addition to the true cotton fiber, what are designated as palisade cells. These are composed of hemi-cellulose and are extremely resistant to bleach. A photo-micrograph shows the appearance of the cells and fibers. F. A. Olmsted."- Chem. Abs. 4(12): 1670. June 20, 1910.

59. Chase, Winn W. Purification of cotton linters. Textile World 68(11): 1479, 1481. Sept. 12, 1925. 304.8 T315.
Methods of purifying linters are described and illustrated.

60. Coleman, John R. The importance of improved linter grades. Cotton and Cotton Oil Press 38(19): 27. May 8, 1937. 304.8 C822
Installation of better equipment needed to produce better grades.

61. Fuchs, Victor R. Quality of cotton linters produced in the United States, season 1933-34. A preliminary report. 18 pp. processed. Washington, D. C., U. S. Dept. of agriculture, Bur. of agricultural economics, 1935. 1.9 Ec733Qc1
"First" report of results obtained in a study of the quality of cotton linters produced in the United States, season 1933-34, and the use in the cottonseed-crushing industry of the official standards of the United States for American cotton linters."
Also in Bedding Mfr. 30(5): 22, 24-26, 50-52, 54. June 1935.
A similar report on quality of linters has been issued each year. Since July 1, 1939, it has been published by the Agricultural Marketing Service.

62. Henderson, William F. The chemical properties of cotton linters. Indus. and Engin. Chem. 15(8): 819-822. Aug. 1923. 381 J825
"This paper reports a study of the physical characteristics, analytical constants, and important chemical reactions of cotton linters, the investigation being undertaken with a view to suggesting new uses of linters...A particular study was made of the esterification of linters, particularly the production of benzoate and of dithiocarbonate, or viscose. The preparation of the latter is described in detail."- Expt. Sta. Rec. 50(6): 505. 1924.
Library of Congress card for reprint notes: "Abstract of thesis (Ph.D.) University of Pittsburgh, 1922."

63. Hubbard, F. S., and Fuchs, V. R. Definite and indefinite descriptions of the quality of American cotton linters. Cotton and Cotton Oil News 32(22): 3. May 30, 1931. 304.8 C822
"The Department of Agriculture, by establishing the Standard Grades for American cotton linters, under the provisions of the Cotton Standards Act has provided manufacturers, dealers and consumers of this commodity with a definite means for measuring quality and determining value."

64. Identification of old cotton. Amer. Wool and Cotton Rptr., 45(19): 58. May 7, 1931. 304.8 W88
"The Department of Health of the State of Maryland, through Mr. J. Davis Donovan, Chief of the Division of Legal Administration, has announced the discovery of a substantially accurate method of determining in a scientific manner the presence of old (second hand) cotton and linters in bedding and upholstery materials, even when the old material is garnetted with new fibers."

65. Matthews, J. Merritt. The textile fibers: their physical, microscopical and chemical properties. Ed. 4, rev. & enl. 1053pp. New York, J. Wiley & sons, 1924. 304 M43 Ed.4.
Cotton linters, pp. 370-371.

66. Meloy, G. S. Color of linters analyzed and color standards established. 2pp., processed. [Washington, D. C., U. S. Dept. of agriculture, Bur. of agricultural economics, 1928] 1.9 Ec733Col
"Extract from address...on the use of the official standards for American cotton linters, Annual convention of the Better Bedding Alliance of America, Chicago, Illinois, January 17, 1928."

67. Meloy, G. S. Development and use of standards for grade, color, and character of American cotton linters. U. S. Dept. Agr. Misc. Pub. 242, 11pp. Washington, D. C., 1936. 1 Ag84M

68. Meloy, G. S. The establishment of standard grades for American cotton linters. U. S. Dept. Agr. Misc. Pub. 10, 8pp. Washington. 1927. 1 Ag84M

69. Meloy, G. S. Memorandum concerning the terms "middle" and "short" as used by the Board of cotton linters examiners. 1p., processed. Washington, D. C., U. S. Dept. of agriculture. Bur. of agricultural economics. [1938] 1.9 Ec733Mc
Also in Cotton Trade Jour. 18(53): 1. Dec. 17, 1938; Cotton and Cotton Oil Press 39(51): 9. Dec. 17, 1938.

70. Meloy, G. S. Standard grading--cottonseed--linters. Cotton Oil Press 14(2): 41-43. June 1930. 307.8 C8234
Address at convention of National Cottonseed Products Association, New Orleans, May 13, 1930.

71. Meloy, G. S. Standard grading of cotton seed and linters. Cotton Oil Press, 16(2): 23-24. June 1932. 307.8 C8234
Address given at 36th annual convention of the National Cottonseed Products Association at New Orleans, La., May 16-17, 1932.
Also in Cotton and Cotton Oil News, 32(22): 12 [illegible] May 28, 1932.

72. Monaghan, J. F. Processing and finishing of cottons. Chemical and physical properties of linters--Drastic boiling needed--Cleansing or purifying process--Sulphuric acid souring--Pulping, washing and drying. Amer. Wool and Cotton Rptr. 47(38): 11-12, 18-19; (41): 17-18; (42): 11-12, 18; (44): 24-26; (45): 7-8. Sept. 21, Oct. 12, 19, Nov. 2, 9, 1933. 304.8 W88

73. [National blow pipe & manufacturing co.] Why it pays to do a good job of cleaning lint. Oil Mill Gazetteer 44(2): 4, 6-7. Aug. 1939. 307.8 Oi53
The advantages of cleaning linters when they are to be sold on the basis of cellulose content are discussed.

74. Racicot, Phileas A., and Lythgoe, Hermann C. Determination of urea in material used for filling in articles of bedding and upholstered furniture. Indus. and Engin. Chem. (Analyt. ed.) 11(9): 512-515. Sept. 15, 1939. 381 J825
Literature cited, p. 515.
Includes experiments with cottonseed, linters, and raw cotton.

75. Robinson, Brittain B. Resiliency and density of some upholstery plant fibres: investigations on. Textile Res. 8(9): 310-316. July 1938. 304.8 T293
References, p. 316.
Technical paper no. 282, Department of Farm Crops, Oregon Agricultural Experiment Station.
Cotton and linters were among the fibers studied.

76. Stamm, Alfred J., and Hansen, L. A. The bonding force of cellulosic materials for water (from specific volume and thermal data). Jour. Phys. Chem. 41(7): 1007-1016. Oct. 1937. 381 J822
References, pp. 1015-1016.
Presented at the Fourteenth Colloid Symposium, held at Minneapolis, Minnesota, June 10-12, 1937.
"The densities of wood, cotton linters, pulp and lignin have been measured in helium, water and benzene as displacement media. Results for cotton agree with those of Davidson (B.C.I.R.A.)...-C."- Textile Inst. Jour. 29(2): A108-A109. Feb. 1938.

77. Standard linters classification. Bureau of agriculture groupings evolved to facilitate trading in constantly increasing quantities of cotton linters. Textile Wastes, 1(2): 13-14. Nov. 1930. 304.8 T292

78. Taylor, B. F. Sees necessity for process that will remove impurities from linters. Cotton and Cotton Oil Press 37(50): 4. Dec. 12, 1936. 304.8 C822
"To hold our markets for linters against wood pulp we must arrange some way of making purer grades," states the author in a letter to the editor.

79. U. S. Dept. of agriculture. Agricultural marketing service. Estimated quantity and percentage of each grade, character, and color of linters produced in the United States, by states, year ended July 31, 1939. 1p., processed. Washington, D. C., 1939. 1.9 Ec733En

80. U. S. Dept. of agriculture. Bureau of agricultural economics. Estimated number of bales of each grade of linters produced in the United States and estimated percentage production of various grades by states, seasons 1933-34--1937-38. 1p., processed. Washington, D. C., 1938. 1.9 Ec733En

81. U. S. Dept. of agriculture. Bureau of agricultural economics. National standards for farm products. U. S. Dept. Agr. Cir. 8, 55 pp. Washington, D. C. 1927, rev. 1935. 1 Ag84c
"This circular was originally prepared in 1927 under the direction of Lloyd S. Tenny, then Chief of the Bureau. It was revised in 1930 and has now been revised again by Caroline B. Sherman, Associate Agricultural Economist, Division of Economic Information, in collaboration with the standardization specialists of the Bureau."
Cotton linters, pp. 11-12.

82. U. S. Dept. of agriculture. Bureau of agricultural economics. Official standards of the United States for American cotton linters. U. S. Dept. Agr. Bur. Agr. Econ. Serv. & Regulat. Announc. no. 94, 9pp. Washington, D. C., 1925. 1 M34s

83. U. S. Department of agriculture. Bureau of agricultural economics. Standards for cotton classification in the United States and abroad. U. S. Dept. Agr. Bur. Agr. Econ. Serv. & Regulat. Announc. no. 92, 23pp. Washington, D. C., 1925. 1 M34s
American cotton linters, pp. 10-11.

84. U. S. Dept. of agriculture. Bureau of agricultural economics. Terms used in the classification of linters by the U. S. Board of cotton linters examiners. 10pp., processed. Washington, D. C., 1927. 1.9 Ec733Te

85. U. S. Dept. of agriculture. Bureau of agricultural economics. Use of official standards of the United States for American cotton linters in the cottonseed-crushing industry season 1937-38. 1p., processed. Washington, D. C., 1938. 1.9 Ec733Uso

86. U. S. Dept. of agriculture. Bureau of agricultural economics. Division of cotton marketing. Construction and use of the official standards for American cotton linters. 4pp., processed. Washington, D. C., 1936. 1.9 Ec7Const.

87. U. S. Dept. of agriculture. Bureau of agricultural economics. Division of cotton marketing. Memorandum concerning cotton linters standards. 1p., processed. Washington, D. C., 1939. 1.9 Ec733Mcc
Locations of "copies of the official standards of the United States for American cotton linters...for reference and study purposes."

88. Wolfenden, G. D. High quality lint must be produced to be saleable. Oil Mill Gazetteer 42(2): 3. Aug. 1937. 307.8 O153
A letter to the editor showing that in order to sell linters they must be clean and telling of the author's trouble in keeping them clean.

COMMERCE

89. Bather, C. S. The cotton linter rates. Bedding Mfr. 29(3): 46. Oct. 1934. 309.8 B39
Examples of the rates are cited.

90. Belligerents hold huge war reserves of cotton linters. Big takings during last three years indicate present need not acute. Cotton Trade Jour. 19(36): 5, 8. Sept. 9, 1939. 72.8 C8214

91. Brazil increases export of cotton linters 100 per cent during 1937. Cotton Trade Jour. 18(43): 6. Oct. 8, 1938. 72.8 C8214

92. Brazil's exports of cotton linters. Textile Colorist 60(719): 771. Nov. 1938. 306.8 T31
Exports of linters from Brazil in 1937 are given.

93. Chemical linters supplies run low in all locations. Prices on all grades high above last year's, low grade prices triple. Cotton Trade Jour. 20(20): 1. May 18, 1940. 72.8 C8214

94. Competition between linters and wood pulp. Cotton Oil Press 18(3): 15. July 1934. 307.8 C8234
"Since the price of cotton linters has risen so materially during the past year, it has been progressively harder to sell this product to what is commonly termed the chemical trade. Reasons assigned for this are that wood pulp is relatively cheaper."

95. Germany imports cotton linters from Soviet Russia. Cotton Trade Jour. 19(4): 6. Jan. 28, 1939. 72.8 C8214
Imports of linters at Hamburg, Germany for July-September 1938 are reported.

96. Gries, Caroline G., and Turner, Anna T. Statistics relating to international trade in cotton and linters, 1921-1935. 89pp., processed. Washington, D. C., U. S. Dept. of agriculture, Bur. of agricultural economics, 1936. 1.9 Ec752 F.S.67

97. Hegewisch, A. E., Inc. Ocean freight rates. Cotton Digest 11(16): 16. Jan. 21, 1939. 286.82 C822
Gives "ocean freight rates in cents per 100 lbs. on high density compressed cotton and linters in bales from U.S. Gulf Ports to principal cotton and linters markets of the world applying on steamers qualifying with first class marine insurance rating (Standard bales 15c higher)."

98. Houston maritime association. Rules...revised and reissued January 1, 1938. 16pp. Houston, 1938. 287 H812
The rules relate to cotton and linters.

99. Hultgren, Thor. Agricultural production compared with railway traffic in farm products during the depression. 28pp., processed, Washington, D. C., U. S. Dept. of agriculture. Bur. of agricultural economics, 1934. 1.9 Ec752Agp
Report before the Interstate Commerce Commission, ex parte 115. Statistics of production and railway tonnage of cotton, linters, cottonseed, and cottonseed cake and meal are included.

100. Looking backward. Oil Miller and Cotton Ginner, 39(2): 8-10. Oct. 1931. 307.8 Oi5
Comments on quotations from Tompkins' "Cotton and Cotton Oil," with special reference to value of products, including linters, in 1901.

101. Manufacturers record. Blue book of southern progress. 94pp. Baltimore, 1939. 252 M312
Issued annually.
Includes statistics of linters production and value, p. 28.

102. Ocean rate increase held unlikely. Cotton Digest 6(39): 8-9. July 7, 1934. 286.82 C822
Rates on cotton and linters to Bremen, Hamburg, Gdynia and Rotterdam for July are given.

103. Record breaking consumption of linters reported. Early figures indicate rate is highest since 1918-19 period. Cotton Trade Jour. 20(25): 1. June 22, 1940. 72.8 C8214.

104. Reduction in production of linters and increased use of cottonseed meal proposed by Cottonseed crushers' association. Com. & Finan. Chron. 123(3202): 2338. Nov. 6, 1926. 286.8 C73
Also in Oil Paint & Drug Rptr. 110(20): 36. Nov. 1, 1926.

105. Rogers, James Harvey, Fairchild, Grace M., and Dickinson, Florence A. Prices of cotton and cotton products. U. S. War Indus. Bd. Price Bul. 23, 56pp. Washington, D. C., 1919. 173 W1924Pr
References and acknowledgements, pp. 55-56.
Linters, p. 32. Linters prices by months and quarters, 1913-1918, pp. 42-43.

106. Traquair, John. Fibrous raw materials developments. Paper Trade Jour. 94(26): 34-37. June 30, 1932. 302.8 P196
Notes on linter production, p. 37. Contains tables showing linters production, price, and exports, 1926-1931; production and value of first cut, mill run, and second cut, 1926-1931; and freight rates per 100 pounds from Dallas, Tex., Greenville, Miss., and Atlanta, Ga., to Appleton, Wis., Dayton, Ohio, and New York, N. Y.

107. U. S. Dept. of agriculture. Agricultural statistics 1938. 544pp. Washington, D. C., 1938. 1 Ag84Yas
Partial contents: Exports of...[linters] annual 1911-36, pp. 387-388; Exports (domestic) of...[linters] by countries, 1929-30 to 1936-37, pp. 393-394.

108. U. S. Dept. of agriculture. Agricultural marketing service. Average monthly prices of cotton linters, grades 1 to 7, season 1938-39. 1p., processed. Washington, D. C., 1939. 1.9 Ec733Avm
A similar statement was issued by the Bureau of Agricultural Economics for the years 1936-37 and 1937-38.

109. [U. S. Dept. of Agriculture. Agricultural marketing service] Linters demand outstrips rising production trend. Prospect is for carryover materially below 1939 or 10-year average. Cotton Trade Jour. 20(24): 7. June 15, 1940. 72.8 C8214

110. U. S. Dept. of agriculture. Agricultural marketing service. Weekly review--American cotton linters. Oct. 16, 1930-date. Processed. Washington, D. C., 1930-date. 1.9 Ec733We
Prior to July 1, 1939, this review was issued by the Bureau of Agricultural Economics.

111. U. S. Dept. of agriculture. Bureau of agricultural economics. Agriculture in the Czechoslovak trade agreement. U. S. Dept. Agr. Bur. Agr. Econ. Foreign Crops and Markets (Sup.) 36(12): 183-190. Mar. 26, 1938 1.9 St2F
"Cleaned cotton linters, which were formerly dutiable at 120 crowns per 100 kilograms (1.90 cents per pound) will be free of duty, provided they are not pressed. Pressed linters will be dutiable at 0.95 cent per pound or one-half the pre-agreement rate."

112. U. S. Dept. of commerce. Bureau of foreign and domestic commerce. British India. Cotton linters--Export duty removed. U. S. Dept. Com. Bur. Foreign and Dom. Com. Com. Rpts. no. 33, p. 752. Aug. 19, 1939. 157 C76D
"The former tax of 2 annas per bale on cotton linters consumed in British India or exported therefrom has been removed, effective July 1, 1939, according to a report from the Office of the American Trade Commissioner, Calcutta, July 20."- Entire item.

113. U. S. Dept. of commerce. Bureau of foreign and domestic commerce. Foreign markets for cotton linters, batting, and waste. U. S. Dept. Com. Bur. Foreign and Dom. Com. Spec. Consular Rpts. 80, 84 pp. Washington, D. C. 1918. 157.7 C76S no. 80.

114. U. S. Dept. of commerce. Bureau of foreign and domestic commerce. France. Raw cotton linters and waste--Special import tax doubled. U. S. Dept. Com. Bur. Foreign and Dom. Com. Com. Rpts. no. 26, p. 570. June 25, 1938. 157 C76D

"Under a decree of June 14, 1938, the French special tax on imports of cotton linters and waste was increased from 1 franc to 2 francs per 100 gross kilos, according to a cablegram of June 16 from the American Embassy at Paris."- Entire item.

115. U. S. Dept. of commerce. Bureau of the census. Cotton production and distribution, season of 1938-39. Prepared under the supervision of Harvey J. Zimmerman. U. S. Dept. Com. Bur. Census Bul. 176, 52pp. Washington, D. C., 1939. 157; 41 B89

An annual publication.

Tables give production of linters, 1899-1938; production of linters by states, 1935-1938; average gross weight of bales, by states, 1936-1938; linters consumed and stocks in consuming establishments at end of year, 1909-1939, and by states, 1936-1939; exports of linters, 1921-1939; exports by country of destination, 1931-1939; linters produced, shipped out, and on hand at close of month for oil mills, by months, August 1934-July 1939; quantities of linters obtained per ton of seed crushed, by states, for the years ending July 31, 1937, 1938, and 1939; production of linters (running bales) by states, for the years ending July 31, 1937, 1938, and 1939, by quality produced; quantity and value of linters produced, 1919-1939, and by states for 1939.

116. U. S. Dept. of commerce. Bureau of the census. Unspinnable cotton in public storage, letter from the Director of the census in response to Senate resolution of March 24, 1920, furnishing certain information in regard to unspinnable cotton in public storage and at concentration points. 66th Cong. 2d sess. Senate Doc. 263, 2 pts. [Washington, D. C., 1920] 148 7671

Contains statements as to the quantity of linters held in public storage and at compresses, February 20, 1920; quantity held by the Government on December 31, 1918; quantity of the 1919 crop to be taken over by the Government; Government uses of linters; quantity produced from January 1, 1919, to March 31, 1920; and the estimated total quantity of linters in the United States March 31, 1920.

117. U. S. Federal trade commission. Cottonseed industry. Letter... transmitting a report...on the cottonseed industry, submitted in pursuance of House resolution no. 439, sixty-ninth Congress. 70th Cong., 1st sess. House Doc. 193, 37pp. Washington, D. C., 1928. 148 8898

Table 5 includes price quotations for linters at Dallas, Texas, on the 1st and 15th of each month, during the seasons 1925-26 and 1926-27.

118. U. S. Interstate commerce commission. Cottonseed, its products and related articles. Report proposed by John T. Money...and George Esch. 334 pp. [Washington, D. C., 1931] (No. 17000 Rate structure investigation, part 8) 168.1 C82
Cottonseed linters and fiber, pp. 133-159. Freight rates are discussed.

119. U. S. War dept. Corps of engineers, U. S. army. The ports of Charleston, S. C. and Wilmington, N. C. (Revised 1934). U. S. War Dept. Corps Engin. U. S. Army Port Ser. no. 9, 191 pp. Washington, D. C. 1935. 152.25 P83 no. 9, rev. 1934.
Water-borne commerce of Wilmington, N. C., from 1924 to 1933, inclusive, including exports of cotton linters, p. 175; Coastwise shipments of cotton linters, p. 177.

120. United States production, consumption, exports and imports of cotton linters. Rayon Organon 9(11): 150. Oct. 1938. 304.8 T3128

121. Ward, A. L. Cottonseed--"Farm Cinderella." One-time step-child of southern farms now second most valuable cash crop. Mfrs. Rec. 105(7): 32-33. July 1936. 297.8 M31
Production, value and uses of linters are given.

USES

122. Allies to build powder plant in Memphis region. Nitro-cellulose production to use quantities of linters, or even lint. Cotton Trade Jour. 20(23): 1. June 8, 1940. 72.8 C8214
The present supply of linters is also discussed.

123. Association of southern agricultural workers. Proceedings of 33rd annual convention in 1932. 132pp. [Birmingham, Ala., 1932] 4 C82 33rd, 1932.
A new chapter in the history of cotton, by Louise Huston, p. 103 (manufacture of bemberg from cotton linters).

124. Barrow, E. R. Chemical laboratory control. Cotton Oil Press 17(6): 23. Oct. 1933. 307.8 C8234
"Abstract of address...at Tri-State Cottonseed Oil Mill Superintendents' Convention."
Many uses of linters are mentioned.

125. Beadle, Clayton, and Stevens, Henry P. The use of cottonseed products. Paper Trade Jour. 50(4): 52, 56; (5): 40, 42. Jan. 27, Feb. 3, 1910. 302.8 P196
"Cottonseed products previously regarded as waste materials are treated under two heads: (a) utilization of cotton separated from the seed hulls as a paper-making material, and (b) utilization of the hulls themselves as food for cattle...Good strong paper can be produced without starting with long fibered cotton. Brazilian, U. S., and Indian seed was involved in the tests.- Guy E. Marion."- Chem. Abs. 4(8): 1100. Apr. 20, 1910.

126. Boger, H. Batterson. Vegetable hair. Cotton linters becomes an international industry. Cotton Trade Jour. 10th Internatl. ed. 18(28): 160-163. 1938. 72.8 C8214
Production and uses of cotton linters are noted.

127. Bohnson, V. L. The manufacture and properties of acetate yarn. Amer. Dyestuff Rptr. 25(13): P350-P356. June 29, 1936. 306.8 Am3
Address at meeting of Northern New England Section, American Association of Textile Chemists and Colorists, April 3, 1936.
"There are two important essential materials in the manufacture of cellulose acetate: A. Purified cotton linters, B. Acetic anhydride."

128. Booker, Harold C. Manifold uses of cottonseed and its by-products. Mfrs. Rec. 92(19): 83. Nov. 10. 1927. 297.8 M31
Uses of linters are mentioned.

129. Brand, C. J. Crop plants for paper making. U. S. Dept. Agr. Bur. Plant Indus. Cir. 82, 19pp. Washington, D. C., 1911. 1 P69c
"Printed on paper made wholly or in part from crop wastes and by-products from corn, broom corn, rice, and cotton." Cotton-hull fiber and stalks as source for paper, pp. 13-14. Page 19 is made from cornstalks and cotton hulls.

130. Brand, C. J. The utilization of crop plants in paper making. U. S. Dept. Agr. Yearbook 1910: 329-340. 1911. 1 Ag84y
Cotton-hull fiber, pp. 334-335.

131. Bresser, A. The influence of the pretreatment of cotton in the quality of nitro-cellulose. Brit. Plastics 10(110): 60-61. July 1938. 309.8 B76
"The processes of soda-boiling and bleaching of cotton linters can be so controlled that the behavior of the cotton on nitration can be guaranteed.-S."- Textile Res. 9(10): 385. Aug. 1939.

132. Briggs, Frank A. Outside and inside the cottonseed. Farm and Ranch 58(1): 9, 20. Jan. 1939. 6 T31
Uses of linters are noted.

133. The British Bemberg works. Managers visit cuprammonium factory at Doncaster. Textile Weekly 14(343): 123-126. Sept. 28, 1934. 304.8 T3127
Manufacture of "Bemberg" or cuprammonium rayon is described. "The point from which cuprammonium manufacture starts is cotton linters."

134. Callahan, M. J. Relation of cotton to lacquers. Jour. Chem. 7(8): 1821-1832. Aug. 1930. 381 J826
Literature cited, p. 1833.
"The manuf. of cellulose nitrate from cotton linters is outlined. A cellulose nitrate for use in lacquers should have a N content of 11.4 to 12.4% and be chem. stable. The viscosity of the dispersion is unrelated to the chem. consts. of the mol. The viscosity of the cellulose nitrate is important; the introduction of a low-viscosity nitrate increased the annual production $20,000,000 in 10 years. The viscosity of the nitrate cannot be modified by pretreatment of the cellulose without degradation of the latter. The tensile strengths of cellulose nitrates prepd. from cotton, wood pulp, and vegetable fiber were of the same order of magnitude.- F. A. Simmonds."- Chem. Abs. 24(22): 6038. Nov. 20, 1930.

135. Cellulose used for rayon production in 1937 (revised). Rayon Organon 9(4): 56. Mar. 1938. 304.8 T3128
Use of linters is included.

136. Chemical cotton--Its use and development. Rayon and Synthetic Yarn Jour. 13(10): 48-49. Oct. 1932. 304.8 R21
From the "Hercules Mixer for September."
Describes manufacture of chemical cotton and quality of linters needed. Two types are manufactured: the loose, used for conversion into nitrocellulose, and for film, celluloid, rayon, etc; the sheeted, used for viscose rayon and high-grade papers. "The viscosity of the cotton when dissolved in a standard cuprammonium solution...is the basic difference between different grades."

137. Chemical lint declining (?) Report states Viscose Co. will use wood pulp. Bedding Mfr. 31(2): 23-24. Sept. 1935. 309.8 B39
Extracts from letters by linter dealers giving views as to the rumored decline in the consumption of linters for chemical purposes.

138. Clark, Roscoe C. The cottonseed products industry. Jour. Accountancy 54(3): 170-191. Sept. 1932. 325.8 J82
Comment is "restricted to the products obtained through the operation of what are known as crude oil mills. The various operations of refining and further manufacture of these products" are not discussed. Discusses grading, milling processes, and accounting for cotton-oil mills and lists products (including linters) and their uses, pp. 190-191.

139. Coleman, Arthur. The marvelous story of cottonseed. Acco Press 13(8): 6-10. Aug. 1935. 6 Ac2
Reprinted from Holland's magazine of the South.
A brief history of the development of uses for cottonseed products and linters is given.

140. Cotton brick may be next. Oil Mill Gazetteer 44(2): 21. Aug. 1939. 307.8 Oi53
The use of low grade cotton and linters in the manufacture of bricks for building purposes is discussed.

141. Cotton linters again. Bedding Mfr. 35(1): 52. Aug. 1938. 309.8 B39
"Sigmund Scisorek, Burbank, California, has been granted a patent on a straw which contains an insert of cotton linters flavored to individual taste. When the straw is inserted in plain water the sipper at the other end of the straw has a drink of flavored soda pop."

142. Cotton linters to be subject of special study. New Orleans 'cotton laboratory' to seek new uses for 'waste' product. Cotton Trade Jour. 19(15): 2. Apr. 15, 1939. 72.8 C8214

143. Cotton-textile institute, inc. Report on cotton waste and linters. 15pp., processed. New York, Cotton-textile institute, inc., 1936. 304 C82R
"Cotton linters compete with lint cotton directly and indirectly. The best grades of linters are used interchangeably with cotton waste in the form of batting, wadding, mattress felts and upholstery stuffing. The cheaper grades which are too short to be garnetted are used to a large extent in the chemical industry and one of the chief uses is in the manufacture of rayon which, of course, competes with long staple cotton."

144. Courtaulds, ltd. Fibro, its manufacture and uses. 23pp. [London, Bemrose & sons ltd., 1935?] 304 C83
Contains a description of the production of fibro by the "Viscose" process from cotton linters, or wood pulp cellulose.

145. Esselen, Gustavus J., and Scott, Walter M. Cellulose as a chemical raw material. Chem. Indus. 43(1): 14-19. July 1938. 381 C426
Cotton linters and wood pulp as sources of cellulose are compared.

146. Gilbert, J. C. Expanding uses for cotton seed and linters. Com. and Finance 17(6): 356-357. Feb. 8, 1928. 286.8 C737

147. Hoff, Dr. G. P. Rayon and "cellophane." Amer. Silk and Rayon Jour. 55(11): 13-16. Nov. 1936. 425.8 Am3
Address at Dearborn Conference of Agriculture, Industry and Science, Dearborn, Michigan, 1936.
The quantity of cotton linters used in rayon manufacture is estimated.
Also in Textile Colorist 58(693): 588-591. Sept. 1936.

148. Howe, H. E., ed. Chemistry in industry; a cooperative work intended to give examples of the contributions made to industry by chemistry. 2 v. New York, The Chemical foundation, Inc. [1934] 388 H83
V. 1, Ch. XVIII, Photography, by S. E. Sheppard, pp. 312-328. The method of producing celluloid film from linters is briefly outlined.

149. India may make artificial silk from linters. Experiments of cotton committee prove cost reasonable, quality better. Cotton Trade Jour. 19(6): 6. Feb. 11, 1939. 72.8 C8214
Experiments of the Indian Central Cotton Committee are noted.

150. Innumerable uses of cottonseed products. Mid-So. Cotton News 12(11): 4. June 1935. 72.8 C8295
Uses for linters are listed.

151. [Johnston, Oscar] Urge government to buy 400,000 bales of linters. National cotton council head stresses usefulness in national defense. Cotton Trade Jour. 19(36): 1. Sept. 9, 1939. 72.8 C8214

152. Kao, Chang-Keng, and Yu, Chi-Hsing. Studies on cottonseeds. II. Utilization of lint and hulls. Jour. Chem. Engin. China 3(4): 331-339. Dec. 1936. Libr. Cong.
Literature cited, p. 339.
"Cottonseed lint-hull mixt. is successfully sepd. by the action of HCl gas without previous heating. The lint can be purified and made fit for more valuable uses, such as nitration, or hydrolyzed to give reducing sugars...- C. L. Teseng."- Chem. Abs. 31(8): 2845. Apr. 20, 1937.

153. Kauders, E. R. Looking ahead! Chemicals versus bedding. Bedding Mfr. 27(6): 36. Jan. 1934. 309.8 B39
The author suggests that the Government control the distribution of linters so that at least 50 per cent of the production would be reserved for the bedding and batting industries. The chemical trades are taking increasing quantities.

154. Kitchel, Lloyd. Cotton cellulose as a chemical raw material. Chem. Markets 27(6): 577-581. Dec. 1930. 381 C426
Describes the purification plant of the Hercules Powder Company, Hopewell, Va., and the process of purifying cotton linters in use there.
Also in Fibre and Fabric 84(2396): 8-11. Jan. 3, 1931.

155. Kress, Otto, and Wells, Sidney D. Pulp from cotton linters. Some further mill trials on the pulping of second-cut cotton linters. Paper 26(7): 320, 322, 324, 326. Apr. 21, 1920. 302.8 P198

Abstracts of the literature, p. 326.
Report of "two pulping trials and one paper machine" run made for the purpose of testing linters as a source of pulp for paper making.

156. Kress, Otto. Suitability of cotton hull fibre for pulp and paper manufacture. Paper Indus. 1(12): 1127-1134. Mar. 1920. 302.8 P1923
Experiments are described.

157. Kress, Otto, and Wells, Sidney D. The suitability of second cut cotton linters, cotton shavings and hull fiber for paper manufacture. Paper Indus. 1(4): 267-270, 278. July 1919. 302.8 P1923
"For presentation at the June meeting of the Technical Association of the Pulp and Paper Industry."
The authors conclude that "from the experimental data we can see no reason why a high grade stock cannot be produced from second cut cotton linters, shavings and hull fiber."

158. Kress, Otto, and Wells, Sidney D. Utilization of delint for paper making. Cotton Oil Press 3(3): 27-36. July 1919. 307.8 C8234
"In this paper, a contribution from the Forest Products Laboratory of the U. S. Department of Agriculture located at Madison, Wis., the authors describe investigations in which an effort was made to ascertain the suitability of second cut cotton linters, cotton shavings, and hull fiber for paper manufacture. It is concluded that a high-grade paper stock can be produced from these materials."- Expt. Sta. Rec. 41(8): 734. Dec. 1919.

159. Levey, H. A. Cellulose sources as raw materials for chemical manufacture. Indus. and Engin. Chem. (News Ed.) 14(4): 70. Feb. 20, 1936. 381 J825
"a- Cellulose from wood, now being produced in commercial quantities, is equal if not superior to cotton linters in the prepn. of viscose and cellulose derivs. The viscosity of the cuprammonium soln., as well as of the derivs. of this cellulose is even higher than that of the cuprammonium soln. and derivs. of the better grades of cotton cellulose. Generally a cellulose of high viscosity yields a deriv. of relatively high tensile strength. It is predicted that in the future much a-cellulose of more or less equiv. grades will be obtained from grasses grown in the South.-F.A.S."- Chem. Abs. 30(10): 3631. May 20, 1936.

160. Levey, H. A. Some comparative costs of cellulose as a chemical raw material. Chem. Indus. 35(4): 303-305. Oct. 1935. 381 C426
Costs of cellulose from linters and other sources are compared.

161. Lickle, C. H. Producing desirable "chemical" linters. Cotton Oil Press 16(5): 9-10. Sept. 1932. 307.8 C8234
Suggestions for care of linters at the oil mill so that they will be suitable for bleaching for use in the manufacture of celluloid, rayon, safety glass, etc.

162. Lindenberg, H. A. Cotton linters for paper making. Paper 27(27)[i.e. 28(2)]: 20, 36. Mar. 16, 1921. 302.8 P198
"Linters are being used extensively in roofing felt and fiber board as well as in bond paper mills.-H. H. Harrison."- Chem. Abs. 15(21): 3745. Nov. 10, 1921.

163. Macormac, A. R., and Basore, C. A. Possible methods for increasing the consumption of cotton and cotton by-products. Ala. Polytech. Inst. Engin. Expt. Sta. Bul. 9, 13pp. Auburn, 1939. 280.9 Al12
Bibliography, p. 13.
Research projects based on linters are included.

164. Making rayon from cotton linters. Agr. Life 5(7): 6-7, 39. July 1938. 25 Ag8
Plans for producing rayon in the Philippines are noted. Methods of manufacture are described.

165. Meloy, G. S. Chemistry and cotton by-products. Chemicals 30(16): 9. Oct. 15, 1928. 306.8 C42
Uses of linters are noted.

166. Meloy, G. S. Cottonseed also goes to market. U. S. Dept. Agr. Bur. Agr. Econ. Agr. Situation 21(12): 12-13. Dec. 1, 1937. 1 Ec7Ag
The probable quantities of cottonseed products and linters from this year's crop of cottonseed are estimated and uses are noted.
Extracts in Cotton and Cotton Oil Press 39(1): 15. Jan. 1, 1938.

167. Meloy, G. S. Standard linters classifications. U. S. Bureau tests various grades to determine most advantageous use of each sort. Textile Wastes 1(1): 12-14, 25. Oct. 1930. 304.8 T292
The author describes tests of mattress felts made from cotton linters of standard grades 1, 2, and 3 and in each of the three standardized characters. The relation between quality of mattress felt and grade of linters is shown.

168. Meloy, G. S. Utilization of the standard grades for cotton linters. Bedding Mfr. 38(1): 48-51. Feb. 1940. 309.8 B39
Address before the convention of the National Association of Bedding Manufacturers, Chicago, Illinois, December 14, 1939.

169. Miller, Robert P. From cotton to a colorful finish. How this fluffy product of nature is utilized by the chemist in making "Duco" lacquer. Dupont Mag. 32(6): 12-13, 16. June 1938. 309.8 D92
The use of linters in the manufacture of lacquer is described.

170. Morrell, R. S., Barry, T. Hedley, Britton, R. P. L., and Langton, H. M., eds. Synthetic resins and allied plastics. 417pp. London, Oxford University press, 1937. 387.1 M832
References at ends of chapters.
Cellulose plastics, pp. 64-85. The treatment of cotton linters is described.

171. Murray, John. The rise of the lowly cotton seed to prominence. Cotton Digest, World ed.: 8(38): 26-28. June 27, 1936. 286.82 C822A
Uses of linters are mentioned.

172. National cottonseed products association, inc. Cottonseed and its products, an actual and potential source of wealth of national importance. 34pp. Memphis, 1937. 281.372 N21C
Bibliography, p. 28.
Revision of a pamphlet entitled "Facts about a great exclusively southern industry."
Linters (uses), p. 14.

173. National cottonseed products association, inc. Through the cotton boll. The story of cottonseed. Natl. Cottonseed Prod. Assoc. Bul. 14, 28pp. Dallas, 1938. 72.9 N213B
Uses of linters are noted, pp. 23-27.

174. Rommel, George M. Salvaging cottonseed hulls--a new industry created. Mfrs. Rec. 94(3): 59-60. July 19, 1928. 297.8 M31
The production of "chemical cotton" from hull fiber is reported.

175. Roos, Kurt. Purity requirements of raw material for the cellulose acetate industry. Rayon and Melliand Textile Monthly 15(1): 4-5, 20. Jan. 1934. 304.8 R21
"Cotton cellulose, as cotton linters in the form of short fibers is the customary raw material."

176. Seaman, S. E. Relationship of linters to chemical industries. Cotton Oil Press 13:34-38. Sept. 1929. 307.8 C8234
Also in Oil Mill Gazetteer 34:7. Sept. 1929. 307.8 Oi53

177. Skinner, Hervey J. Cellulose in industry. Indus. and Engin. Chem. 24(6): 694-704. June 1932. 381 J825
"Presented before the general meeting at the 83rd meeting of the American Chemical Society, New Orleans, La., March 28 to April 1, 1932."
Literature cited: p. 704.
Cotton linters: p. 701-702. Brief statement of uses and cost.

178. Stark, W. I Purification of cotton linters for the manufacture of guncotton and various pyroxylin products. Chem. & Metall. Engin. 26(4): 167-169. Jan. 25, 1922. 381 E12

179. Steude, M. Linters and pulp: comparison of viscose spinning properties. Textile Inst. Jour. 24(12): A610. Dec. 1933. 73.9 T31
Agstract of article in Mitt. Lab. Peter Temening A.G. Glückstadt (Holstein), 1933, 20 pp. (through Chem. Zentr. 2:804. 1933)
"Analyses and spinning tests have been carried out with linters and with wood pulp. Linters differ from wood cellulose in having a higher a-cellulose content (98.5% as against 88.5%), a smaller ash content, better whiteness and somewhat lower viscosity. Practically no hemi-celluloses go into solution in the mercerising bath, and the yield is 10% higher for linters than for wood cellulose. Linters viscose is easily spun and requires no bleaching owing to its white colour. The strength and elasticity values usually exceed those for wood cellulose rayon by about 25%."- Entire item.

180. The story of "Lansil" yarn. Textile Weekly 16(397): 393-396. Oct. 1935. 304.8 T3127
"The production is described of 'Lansil' cellulose acetate yarn from cotton linters by acetylation with acetic acid and acetic anhydride. The yarn is spun, twisted and wound ready for any subsequent textile process in one operation. Reference is made to the testing, winding, warping, and sizing of 'Lansil' yarn.-C."- Textile Inst. Jour. 26(12): A610. Dec. 1935.

181. Taussig, F. W., and White, H. D. Rayon and the tariff: the nurture of an industrial prodigy. Quart. Jour. Econ. 45(4): 588-621. Aug. 1931. 280.8 Q2
Brief history of the rayon industry. A list is given of the principal raw materials, including cotton linters, and their consumption in 1929 for rayon manufacture in the United States.

182. Texas cottonseed oil mills. Tex. Weekly 11(46): 8-9. Nov. 16, 1935. 280.8 T31
"Cotton oil mills have had no small part in raising cottonseed to its place as the second largest cash crop for Texas farmers." Uses of linters are mentioned.

183. Textile economics bureau, inc. Consumption of cellulose by the rayon industry. Rayon Organon 11(5): 69-70. Apr. 5, 1940. 304.8 T3128
A table showing the percentages of wood pulp and linters pulp used in the rayon industry from 1930 to 1939 is given.

184. They're always chasing phantoms. Cotton and Cotton Oil Press 38(40): 6. Oct. 2, 1937. 304.8 C822
Charges that there is a cottonseed trust in Mississippi are commented upon and reference is made to an advertisement on the opposite page which gives values of cottonseed products, including linters, in an effort to refute the charges.

185. [U. S. Dept. of agriculture. Agricultural marketing service] Linters development under spur of 1914-1918 war demand is told. Radio discussion relates present uses for each of several grades. Cotton Trade Jour. 20(11): 7. Mar. 16, 1940. 72.8 C8214
Extracts in Cotton Digest 12(24): 10. Mar. 16, 1940.

186. Wadewitz, M. Wood pulp or linters. Changing requirements for raw materials and other trends in rayon industry. Textile World 85(9): 1652. Aug. 1935. 304.8 T315
Abstract of paper presented at the New York meeting of the cellulose division, American Chemical Society.
"In view of the unstable cotton prices which are also reflected in the linters market, there is a tendency at present to change from linters to wood pulp exclusively for viscose rayon production. Other users of cotton linters are also experimenting with new types of refined wood pulp."

187. Wallace, Joseph H. Making cellulose from cotton linters. Paper 23(23): 634-636, 638, 640, 642. Feb. 12, 1919. 302.8 P198
"A description of the methods of cotton purification at the Government explosive plant, Nitro, W. Va.-R.V.Roe."-Chem. Abs. 13(9): 1016. May 10, 1919.

188. Ward, A. L. Cottonseed is taking its rightful place. Discovery and development of new products has added enormously to the value of cotton in the South. Thousands of men are employed and millions of dollars added to the cotton income by the processing of this once spurned by-product. Cotton Trade

Jour. 7th Internatl. ed. 13(21): 71, 102. 1933. 72.8 C8214
Discussion of numerous uses of cottonseed products. Chart shows products and uses as derived from linters.

189. Ward, A. L. The national significance of cottonseed. Cottonseed products have a social and economic influence in American life. Cotton Trade Jour. 10th Internatl. ed. 18(28): 170-171. 1938. 72.8 C8214
Uses of linters are noted.

190. Werner, K. Comparative viscosity determinations on linters and celluloses, and cellulose acetate produced therefrom, in relation to the course of acetylizing. Textile Weekly, 7(174): 568. July 3, 1931. 304.8 T3127
Abstract of lecture read before the general meeting of the Verein Deutscher Chemiker (Union of German Chemists) in Vienna.

191. Winters, S. R. Paper from cottonseed waste. Sci. Amer. 122(12): 299. Mar. 20, 1920. 470 Sci25
"Munition linters, cotton shavings and hull fiber, the by-products of cottonseed oil mills, are suitable for the manufacture of paper pulp, according to a series of tests just concluded by the Forests Products Laboratory of Madison, Wisconsin."

192. Wood pulp for rayon. Elimination of cotton linters. Manchester Guardian Com. 32(833): 519, 523. June 5, 1936. 286.8 M315
Extracts from a paper by L. Hebbs presented at the Textile Institute Conference, June 4, 1936.
"Formerly cotton linter pulps were used by some of the larger [viscose] producers in amounts up to about 30 per cent of the total furnish, but recently this proportion has been substantially reduced and cotton linters will probably be entirely eliminated during this year."

193. Woodbridge, R. G. The relation of cotton to explosives. Jour. Chem. Ed. 7(8): 1832-1849. Aug. 1930. 381 J826
Literature cited, pp. 1848-1849.
Linters were favored for the manufacture of guncotton and smokeless powder "because of satisfactory quality, lower initial price, and less pulping required." Specifications for purified cotton for smokeless powder are given.

194. Yerkes, L. A. Rayon for tires. India Rubber World 101(3): 41-45, 49. Dec. 1, 1939. 305.8 In2
"Du Pont 'Cordura' rayon is derived entirely from cotton linters." The processing of linters is described.

LEGISLATION, REGULATION AND ADJUDICATION

195. Amtorg corp. urges quota exemption for cotton linters. Offers plea at tariff inquiry--Institute doubts legality of inclusion in hearing. Jour. Com. [N. Y.] 181(14008): 1, 13. Aug. 17, 1939. 286.8 J82

196. Export and import prohibitions. Government war legislation affecting trade. Manchester Chamber of Com. Monthly Rec. 50(9): 397-398. Sept. 30, 1939. 287 M31
"An order in Council was made on 1st September, effective on the following day, prohibiting the export from the United Kingdom, in some cases to all destinations, and in others to specified destinations, except under licence issued by the Board of Trade, of a large number of commodities" including "raw cotton, cotton linters and pulp or board made therefrom."

197. Italy. Import of cotton waste "linters". Gt. Brit. Bd. Trade Jour. 142(2198): 120. Jan. 19, 1939. 256.03 T67J
Increased imports of linters into Italy are allowed.

198. Italy. Import of cotton waste ("linters"). Gt. Brit. Bd. Trade Jour. 134(2012): 1032. June 27, 1935. 256.03 T67J
"The 'Gazzetta Ufficiale' (Rome) of June 1 contains a Royal Decree-Law, dated May 9 and effective on the date of publication, which provides for the duty-free import of a yearly quota of 12,000 quintals of raw 'linters' for use, after sterilisation, in the production of rayon."- Entire item.

199. Oil mills lose linter case in court. Cotton and Cotton Oil Press 38(20): 13. May 15, 1937. 304.8 C822
The case related to linters sold to the Government during the World War.

200. U. S. Congress. House. Committee on foreign affairs. Exportation of arms, munitions or implements of war to belligerent nations. Hearings...70th Congress, 1st sess., on H. J. Res. 183... 134pp. Washington, D. C. 1929. 72 [Me]
Statement of G. S. Meloy, that linters do not come within the language of the resolution, pp. 85-86.

201. U. S. Dept. of agriculture. Bureau of entomology and plant quarantine. Administrative instructions; approval of alternative treatment for the interstate movement of baled cotton linters ginned from cottonseed produced in areas lightly infested with the pink bollworm. U. S. Natl. Arch. Fed. Register 2(103): 1096. May 28, 1937. 169 F31
"B. E. P. Q.-450"

202. U. S. Dept. of agriculture. Bureau of entomology and plant quarantine. Administrative instructions; treatment requirements removed as a condition for interstate shipment of baled lint and linters, and products thereof from certain specified pink bollworm lightly infested areas of New Mexico and Texas. U. S. Natl. Arch. Fed. Register 2(103): 1096. May 28, 1937. 169 F31
"B. E. P. Q.-414 (Revised)"

203. U. S. Dept. of agriculture. Bureau of entomology and plant quarantine. Modification of cotton regulations. Amendment no. 4 of rules and regulations governing the importation of cotton and cotton wrappings into the United States. U. S. Natl. Arch. Fed. Register 3(129): 1618-1619. July 2, 1938. 169 F31
Linters are included.

204. [U. S. Dept. of agriculture. Bureau of entomology and plant quarantine] Treatment requirements removed as a condition for interstate shipment of baled lint and linters, and products thereof produced or manufactured from sterilized cottonseed, from the pink bollworm regulated area in Florida. U. S. Nat. Arch. Fed. Register 1(19): 167. Apr. 9, 1936. 169 F31
"B. E. P. Q. 393...administrative instructions."

205. U. S. Treasury dept. Bureau of customs. Examination of merchandise--Special regulation. Examination of less than one package of every ten packages of certain merchandise authorized. U. S. Natl. Arch. Fed. Register 3(36): 489-492. Feb. 19, 1938. 169 F31
Cotton and linters are included in the list.

INDEX

AGRICULTURAL ECONOMICS BIBLIOGRAPHIES

No. 1. Agricultural economics; a selected list of references. January 1925. Revised, September 1927; February 1929; April 1930; January 1934; January 1936; January 1938.

No. 2. Flour milling and bread making; selected list of references. February 1925. Revised, June 1927; April 1931. Supply exhausted.

No. 3. A beginning of a bibliography of the literature of rural life. March 1925.

No. 4. Price spreads; a selected list of references relating to analyses of the portion of the consumer's price accruing to various agencies. March 1925. Supply exhausted.

No. 5. Long-time agricultural programs in the United States - national, regional, and State. June 1925. Supply exhausted.

No. 6. Aids to writers and editors; a selected list of books on the preparation of manuscripts and the mechanics of writing, for use in the Bureau of Agricultural Economics. June 1925.

No. 7. Livestock financing; a selected list of references relating to the financing of the livestock industry in the United States. September 1925. (Superseded by No. 62)

No. 8. The peach industry in the United States; a selected list of references on the economic aspects of the industry including some references relating to Canada. October 1925.

No. 9. Selected list of references on grain sorghums, grass sorghums, and broom corn. December 1925. Supply exhausted.

No. 10. Research in rural economics and rural sociology in the Southern States since 1920; a list of the published, unpublished, and current studies. January 1926.

No. 11. Economic periodicals of foreign countries published in the English language; a selected list. February 1926. Revised, March 1930.

No. 12. Government control of export and import in foreign countries. February 1926.

No. 13. Cooperative marketing of tobacco; a selected list of references. February 1926. Supply exhausted.

No. 14. Factors affecting prices; a selected bibliography, including some references on the theory and practice of price analysis. March 1926. Supply exhausted.

No. 15. Alabama; an index to the State official sources of agricultural statistics. March 1926.

No. 16. Periodicals relating to dairying in the U. S., received in the U. S. Department of Agriculture. June 1926.

No. 17. Farm youth; a selected list of references to literature issued since January 1920. October 1926. (Supplemented by No. 65)

No. 18. Price fixing by governments 424 B. C.-1926 A. D.; a selected bibliography, including some references on the principles of price fixing, and on price fixing by private organizations. October 1926. (See also No. 79 and No. 86)

No. 19. The apple industry in the United States; a selected list of references on the economic aspects of the industry together with some references on varieties. June 1927.

No. 20. Bounties on agricultural products; a selected bibliography. July 1927.

No. 21. Oklahoma; an index to the State official sources of agricultural statistics...including a list of the unofficial sources of Oklahoma agricultural statistics. August 1927. Supply exhausted.

No. 22. A list of international organizations interested in agriculture. November 1927. Supply exhausted.

No. 23. Control of production of agricultural products by governments; a selected bibliography. December 1927.

No. 24. The poultry industry; a selected list of references on the economic aspects of the industry, 1920-1927. February 1928.

No. 25. Taxation and the farmer; a selected and annotated bibliography. June 1928.

No. 26. Labor requirements of farm products in the United States; a list of references to material published since 1922. April 1929.

No. 27. Agricultural relief; a selected and annotated bibliography. June 1929. (Superseded by No. 50)

No. 28. The strawberry industry in the United States; a selected list of references on the economic aspects of the industry. September 1929.

No. 29. Valuation of real estate, with special reference to farm real estate. November 1929. (Superseded by No. 60)

No. 30. Large scale and corporation farming; a selected list of references. November 1929. (Supplemented by No. 69)

No. 31. California; an index to the State sources of agricultural statistics. Part I. - Fruits, vegetables and nuts; an index to the official sources. Sections 1 and 2. January 1930; Part II. - Crops other than fruits, vegetables and nuts; an index to the official sources. June 1930; Part III. - Livestock and livestock products; an index to the official sources. January 1931; Part IV. - Land, farm property, irrigation, and miscellaneous items; an index to the official sources. April 1931; Part V. - An index to some unofficial sources. February 1930.

No. 32. Rural standards of living; a selected bibliography. August 1930. (Superseded by Miscellaneous Publication 116)

No. 33. Wheat; cost of production, 1923-1930. References relating to the United States and some foreign countries. January 1931.

No. 34. Business and banking periodicals reviewing the business situation. August 1931.

No. 35. Switzerland; a guide to official statistics on agriculture, population, and food supply. March 1932.

No. 36. The grape industry; a selected list of references on the economic aspects of the industry in the United States, 1920-1931. March 1932.

No. 37. Advantages and disadvantages of country life. May 1932.

No. 38. List of State official serial publications containing material on agricultural economics. July 1932. Supply exhausted.

No. 39. Greece; a guide to official statistics of agriculture, population, and food supply. October 1932.

No. 40. Barter and scrip in the United States. February 1933.

No. 41. The domestic allotment plans for the relief of agriculture. February 1933.

No. 42. Measures taken by foreign countries to relieve agricultural indebtedness. March 1933. Supply exhausted.

No. 43. Part-time farming; a brief list of recent references. February 1933. (Superseded by no. 77)

No. 44. Uses for cotton; selected references in the English language. November 1932.

No. 45. State measures for the relief of agricultural indebtedness in the United States, 1932 and 1933. March 1933.

No. 46. Group and chain farming in the United States, January 1930-March 1933; with some references to group farming in foreign countries. March 1933. (Superseded by No. 69)

No. 47. Farm mortgages in the United States; selected references...January 1928-April 1933. May 1933.

No. 48. Price analysis; selected references on supply and demand curves and related subjects, January 1928-June 1933. September 1933.

No. 49. Rumania; a guide to official statistics of agriculture, population and food supply. October 1933.

No. 50. Agricultural relief; a selected and annotated bibliography. August 1933.

No. 51. Business and agriculture, 1920-1933; a partial bibliography of material on the interdependence of business and agriculture. November 1933.

No. 52. The American farm problem. April 1934.

No. 53. State measures for the relief of agricultural indebtedness in the United States, 1933 and 1934. June 1934.

No. 54. Measures of major importance enacted by the 73d Congress, March 9 to June 16, 1933 and January 3 to June 18, 1934. November 1934.

No. 55. List of periodicals containing prices and other statistical and economic information on fruits, vegetables and nuts. January 1935.

No. 56. Consumption of fruits and vegetables in the United States; an index to some sources of statistics. January 1935.

No. 57. Economic development of the cotton-textile industry in the United States, 1910-1935. September 1935.

No. 58. Price studies of the U. S. Department of Agriculture showing demand-price, supply-price, and price-production relationships. October 1935.

No. 59. Farm tenancy in the United States, 1925-1935; a beginning of a bibliography. November 1935. (Superseded by No. 70)

No. 60. Valuation of real estate, with special reference to farm real estate. December 1935. (Supersedes No. 29)

No. 61. Financing American cotton production and marketing in the United States. November 1935.

No. 62. Livestock financing in the United States; selected references to material published 1915-1935. December 1935. (Supersedes No. 7)

No. 63. Government control of cotton production in the United States, 1933-1935; a selected list of references. January 1936.

No. 64. Agricultural labor in the United States, 1915-1935; a selected list of references. December 1935. (Supplemented by No. 72)

No. 65. Farm youth in the United States; a selected list of references to literature issued since October 1926. June 1936. (Supplements No. 17)

No. 66. Measures of major importance enacted by the 74th Congress, January 3 to August 26, 1935 and January 3 to June 20, 1936. July 1936.

No. 67. Crop and livestock insurance; a selected list of references to literature issued since 1898. November 1936.

No. 68. Incidence of the processing taxes under the Agricultural Adjustment Act; a selected list of references. January 1937.

No. 69. Large scale and corporation farming; a selected list of references. April 1937. (Supplements No. 30; supersedes No. 46)

No. 70. Farm tenancy in the United States, 1918-1936; a selected list of references. June 1937. (Supersedes No. 59; supplemented by No. 85)

No. 71. List of periodicals containing prices and other statistical and economic information on dairy products. October 1937.

No. 72. Agricultural labor in the United States, 1936-1937; a selected list of references. March 1938. (Supplements No. 64)

No. 73. Income; selected references on the concept of income and methods of obtaining income statistics. May 1938.

No. 74. The soybean industry; a selected list of references on the economic aspects of the industry in the United States, 1900-1938. October 1938.

No. 75. The tobacco industry; a selected list of references on the economic aspects of the industry, 1932-June 1938. September 1938.

No. 76. Agricultural relief measures relating to the raising of farm prices - 75th Congress, January 5, 1937 to June 16, 1938. February 1939.

No. 77. Part-time farming in the United States; a selected list of references. February 1939. (Supersedes No. 43)

No. 78. Rural psychology; a partial list of references. March 1939.

No. 79. Price fixing by government in the United States, 1926-1939; a selected list of references on direct price fixing of agricultural products by the Federal and State governments. July 1939. (See also No. 18)

No. 80. The peanut industry; a selected list of references on the economic aspects of the industry, 1920-1939. November 1939.

No. 81. Transportation of agricultural products in the United States, 1920-June 1939; a selected list of references relating to the various phases of railway, motor, and water carrier transportation. Part I. General transportation and transportation of agricultural products. November 1939; Part II. Highway, rail, and water transportation. November 1939; Part III. Index to Parts I and II. November 1939.

No. 82. The world food supply; a partial list of references, 1925-1939. December 1939.

No. 83. Land classification; a selected bibliography. March 1940.

No. 84. Agricultural relief measures relating to the raising of farm prices - 74th Congress, January 3, 1935 to June 20, 1936. April 1940.

No. 85. Farm tenancy in the United States, 1937-1939; a selected list of references. April 1940. (Supplements No. 70)

No. 86. Price fixing by government in foreign countries, 1926-1939; a selected list of references on direct price fixing of agricultural products by foreign governments. July 1940. (See also No. 18)

No. 87. Corn in the development of the civilization of the Americas; a selected and annotated bibliography. September 1940.

No. 88. Cotton linters; selected references in English, 1900-July 1940. October 1940.