UNITED STATES
DEPARTMENT OF AGRICULTURE
Miscellaneous Publication No. 203

Washington, D. C. November 1934

COTTON AND COTTONSEED

A list of the publications of the United States Department of Agriculture on these subjects, including early reports of the United States Patent Office

Compiled by
RACHEL P. LANE
Junior Library Assistant
Division of Cotton and Other Fiber Crops and Diseases
Bureau of Plant Industry

Under the Direction of
EMILY L. DAY
Library Specialist in Cotton Marketing
Bureau of Agricultural Economics
COTTON AND COTTONSEED

A list of the publications of the United States Department of Agriculture on these subjects, including early reports of the United States Patent Office

Compiled by

RACHEL P. LANE
Junior Library Assistant
Division of Cotton and Other Fiber Crops and Diseases
Bureau of Plant Industry

Under the Direction of

EMILY L. DAY
Library Specialist in Cotton Marketing
Bureau of Agricultural Economics

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1934

For sale by the Superintendent of Documents, Washington, D.C. - - - - - - Price 15 cents
SOURCES CONSULTED

Card catalogs of the following libraries:
United States Department of Agriculture.
United States Department of Agriculture, Bureau of Agricultural Economics.
United States Department of Agriculture, Bureau of Agricultural Economics, Division of Cotton Marketing Branch.

Indexes and bibliographies:


Supplementary to bulletin no 6, Division of Publications, issued in 1902 but duplicating that list for months of January-June 1901.


All references * * * to subjects previous to 1862 are necessarily to Patent Office reports. Since and including 1862, when the Department of Agriculture was separated entirely from the jurisdiction of the Patent Office, references are to the reports of this Department.

——, BUREAU OF AGRICULTURAL ECONOMICS, DIVISION OF COTTON MARKETING, COTTON LITERATURE. V. 1–3, nos. 1–7. 1931–July 1933, also its predecessor, CURRENT LITERATURE ON COTTON, V. 1, nos. 1–6, July–December 1930. [Mimeographed.]

Selected references prepared in the Library of the United States Department of Agriculture with the cooperation of the Bureau of Agricultural Economics, Bureau of Plant Industry, and Bureau of Entomology. Compiled by Emily L. Day.
INTRODUCTION

This list contains references to cotton and cottonseed in the printed and mimeographed publications of the United States Department of Agriculture from 1841 through June 1933, including the reports of the Agricultural Division of the United States Patent Office, through which Federal aid to agriculture was administered from 1839 to 1862. References found in the annual reports of the Department through 1900 have been included. Such references in the annual reports of the Department and of the Bureaus since that date have not been included, as they may be found in Index to Publications of the United States Department of Agriculture 1901–1925, by Bradley and Hunt, 1932. The Journal of Agricultural
Research and the Monthly Weather Review were the only periodicals examined.

The classification of entries follows that used in Cotton Literature—Selected References, a mimeographed periodical issued monthly by the Department library. The abbreviations used are those listed in United States Department of Agriculture Department Bulletin 1330, Abbreviations Employed in Experiment Station Record for Titles of Periodicals.

A detailed author and subject index is included. References in the index are to item numbers and not to page numbers.

The printed publications included in this list were issued by the Government Printing Office except where otherwise stated. Mimeographed publications were issued by the bureau indicated in the reference. Many of the publications listed are no longer available for distribution but may be seen in libraries that are depositories for United States Government publications, and in other libraries. (See appendix for list of depository libraries.) Printed publications available for distribution are listed in Miscellaneous Publication 60, List of Available Publications of the United States Department of Agriculture, January 2, 1932. Mimeographed publications when available may be obtained from the issuing bureau or office.
PLANT CHARACTERISTICS AND DEVELOPMENT

ARMSTRONG, G. M., and ALBERT, W. B. (1)
Literature cited, pp. 702-703.

Literature cited, pp. 1024-1025.

BECKETT, R. E. (3)
BUDDING AND GRAFTING TRIALS WITH COTTON AND RELATED PLANTS. Circ. 267, 15 pp. Illus. 1933.
Literature cited, pp. 13-14.

"The budding and grafting trials at the United States Acclimatization Garden, near Bard, Calif., show not only that widely different species of Gossypium can be successfully united by these methods, but that related genera also can be budded and grafted with species of Gossypium" (p. 13).

While results of studies indicate that "Garo Hill [Gossypium cernuum (Tod.)] differs but little in its growth periods from the American upland varieties or the American Egyptian and the sea-island varieties * * * the data are of interest as a further contribution to the available information on the fruiting habits of the cotton plant in relation to production under bollweevil conditions" (p. 97).

Data collected at United States Cotton Breeding Field Station at Greenville, Tex., in 1925, and at United States Acclimatization Garden, Bard, Calif., in 1926 and 1927. Lone Star and Acala varieties were used.
It is concluded that 5-lock bolls may have a greater tendency to abort than 4-lock bolls. "Also, 5-lock bolls are shown to be influenced by environmental and cultural conditions to a greater extent both in the number produced and in the rate of shedding, than are 4-lock bolls" (p. 15).

BRIGGS, L. J., and SHANTZ, H. L. (6)
Literature cited, pp. 62-63. Cotton was among the plants studied.

CASKEY, CHARLES, JR., and GALLUP, W. D. (7)
Literature cited, p. 673.

COOK, O. F. (8)
"There is an inverse ratio of growth to fertility in cotton * * * The general reason for this is the competition of the vegetative branches with the fruiting branches."

AND MEADE, R. M. (9)
Cook, O. F.  
"Brachysm is a term proposed to designate the shortening of the vegetative internodes of plants * * * Brachytic variations are of frequent occurrence in cotton, giving rise to the so-called ‘cluster’ and ‘limbless’ varieties, and afford unusually favorable opportunities for learning the nature and physiological significance of such variations" (p. 399).

### Dimorphic Branches in Tropical Crop Plants: Cotton, Coffee, Cacao, the Central American Rubber Tree, and the Banana.  

### Morphology of Cotton Branches.  

McLachlan, Argyle and Meade, R. M.  

The diversity found in Egyptian cotton in Arizona is of four different kinds, “evidently arising from different physiological factors”, as follows: Hybridization caused by cross-fertilizing insects; incomplete acclimatization; the phenomenon of accommodation of different plants to differences in physical environment; and changes in the growth rate of various parts of the individual plant.

Dewey, L. H.  
**Principal Commercial Plant Fibers.** Yearbook 1903: 387-398, illus. 1904.

Cottons, pp. 388-390. Plant characteristics are described for American upland cotton, sea-island, Egyptian, India, and Peruvian (often called kidney cotton.) Pictures of leaves and flowers of American upland, sea island and India cottons are given in figures 1-3.

Duvall, Louise, compiler.  

Eaton, F. M.  
Literature cited, pp. 802-803.

“The experimental plants were of the Pima variety of Egyptian cotton grown as a part of a water-requirement series at Sacaton, Ariz., in 1927” (p. 791).

### Early Defloration as a Method of Increasing Cotton Yields, and the Relation of Fruitfulness to Fiber and Boll Characters.  

### Leaf Temperatures of Cotton and Their Relation to Transpiration, Varietal Differences, and Yields.  
Tech. Bull. 91, 40 pp., illus. 1929.  

### Root Development as Related to Character of Growth and Fruitfulness of the Cotton Plant.  
Literature cited, pp. 882-883. The experimental plants were grown at the United States Field Station, Sacaton, Ariz., in 1927.

Harris, J. A., Lawrence, J. V., and Lawrence, Z. W.  
Literature cited, p. 704.

Investigations at the United States Field Station in the Gila River Valley at Sacaton, Ariz., show that “the chlorid content is higher in the tissue fluids of the Egyptian than in those of upland cottons * * * The higher chlorid content may indicate a greater capacity of the Egyptian type for growth on saline land” (p. 704).
COTTON AND COTTONSEED

HARRIS, J. A., and PASCOE, T. A. (21)
Literature cited, p. 788.

and others. (22)
Literature cited, p. 1033.
"While the Egyptian varieties apparently differ among themselves, all of the six varieties here considered have a higher osmotic concentration and specific electrical conductivity than the upland varieties (Acala, Meade, and Lone Star) with which they have been compared. The two types apparently do not differ in the ratio of specific electrical conductivity to freezing-point depression" (p. 1033).

Literature cited, pp. 646-647.

HOFFMAN, G. T., and HOFFMAN, W. F. (24)
Literature cited, p. 661.
"The sulphate content of the upland varieties (Meade and Lone Star) is higher than that of the Egyptian variety (Pima). The differences are clearly significant in comparison with their probable errors and range from 3 to 4 grams per liter, or from 18 to 28 percent of the upland value" (p. 660).

and others. (25)
Literature cited, pp. 325-327.
"This paper has a twofold purpose: (a) The presentation of the results of an investigation of the physicochemical properties of the leaf tissue fluids of Egyptian and upland cotton as grown under irrigation at Sacto, Ariz.; (b) a comparison of the properties of the leaf tissue fluids of the F1 hybrid between these two cottons with those of the two parent types" (p. 267).

HUBBARD, J. W. (26)
FARM STUDY OF THE COTTON PLANT. Farmers' Bull. 1661, 18 pp., illus. 1931.
The structure, growth, and functions of each part of the plant are described.


and HERBERT, F. W. (28)
ROOT DEVELOPMENT OF COTTON PLANTS IN THE SAN JOAQUIN VALLEY OF CALIFORNIA. Circ. 262, 8 pp., illus. 1933.

KEARNEY, T. H., and HARter, L. L. (29)
Results with cotton (Gossypium), pp. 9-10. The Jannovitch Egyptian variety of cotton (Gossypium barbadense) and the Griffin upland variety (G.hirsutum) were used. Limits of endurance of cotton seedlings of salts of magnesium and sodium, table II (p. 10). "The most marked difference in resistance between the two species of Gossypium appear in the presence of sodium carbonate and sodium bicarbonate. Egyptian cotton (Gossypium barbadense) can endure twice as concentrated a solution of the carbonate and nearly twice as concentrated a solution of the bicarbonate as can upland cotton (G.hirsutum). In resistance to magnesium chlorid and to sodium chlorid, also, Gossypium barbadense is slightly superior to G.hirsutum" (p. 10).
Development of the Cotton Boll as Affected by Removal of the Involute.


Experiments were conducted at the United States Field Station, Sacaton, Ariz., in 1921. "The results described in this paper point to the conclusion that the involure of Gossypium plays an important part in the development of the flower and boll which it subtends. Suppression of this organ on plants of Pima cotton (Egyptian type) at the time of anthesis caused a marked reduction in the size and weight of the boll, in the weight of the seeds, and in the abundance of the lint" (p. 392).

Variation in Seed Fuzziness on Individual Plants of Pima Cotton.


"Rather high and very significant negative correlations between the height of the fruiting branch and the grade of fuzziness of the seeds borne thereon indicate a strong tendency for the bolls on the lower fruiting branches to have fuzzier seeds than the bolls on the higher branches" (p. 471).

Development of Axillary Buds on Fruiting Branches of Pima and Upland Cotton.


Development of Flowers and Bolls of Pima and Acala Cotton in Relation to Branching.

Dept. Bull. 1365, 28 pp., illus. 1927.

Literature cited, p. 27.

The Order, Rate, and Regularity of Blooming in the Cotton Plant.


Literature cited, p. 763.

The Branching Habits of Egyptian Cotton.


Results of investigations in Arizona and California during the seasons of 1909 and 1910. "To place the growing of Egyptian cotton in the Southwest on a practical basis, cultural control of the production and development of vegetative and fruiting branches must be established."

Growth of Fruitful Parts in Cotton Plants.


"A comparison of similar phases of plant growth and development was obtained on several varieties under widely different environmental conditions—namely, Lone Star, Acala, Durango, and Pima Egyptian, at Sacaton, Ariz., in 1921 and 1922; Lone Star, near Greenville, Tex., in 1922; and Meade and sea island near Charleston, S.C., in 1922" (p. 206).

Supernumerary Carpsels in Cotton Bolls.


The author concludes that low temperatures might induce this abnormality, which has occurred at Lanham, Md., Glendale, Calif., and Clarksville, Tex.

The Water Requirement of Plants at Akron, Colo.


The results here recorded are part of an extensive experiment begun by L. J. Briggs, while in charge of the Office of Biophysical Investigations, and the senior author, then of the Office of Alkali and Drought Resistant Plant Investigations. "Cotton was included in the experiments each year at Akron. Notwithstanding the fact that cotton was far from its natural range the water requirement of that crop, 574±9, was as low as for oats and almost as low as for wheat" (p. 1109).

Chemistry and Histology of the Glands of the Cotton Plant, with Notes on the Occurrence of Similar Glands in Related Plants.


Tyler, F. J.


"Some natural method of grouping the species of cotton is greatly needed. The cultivated species especially have been confused since the time of Linnaeus, and the genus is generally considered very difficult.

"It is believed that the interesting diversity which has been noticed between the nectaries of different cottons will form diagnostic characters of considerable value." Lists species arranged in four groups having similar nectaries, and describes the nectaries in each species.

United States Department of Agriculture, Bureau of Plant Industry


A bibliography compiled from material received in the Department of Agriculture library. Nos. 1-151 have title: Current author entries; nos. 152-183 have title: Current botanical literature.

Publications on the botany and diseases of the cotton plant are included in the issues.

Viehove, Arno, Chernoff, L. H., and Johns, C. O.


Literature cited, pp. 351-352. This paper is the first of a series on the chemistry of the cotton plant.

"The main purpose of the investigation reported in this paper was to isolate the substance which proves so attractive to the boll weevil, an attraction causing such disastrous losses to the cotton industry. While this paper chiefly concerns the isolation of the glucosids and their products of hydrolysis, preliminary studies of an ethereal oil which has been isolated from different parts of the cotton plant are also discussed. This oil has been found decidedly attractive to the boll weevil" (p. 345).

Breeding and Genetics

Cook O. F.

Cotton Improvement through Type Selection, with Special Reference to the Acala Variety. Tech. Bull. 302, 62 pp., illus. 1932.

"The new method is called type selection, in order to direct attention to the essential requirement of recognizing a single type of plant as the basis of selection and thus maintaining the uniformity of the stock. To appreciate and apply the new method to the best advantage, it is necessary to analyze and discriminate carefully between type selection and several other methods that have been used in the past, including mass selection, individual selection, and progeny selection" (p. 58).

Though most of the data given in this bulletin are based on the study of Acala cotton, the methods are applicable to other varieties also.


"The safest and most effective way of using lint percentages for agricultural and breeding purposes is for determining a lint index, representing the amount of lint produced by 100 seed" (p. 16). Examples of lint indexes of different varieties of cotton compared with lint percentages, table 1 (p. 15).


"The facts of dimorphism are worthy of being taken into account in breeding, as affording additional varietal characters and as one of the means of recognizing variations from the standard or typical form of a select variety. Dimorphism must also receive attention in the study of the influence of environmental conditions on the expression of characters. In cotton and other tropical crop plants the modification of dimorphic differences represents one of the most serious disturbances of normal heredity induced by external conditions" (p. 51).

“This paper outlines some new methods and standpoints for the study of heredity, with applications to practical problems in the breeding of cotton. It shows how problems of heredity and methods of breeding can be simplified by a more definite recognition of the fact that the expression of characters is distinct from transmission. In addition **detailed information is given regarding the habits of the various types of cotton, the effects of external conditions, and the behavior of the different characters in heredity**” (p. 3).


“The uniformity of the progeny of mutative variations renders them greatly superior to hybrids for breeding purposes. The possibility of obtaining superior mutative reversions from later generations of dilute hybrid stocks is worthy of investigation, especially in cases where desirable Mendelian combinations are not obtained in the earlier generations of hybrids.

“The Hindi variations of the Egyptian are similar in their characters and behavior to some of the reversions that appear in Upland varieties and may prove to be forms of reversion rather than results of recent contamination with a distinct type of cotton” (p. 17).


“The facts considered in this brief report are incidental results of experiments undertaken for the purpose of acclimatizing in the United States weevil-resistant varieties of cotton from Central America and of hybridizing them with our United States varieties” (p. 3.)


Records of observations made on Kekchi, upland, and Egyptian cottons in Texas and Oklahoma.


“Metaxenia effect on growth of lint of cotton suggests the danger of growing two or more varieties of widely divergent staple lengths in the same vicinity, as the uniformity of both products is likely to be impaired to the extent that cross-fertilization occurs.”


Experiments with cotton blossoms, pp. 19-22.


Summary of 7 years' work in the southwestern part of the United States. Describes the Yuma and the Somerton varieties of Egyptian cotton, in addition to several other new superior strains.


Correlations cited, p. 796.


Sea-island, Egyptian, upland, and Asiatic varieties are described and histories given. Methods of breeding discussed, pp. 7-8.
Kearney, T. H., and Peebles, R. H.


Literature cited, pp. 660-661.


"Evidence is presented in this paper of the occurrence of heritable variations in the Pima variety of American Egyptian cotton, which is probably the most uniform variety of cotton now grown on an extensive scale" (p. 241.) Early history of the Pima variety, pp. 227-228.


"The writers have presented evidence that different species and varieties of cotton differ consistently in the rate of shedding. They have shown also that in a hybrid between Pima Egyptian and Acala upland cottons the second generation was more variable than the first and that individual F2 plants grown under identical conditions differed significantly in the percentage of buds and of young bolls lost by abscission.

Third-generation progenies have been grown subsequently, and the data obtained from them are set forth in the present paper. The new evidence confirms the conclusion that abscission of the flower buds and young bolls in cotton is determined partly by genetic factors" (p. 921.)


Literature cited, p. 217.

Report of an investigation made at the United States Field Station, Sacaton, Ariz. "This paper presents the evidence, from crosses between smooth-seeded and fuzzy-seeded cottons, that the inheritance of this character is mainly of a simple Mendelian type" (p. 215.)


Literature cited, pp. 301-302.

"The subjects treated in the following pages are: (1) The origin of Egyptian cotton, so far as it throws light upon the heterogeneous nature of this type and thus affords a possible explanation of its mutability; (2) the evidence for the mutational origin of the several varieties now grown commercially in Egypt; (3) the better known history of the Arizona varieties and the reasons for concluding that they have arisen by mutation, and (4) the evidence afforded by Egyptian cotton that mutability may be a result of hybridization" (p. 288.)


Literature cited, pp. 224-226.

(65) SEGREGATION AND CORRELATION OF CHARACTERS IN AN UPLAND-EGYPTIAN COTTON HYBRID. Dept. Bull. 1164, 58 pp., illus. 1923.

Literature cited, pp. 56-57.

Reports investigations made at the Cooperative Testing Station, Sacaton, Ariz., 1917-20, on a cross between the Holdon variety of upland cotton and the Pima (American Egyptian) variety. The results "have a practical bearing in throwing light upon the nature of the variants to be looked for in a field of Egyptian or of upland cotton which has been exposed to accidental cross-pollination by the other type. This knowledge should be useful both in determining the fact of whether such cross-pollination has occurred and in guiding the work of roguing to maintain supplies of pure planting seed." (p. 2.) Definition of the characters measured or graded, pp. 7-11.
Kearney, T. H., and Harrison, G. J. (66)
"The writers, assisted by Max Willett and Dow D. Porter, have now succeeded in obtaining conclusive evidence that selective fertilization, in favor of the like pollen, takes place in upland, as well as in Egyptian cotton. The purpose of this paper is to describe the experiments which yielded this evidence" (p. 329). The experiments were conducted at the cooperative testing station at Sacaton, Ariz., in 1922 and 1923.

SELF-FERTILIZATION AND CROSS-FERTILIZATION IN PIMA COTTON. Dept. Bull. 1134, 68 pp., illus. 1923.
"Most of the data and conclusions relate to the Pima variety of the Egyptian type of cotton, but comparison with upland cotton has been made in numerous instances. With very few exceptions the experiments were performed at Sacaton at the Pima Indian Agency in southern Arizona during the 8-year period from 1914 to 1921" (p. 2).

Literature cited, pp. 386–387.

THE UNIFORMITY OF PIMA COTTON. Dept. Circ. 247, 6 pp. 1922.
"Methods which are used in the Salt River Valley of Arizona in providing pure planting seed of Pima long-staple cotton and in conserving the uniformity of the variety" (p. 1).

Longley, A. E. (70)

Martin, R. D. (71)
STUDY OF OFF-TYPE PLANTS OF Acala COTTON. Dept. Circ. 390, 11 pp., illus. 1926.
"The purpose of this paper is to present data on inheritance of off-type characters in progenies of aberrant plants of Acala cotton raised at the United States Field Station, Sacaton, Ariz., in 1924" (p. 1).

Meade, R. M. (72)
The following methods are described: Bagging the flowers with paper bags; colling a fine wire about the enlarging flower bud, or using small rubber bands instead of the coiled wires; placing a paper clip over the end of the bud.

Meloy, G. S. (73)
LINT PERCENTAGE AND LINT INDEX OF COTTON AND METHODS OF DETERMINATION. Dept. Bull. 644, 12 pp., illus. 1918.
"Simple methods for ascertaining the lint index, the lint percentage, and the weight of seeds are described, and tables to simplify computation are given", for use of cotton breeders.

Shamel, A. D. (74)
"One of the best examples of plants largely self-fertilized, but occasionally crossed, is the cotton plant." Short description of fertilization, p. 382.

Strom, G. N. (75)
Literature cited, p. 527.

CLIMATOLOGY

Daingerfield, L. H. (76)
HANNAY, A. M., compiler. (77)
The arrangement of entries is alphabetical by authors. For references to cotton see the index.

HENRY, A. J. (78)
This study was made in an effort to judge various sections of the United States, especially the Southern States, in regard to their suitability for cotton spinning. Illustrated by tables and charts.

——— KINCEB, J. B., FRANKENFIELD, H. C., GREGG, W. R., SMITH, B. B., and MUNNS, E. N. (79)
Weather and cotton, pp. 520–524; effect of weather on the growth of cotton, charts (pp. 521–522).

KINCEB, J. B. (80)


Charts and tables are included.

MARBURY, J. B. (83)
RELATION OF WEATHER CONDITIONS TO GROWTH AND DEVELOPMENT OF COTTON. Yearbook 1904: 141–150, illus. 1905.
"It being a well-established fact that the temperature and the amount and distribution of rainfall are vital factors in the growth and maturity of all crops, a careful study of these elements in conjunction with the average yield of cotton per acre for each year since 1893 [through 1903] has been made, and the following results deduced as to the weather conditions most favorable for the growth and development of this important crop."

MELL, P. H. (84)
REPORT ON THE CLIMATOLOGY OF THE COTTON PLANT. Weather Bul. 8, 68 pp., illus. 1893.
Contents: History of the cotton plant and its species.—A general discussion of those countries where cotton is cultivated to any extent.—The general climatic features prevailing in the southern part of the United States during the preparation of the land for the planting of the seed.—The climate of the seed-planting season.—The growing period of the plant, and its weather conditions.—Character of weather best suited for the production of fiber during its process of formation.—The picking season and its weather.—Discussion of temperature charts. Illustrated by charts and tables.

SMITH, B. B. (85)

SMITH, J. W. (86)
The relation of weather to the yield of cotton, pp. 570–572.

UNITED STATES DEPARTMENT OF AGRICULTURE. BUREAU OF AGRICULTURAL ECONOMICS. (87)
AVERAGE PRECIPITATION IN TEXAS BY CROP ESTIMATE DISTRICTS AND TEN-DAY PERIODS AND AVERAGE YIELD OF LINT COTTON IN TEXAS BY DISTRICTS. 13 pp., illus. 1924. [Mimeographed.]
Tables of value to "investigators making historical studies of weather relations to various crops in Texas. The average cotton yields are inserted for the convenience of those making studies in cotton, as they are not published elsewhere."

Temperature in May and cotton yield, South Carolina and Georgia, 1892-1916, diagram 4 (p. 5). From a comparison made between temperature and cotton yield it was concluded that "the May temperature in the eastern cotton States, especially, is not a controlling factor in determining the variations in the yield of cotton" (p. 3).

---Weather Bureau.

Weekly cotton region bulletin 1905-date. Weekly, April-October.

Only four numbers were issued in 1905, dated October 10, 17, 24, 31.
The 1905 numbers have title: Cotton region weather-crop bulletin; 1907, no. 1; 1911-19, Cotton region weather bulletin.

---Weather Bureau.

The most favorable weather for cotton is described. The influence of August rainfall is given in a summary for the 16-year period 1900-1915, inclusive.

[United States Patent Office]


Wallis, B. C.


Cotton, p. 273. "Cotton is best suited by about 20 inches of rain during a growing period of 4½ months. No States outside the cotton belt can provide these conditions during the hottest months."

DISEASES

Bessey, E. A.


Bibliography, pp. 76-81.

Carpenter, C. W.


Literature cited, pp. 544-546.

"Since okra, eggplant, potato, cotton, snapdragon, and the weeds Xanthium spp. and Abutilon spp. are all susceptible to the Verticillium wilt, as well as ginseng, China aster, and black raspberry, as seems probable, these plants should be taken into consideration in planning a rotation to eliminate wilt diseases. Similarly, okra and cotton are hosts of F. vasinfectum and should not follow each other in rotation if best results are expected" (p. 544).

Cook, O. F.


Literature cited, p. 827.

Other growth disorders of cotton to be distinguished from crazy top, pp. 806-812. Includes descriptions of brachysm, or clustering; tomosis, or leaf-cut; hybosis, or leaf-curl; cyrtosis, or club-leaf; stenosis, or smalling.


[Mimeographed.]


Leaf-cut distinguished from leaf-curl, pp. 29-30.

"Leaf-cut is in the nature of an environmental injury, not due to parasitic organisms or to constitutional weakness, but apparently connected with exposure to heat and dryness" (p. 34).

"The cotton-wilt organism, Fusarium vasinfectum Atk., was isolated from strongly surface-sterilized cotton seed, indicating that the organism is at times carried on the inside of the seed coat. The pathogenicity of the organism was proved by inoculation experiments. Artificially inoculated seed carried the viable organism on the seed lint for at least 5 months. The wilt disease was introduced into wilt-free soil by means of artificially infected seed. It is recommended that badly infected fields be rejected as a source of seed for planting" (p. 393).


"A satisfactory explanation of the dissemination of many of the diseases of plants is lacking. The literature recognizes such agents as insects, wind, tools, laborers, drainage, spattering rains, etc., and yet in some cases one must doubt the importance attached to these by investigators. In other instances, particularly in the cases of bacterial diseases affecting the leaves, stems, flowers, and fruits, no satisfactory explanation has been offered. This was the status of affairs in the case of the angular leafspot of cotton (Gossypium spp.) when the author began the investigation of this disease at the South Carolina Experiment Station. It is the purpose of this paper to present the data obtained during the past summer and to offer the conclusion reached as to its dissemination under the conditions existing in western South Carolina, with a suggestion of the possible importance of these factors in the dissemination of other similar diseases. In the case of the angular leafspot of cotton there is evidence of but little seed dissemination, though this is a probable factor in primary infection. Insects play a very unimportant part in the spread of this disease. Data have been obtained which point to the conclusion that wind-blown rain is an important factor." A brief "résumé of the literature dealing with some of the most common bacterial diseases" is included (pp. 457-461).


"Experiments have been conducted with the object of analyzing this agency of disease dissemination, and, so far as the results of laboratory tests permit application to natural and field conditions, added support of the earlier conclusions have been the result. The method and the results of these experiments in which the influence of size of drops, distance of fall, depth of surface film, elevation and inclination of surface film, and motion of the air upon the distance of splash have been studied are presented here, together with a consideration of the importance of this agency of disease dissemination, which is justified by the newer information. In the experiment in which the effect of the wind was studied all the factors were within the limits of field conditions. A drop of 0.02 cc in volume falling 16 feet upon a relatively thin film of water which was splashed, as is proved by the acetic-acid distribution upon a plate 3 feet above the floor during a wind of 10 miles an hour, splashed water in abundance a distance of 8 feet (across 2 rows of cotton) in moderate quantities as far as 12 feet (3 rows) and in slight amounts to 16 feet."

Gilbert, W. W. (101) Cotton anthracnose and how to control it. Farmers' Bull. 555, 8 pp., illus. 1913.

"This disease is also called "boll-rot."


Wilt, root knot, anthracnose, bacterial blight, shedding of bolls, rust, sore shin, Texas root rot and certain minor diseases are described.
GILBERT, W. W.
COTTON WILT AND ROOT KNOT. Farmers’ Bull. 625, 21 pp., illus. 1914.
Breeding wilt-resistant varieties, pp. 13-20.

GLOVER, TOWNEND.
“Cotton * * * is subject to diseases, caused principally by accidents, the defects of the soil in which it grows, the depredations of insects, and the effects of the weather. Those which are the most fatal may be described as follows.” Includes short descriptive notes on sore-shin; “Frenching”: effects of a bad subsoil; rust; shedding of young buds, or bolls; and rot.

GODFREY, G. H.
ROOT-KNOT: ITS CAUSE AND CONTROL. Farmers’ Bull. 1345. 27 pp., illus. 1923.

HERBERT, F. W., and HUBBARD, J. W.
VERTICILLIUM WILT (HADROMYCOSIS) OF COTTON IN THE SAN JOAQUIN VALLEY OF CALIFORNIA. Circ. 211, 8 pp., illus. 1932.

JOHNSON, JAMES.
Literature cited, pp. 299-300. Gossypium herbaceum is included in a list of host plants of this fungus (p. 293).

KING, C. J.
COTTON ROOT ROT CAUSES GREAT LOSS IN SOUTHWEST; CONTROL PROBLEM UNSOLVED. Yearbook 1932: 152-155, illus. 1932.
Studies made in Texas and Arizona. Includes the life history of the fungus. It is known to have three stages of development: the vegetative (ozonium), the conidial (phymatotrichum), and the sclerotial or resting stage.

KING, C. J.
Control experiments, pp. 526-527. The use of formaldehyde is recommended.

— and LOOMIS, H. F.
Literature cited, p. 221.
“During the seasons 1925, 1926, and 1927 * * * evidence was obtained at the United States Field Station at Sacaton, Ariz., that certain chemical disinfectants and organic manures are effective in reducing the injury and that the fungus is more destructive and more persistent in recurrence at the margins of areas where new territory is being invaded. The behavior of the fungus in cultures on different media, its ability to grow on dead roots, and the relationship of dead roots in carrying over the disease in the soil were also studied. The results of these experiments and observations are reported and discussed in this paper” (p. 199).

— and HOPE, CLAUDE.
Literature cited, p. 740.

— and LOOMIS, H. F.

— and LOOMIS, H. F.
Literature cited, p. 21.


HOOTON, D. R., and PORTER, D. D. CYCLES OF GROWTH IN COTTON ROOT ROT AT GREENVILLE, TEX. Circ. 173, 18 pp., illus. 1931.


"Records of the location and distribution of root rot on all plots of the United States Cotton-Breeding Field Station at Greenville, Tex., have been made since 1920, and these records of infection for the 8-year period from 1920 to 1927, inclusive, form the basis of this report"


"The appearance of bright-red or deep purple-blue threads appearing in white cotton cloth" probably is due to presence of Fusarium metachrom App. and Wr. in the raw material.


Diplodia injury (watermelon stem-end rot) is found on cotton plants also.

COTTON DISEASES TAKE TWO MILLION BALES OF U.S. CROP ANNUALLY. Yearbook 1933: 121-125, illus. 1933.

"The major diseases affecting cotton in the order of their importance are root rot, Fusarium wilt, bacterial blight (in its various phases), root knot, rust, anthracnose, and Verticillium wilt." These diseases are described and control measures recommended.


SION, W. A.

COTTON WILT. Farmers' Bull. 333, 24 pp., illus. 1908.

Wilt-resistant varieties, pp. 15–17.


Wilt-resistant cottons, p. 463.


PELTIER, G. L., KING, C. J., and SAMSON, R. W.

OZONIUM ROOT ROT. Dept. Bull. 1417, 28 pp., illus. 1926.


RATLIFFE, G. T.

A PROLONGED SAPROPHYTIC STAGE OF THE COTTON ROOT-ROT FUNGUS. Circ. 67, 8 pp., illus. 1929.

ROSEN, H. R.


Literature cited, pp. 1161–1162.

It is concluded from experiments that wilting is due to poisonous chemical substances formed by the fungus.

SCOFIELD, C. S.


SHAPOVALOV, MICHAEL.


Literature cited, p. 312.

Describes Aspergillus niger Van Tiegh. and Rhizopus nigricans Ehr.

SHEAR, C. L., and MILES, G. F.


Rotation of crops and deep fall plowing are recommended.

TEXAS ROOT-ROT OF COTTON; FIELD EXPERIMENTS IN 1907. Bur. Plant Indus. Circ. 9, 7 pp., illus. 1908.

SMITH, E. F., and GODFREY, G. H.


The effect of the organism on plants other than castor bean is included in the discussion. “Cotton plants when of any size proved resistant, but the young seedlings are subject to the disease.” Plates 63 and 64 illustrate inoculated plants.


TAUBENHAUS, J. J.


Cotton is a host plant of Sclerotium rolfsii Sacc. in Florida and Texas. This disease is also called ”blight”, “wilt”, “Sclerotium wilt”, and “southern Sclerotium rot.”

TUCKER, O. M.


Report on a disease occurring on cotton in Puerto Rico. “The fungus does not infect the seeds, and no infected plants were obtained from seed from diseased bolls.”
COTTON AND COTTONSEED

UNITED STATES DEPARTMENT OF AGRICULTURE. BUREAU OF PLANT INDUSTRY. (143)

COTTON ANTHRACNOSE. But. Plant Indus. Doc. 331, 1 p., illus. 1907.

DIVISION OF VEGETABLE PATHOLOGY. (144)


A circular of inquiry which was sent to farmers. In the introduction it is mentioned that root-rot “is variously known as ‘Cotton Blight’, ‘Frenching’, ‘Dead Spots’, ‘Alkali’, or simply ‘Dying of Cotton.’”

INSECTS AND PESTS

GENERAL

COAD, B. R. (145)


Damage by the following insects is considered, with suggestions for control measures: Bollweevil, cotton leaf worm, cotton bollworm, cotton louse, cotton flea hopper and related species, and minor insects.


“The laboratory of the cotton-insect investigations of the Bureau of Entomology, located at Tallulah, La., was in the approximate center of the flooded territory [in 1927] * * * Consequently, the entomologists of this organization have been especially well situated for studying the effect of the floods on the insect problems, and particularly those relating to cotton.” The effect of the flood on infestation by bollweevils, leaf worms and fall army worms is discussed.

HOWE, R. W. (147)


Observations were made in the vicinity of Tallulah, La., during the spring of 1915. “It seems that mutilation of cotton seedlings may be produced by any of several insect pests. These consist of a number of species of lepidopterous larvae (cutworms, measuring worms, ‘woolly-bear’ larvae, tussock-moth larvae, etc.), grasshoppers, and leaf beetles” (p. 138).

INSECTS CAPTURED BY AIRPLANE ARE FOUND AT SURPRISING HEIGHTS. Yearbook 1931: 320-323. 1931.

Bollweevils were found as high as 1,000 feet; cotton flea hoppers at 5,000 feet; and pink bollworm moths were found as high as 3,000 feet. “These findings have a most important relation to many of the problems of insect repression or control.”

FOLSOM, J. W. (149)

INSECT ENEMIES OF THE COTTON PLANT. Farmers' Bull. 1638, 29 pp., illus. 1932.


FULLAWAY, D. T. (150)


“Accounts of all insects thus far known to attack the cotton plant in the Hawaiian Islands, together with suggestions for their control.” Includes accounts of stem maggot, wireworms, cutworms, aphids, Japanese beetle, mealybug and scale insects, bollworm, leaf-folding caterpillar, stem borer, minor pests, and beneficial insects.

GLOVER, TOWNEND. (151)


Classifies insects according to the part of the plant most generally frequented by them.


Cutworms and cotton-stainers, or red bugs, are described.
HARNED, K. W.


Condensed information on 12 important cotton insects in the United States, table 4 (pp. 127-128). Information includes common name of insect, scientific name, probable native home, distribution in the United States, nature of injury, crops other than cotton attacked, and control methods. The insects thus described are bollweevil, bollworm, cotton leaf worm, cotton fleahopper, tarnished plant bug, cotton plant bug, common red spider, cotton aphid, corn root aphid, pink bollworm, cotton leaf perforator, and Thurberia weevil.

HINDS, W. E.

CARBON DISULPHID AS AN INSECTICIDE. Farmers' Bull. 799, 21 pp., 1917.


HOWARD, L. O.

INSECTS AFFECTING THE COTTON PLANT. Farmers' Bull. 47, 32 pp., illus. 1897.

"Reprinted, with revision by the author, from Bulletin 33, Office of Experiment Stations." Describes general appearance, habits, and life history, parasites and natural enemies, and remedies for cotton worm, or cotton caterpillar; cotton bollworm; Mexican cotton bollworm; and includes brief notes on other cotton insects, such as cutworms, plant lice, leaf-feeding caterpillars, etc.

HUNTER, W. D.


"An attempt will be made in this paper to point out some of the general considerations that must be taken into account in connection with rotation practices which are coming to be generally followed in the Southern States."

MORRILL, A. W.


The conchuela, grain bug, pentatomid bugs, and insects of the squash-bug, leaf-bug, chinch-bug, and cotton-stainer families are described and methods of control are suggested.

PIERCE, W. D.

DESCRIPTIONS OF SOME WEEVILS REARED FROM COTTON IN PERU. Dept. Rpt. 102, 16 pp., illus. 1915.

Listed according to systematic order. "All belong to the series Phytophaga, although the bruchids, or bean weevils, of the family Mylabridae do not belong to the subseries Rhynchophora, which contains the true weevils."

SANDERSON, E. D.

MISCELLANEOUS COTTON INSECTS IN TEXAS. Farmers' Bull. 223, 24 pp., illus. 1905.

"The result of a year's work on the minor insect enemies of the cotton plant."

UNITED STATES DEPARTMENT OF AGRICULTURE. DIVISION OF ENTOMOLOGY.

REPORT ON MISCELLANEOUS COTTON INSECTS IN TEXAS. Bur. Ent. Bull. 57, 63 pp., illus. 1906.

SALVADOR, R. M.


Insects affecting cotton, pp. 48-51.

DIVISION OF ENTOMOLOGY.


Partial contents: Preliminary report of observations upon insects injurious to cotton, orange, and sugarcane in Brazil, pp. 63-69. Also notes in "Extracts from correspondence."
COTTON AND COTTONSEED

WILSON, C. E.  (163)
The life histories of some of the insects thus far known to attack cotton in St. Croix are given, and methods of combating the more destructive species are suggested. The author discusses the insects in order of their importance as regards attack, grouping them under two main headings—those attacking the leaf and stem, and those attacking the boll and flower.

ZEIMET, CARLO, and McBATH, W. E.  (164)
References to articles on cotton dusting are included.

BOLLWEEVIL

GENERAL

BECKER, J. A.  (165)

BISHOPP, F. C.  (166)

COOK, O. P.  (167)
BOLLWEEVIL COTTON IN TEXAS. Dept. Bull. 1153, 20 pp., illus. 1923.
The term “bollweevil cotton” describes an abnormal luxuriance of the plants caused by bollweevil injury. Wider separation of rows and close spacing of plants within the row are recommended to avoid the condition. List of publications on weevil resistance and close spacing, pp. 19-20.

GALLOWAY, B. T.  (168)
The work is discussed under the following outline: Plant breeding and selection work; investigations of tropical cottons; diseases; diversification; cooperative demonstration farms; distribution of early-maturing varieties; and farmers’ institute work.

HOWARD, L. O.  (169)
THE MEXICAN COTTON-BOLL WEEVIL (Anthonomus grandis Boh.). Div. Ent. Circ. (ser. 2) 18, 8 pp., illus. 1897.
Revision of Div. Ent. Circ. (ser. 2) 14, same author and title, 1896.
“In this circular all of the essential points of the previous circulars have been repeated, the section on remedies has been entirely rewritten, and a paragraph has been added on the work of the weevil during 1896” (p. 1).

HUNTER, W. D., and COAD, B. R.  (171)
THE BOLL-WEEVIL PROBLEM. Farmers’ Bull. 1329, 30 pp., illus. 1923.
Discusses the origin, spread, and distribution of the insect; life history and hibernation; control measures; and effect of control methods on the control of other insects.

HUNTER, W. D., and PIERCE, W. D.  (172)
HUNTER, W. D. (173)


This article describes the introduction of the insect in the United States in 1894 in Texas; distribution and dangers of its spread in 1901; and cultural methods for combating it. "There seems but little prospect for aid from machines designed for the destruction of the weevil." Map of eastern Texas showing the distribution of the weevil in 1901, p. 372.


This article deals with studies made during 1906 on the relation between precipitation and weevil damage; on early and late planting as a check to the insect; fall destruction of stalks in the field; and the work of predacious insects such as the native ant Solenopsis geminata.


Includes map showing the regions in which the cotton boll weevil occurred in 1909.


Plan of the boll weevil work of the Department of Agriculture (pp. 200-211).

HYSLOP, J. A. (178)

Boll weevil, p. 4. Damage as estimated by the United States Bureau of Crop Estimates [1910-1928] table II. (p. 21). Bollworm or corn ear worm (Heliothis obsoleta Fab.). pp. 5-6.

UNITED STATES DEPARTMENT OF AGRICULTURE. (179)

The work of the Bureau of Plant Industry in connection with the cotton boll weevil from 1904 to 1913, inclusive, pp. 1-8; a report of the work of the Bureau of Entomology on the Mexican cotton boll weevil, in pursuance of House Resolution No. 254, pp. 9-18.

SUGGESTIONS FOR SECURING GREATER UNIFORMITY OF ACTION IN THE PRODUCTION OF COTTON UNDER BOLLWEEVIL CONDITIONS. 2 pp. 1922. [Mimeographed.]

Because of differences in the climatic and economic conditions of the various cotton-producing States, we suggest that experiments and studies be made in each State in cooperation with the United States Department of Agriculture. It is suggested that studies and experiments be made along cultural, remedial, biological, chemical, and mechanical lines.

SUMMARY OF RECOMMENDATIONS FOR THE PRODUCTION OF COTTON UNDER BOLLWEEVIL CONDITIONS. 2 pp. 1922. [Mimeographed.]


Title varies: 1911, The movement of the Mexican cotton boll weevil; 1912-14, The movement of the cotton boll weevil; 1915-17, The spread of the cotton boll weevil; 1918, The occurrence of the boll weevil; 1919, Distribution of the boll weevil. Publications for 1911-12 are Bureau of Entomology Circulars 146 and 167; those for 1920-22 are Department Circulars 163, 210, 206.
UNITED STATES DEPARTMENT OF AGRICULTURE. BUREAU OF ENTOMOLOGY (183)
Partial contents:—Hibernation and Development of the Cotton Bollwevil, by E. D. Sanderson (pp. 1-38); Notes on the Biology of Certain Weevils Related to the Cotton Bollwevil, by W. D. Pierce (pp. 39-44); An Ant Enemy of the Cotton Bollwevil (Solenopsis geminata Fab., var. zyloptera McC.), by W. E. Hinds (pp. 45-48); A Predatory Bug Reported as an Enemy of the Cotton Bollwevil (Apronmerus spissipes Say), by A. C. Morgan (pp. 49-54); The Cotton Stalk-Borer, by A. C. Morgan (pp. 63-66).

BUREAU OF ENTOMOLOGY. (184)
Proceedings of meeting held at New Orleans, La., January 1-4, 1906.
Partial contents: Notes Upon a Little-Known Insect Enemy of Cotton and Corn, by Wilmon Newell (pp. 52-58) (Regarding Cicada erraticus Osborn, found in Louisiana); A Consideration of the Cultural System for the Bollwevil in the Light of Recent Observations, by A. F. Conradi (pp. 107-111); Laboratory Methods in the Cotton Bollwevil Investigations, by W. E. Hinds (pp. 111-119); The Work of the State Crop Pest Commission of Louisiana on the Cotton Bollwevil, by Wilmon Newell (pp. 119-134).

WEBB, J. L., and MERRILL, F. A. (186)
COTTON OR WEEVILS. Misc. Pub. 35 (rev. ed.), 17 pp., illus. 1930. Issued 1929; revised 1930.
Discussion of important facts about the bollwevil, the damage caused by it, and suggestions for poisoning.

BIOLOGY OF THE BOLLWEEVIL

COAD, B. R. (187)
"In the course of the investigations on the biology of Anthonomus grandis at Victoria, Tex., during the summer of 1913, under the direction of Mr. W. D. Hunter, the writer was able to conduct a number of experiments on the possibility of the bollwevil's breeding in some of the native malvaceous plants. Since the results secured differ with the plants, they are grouped under the various species of plants tested" (p. 235).

Technical experiments and observations on the relation between the typical bollwevil and the Arizona wild-cotton (or Thurberia) weevil, which was discovered in 1913, and changes in the habits of the bollwevil since it first entered the United States.

FENTON, F. A., and DUNNAM, E. W. (189)
Report of study at Pee Dee Experiment Station, South Carolina, 1924-27.

"The cotton bollweevil has a pronounced habit of dispersal by flight during the summer months, either from one part of a field to another or between fields * * * Such factors as degree of minimum relative humidity, number of squares on the plants, number of weevils in the field, direction of moderate winds, or emergence of a definite generation of weevils, have little influence on the extended flight activities of this species. There is, however, a distinct relationship between degree of infestation in a field and weevil flights. When the percentage of infestation reaches a certain point, which has not yet been determined, these insects become restless and fly" (p. 149).


The information included in this bulletin was accumulated through the investigations and observations of the agents connected with the work during the seasons of 1902-07.


LIFE HABITS OF THE WEEVIL AND METHODS OF EXTERMINATION.


"The principal data upon which the writer has based his studies include records of individual bollweevils (Anthonomus grandis Boh. and A. g. thurberiae Pierce), made by the members of the bollweevil force under the direction of Mr. W. D. Hunter and the writer at various localities in Texas, Louisiana, and Arizona throughout the period of years from 1902 to 1915" (p. 1183). Practical applications, p. 1191. "The cotton bollweevil must have food up to the time that it enters hibernation. Early harvesting and destruction of stalks before the low temperatures set in offer one of the most satisfactory methods of control." Graph showing the relation of temperature and humidity to cotton bollweevil activity, figure 1 (p. 1186).


Describes and illustrates differences between the Arizona weevil, Anthonomus grandis thurberiae and the Mexican cotton bollweevil, Anthonomus grandis Boh.


Results of studies made at Madison, Fla., 1915-19. Varieties used were King, a short-staple upland; Webber no. 49, a long-staple variety; and a sea-island cotton known as "Hope Straight."

BOLLWEEVIL CONTROL

GENERAL

REMEDIAL WORK AGAINST THE MEXICAN COTTON-BOLL WEEVIL. Div. Ent. Circ. (ser. 2) 33, 6 pp. 1898.

Extract from Bur. Ent. Bull. 114, The Mexican Cotton Boll Weevil, by W. D. Hunter and W. D. Pierce. 1912. “Contains a brief outline of the methods which have been tested under various conditions and sums up the present available knowledge concerning the subject of control” (p. 5).

THE CONTROL OF THE BOLL WEEVIL, INCLUDING RESULTS OF RECENT INVESTIGATIONS. Farmers’ Bull. 216, 32 pp., illus. 1905.

Supersedes Farmers’ Bull. 189, Information Concerning the Mexican Cotton Boll Weevil, by W. D. Hunter. 1904. This bulletin “contains the previous recommendations of the Bureau of Entomology regarding the means of mitigating the damage by this very serious pest, with such minor modifications as have been made necessary by the work of the past season. In addition, various topics, such as the territory infested, the present status of State quarantines against the bollweevil, and other matters are considered.”


METHODS OF CONTROLLING THE BOLL WEEVIL [ADVICE BASED ON THE WORK OF 1902]. Farmers’ Bull. 163, 16 pp., illus. 1903.

“By special appropriation, which became available on the 4th of June 1902, it became possible for the Division [of Entomology] to conduct field work on a large scale and according to a system that gives tangible and presentable results. The arrangement consists of a contract whereby certain planters agree to plant, cultivate, and care for the crop exactly in accordance with the directions of the agent of the Division * * * In this way 200 acres at Calvert and 150 acres at Victoria, Tex., were used for experimental purposes. A complete field laboratory was established at the latter place for rearing work, breeding parasites, and testing poisons, as well as investigating every feature of the life history of the weevil that may afford any advantage in fighting the pest” (p. 5).

UNITED STATES DEPARTMENT OF AGRICULTURE. DIVISION OF ENTOMOLOGY. (203)


Cotton field insects, pp. 85–88. List of species caught by J. D. Mitchell, of Victoria, Tex., on October 1, 1897, when he “set out three trap lanterns in a cotton field near Victoria for one night * * * The object of the experiment was to see whether the Mexican cotton bollweevil (Anthonomus grandis), which was injurious in the vicinity, could be captured in this way. The results of the catch are interesting and worthy of record, but it must be premised that not a single specimen of Anthonomus grandis was found in the material received” (p. 85).

CHEMICAL AND MECHANICAL CONTROL

Coad, B. R. (204)


“Airplane dusting is sold by contract * * * and the farmer merely contracts for such applications as he needs on his crops.” Reasonably level land and treeless areas are desirable.

and Cassidy, T. P. (205)


“Results of investigations carried on since July 1918. “The present system of weevil poisoning is intended merely to keep the weevils controlled to such a degree that they will not be able to do more than offset the normal shedding of the cotton plants.”
Coad, B. R., Johnson, E., and McNeil, G. L. (206)
DUSTING COTTON FROM AIRPLANES. Dept. Bull. 1204, 40 pp., illus. 1924.
Experiments were made at Tallulah, La., on control of the leafworm.
"Whether this application was sufficiently thorough to control the boll-
weevil is quite another question, since weevil control requires a much
more thorough application than is necessary to control the leafworm, but
all records bearing on this question appear to furnish decidedly favorable
indications of success * * * Many districts in the South have now
reached the point in public sentiment where the desirability of com-
munity weevil control can be seen, and it is only by some such method
as the use of the airplane that such community poisoning can be attempted
in the near future." (p. 40).

Johnson, E., and Cassidy, T. P. (207)
Revision of Department Circular 162, "Some Rules for Poisoning the
Cotton Boll Weevil", by B. R. Coad and T. P. Cassidy. 1922.
Instructions for use of various dusting machines.

1921.

Gaines, R. C. (209)
POISONING THE COTTON BOLL WEEVIL. Leaflet 37, 4 pp. 1929.
Advantages of dusting with calcium arsenate and brief description of
the method.

731, 15 pp., illus. 1918.
Tests made at Tallulah, La., in 1916-17 showed that dusting plants
with arsenicals is effective.

Hunter, W. D. (211)
THE USE OF PARIS GREEN IN CONTROLLING THE COTTON BOLL WEEVIL. Farmers'
Bull. 211, 23 pp., illus. 1904.
"From the rather extensive observations and experiments noted the
Bureau of Entomology concludes that the use of paris green in controlling
the bollweevil is absolutely futile" (p. 22).

Johnson, Elmer, Howard, S. T., and Coad, B. R. (212)
COTTON-DUSTING MACHINERY. Farmers' Bull. 1319, 20 pp., illus. 1923.
Supersedes Farmers' Bulletin 1098, Dusting Machinery for Cotton Boll
Weevil Control, by Elmer Johnson and B. R. Coad. 1920.

Cultural Control

BEHAVIOR OF COTTON PLANTED AT DIFFERENT DATES IN WEEVIL-CONTROL EXPERI-
MENTS IN TEXAS AND SOUTH CAROLINA. Dept. Bull. 1320, 44 pp., illus.
1925.
Data are given for four successive plantings made in the season of
1923 at San Antonio, Tex., Charleston, S.C., and Gainesville, Fla. The
results "do not show that later planting is impracticable either in Texas
or South Carolina. From the nature of the problem a wide range of
seasonal and soil conditions must be tested before a general advantage
can be demonstrated."

Bennett, R. L. (214)
A METHOD OF BREEDING EARLY COTTON TO ESCAPE BOLL-WEEVIL DAMAGE. Farmers'
Bull. 314, 28 pp., illus. 1908.
"Seed selection for early, rapid fruiting, and for productiveness to
escape weevils"., pp. 17-21.

Coad, B. R., and McGhee, T. F. (215)
COLLECTION OF WEEVILS AND INFESTED SQUARES AS A MEANS OF CONTROL OF
THE COTTON BOLL WEEVIL IN THE MISSISSIPPI DELTA. Dept. Bull. 564, 51 pp.,
illus. 1917.
Report of studies conducted near Tallulah, La., during the cotton-grow-
ning seasons of 1915 and 1916, and of observations made at various points
throughout Louisiana and Mississippi. It was concluded that "in a year
of light infestation a slight degree of benefit may be secured from the
picking operations, but that in a year of average or heavy infestation this
benefit is completely lost."
COTTON AND COTTONSEED 25

COAD, B. R. (216)
Preliminary report of studies described more fully in Department Bulletin 564 (see item 215).

COOK, O. F. (217)
In order to take full advantage of other measures for combating the weevils, the relation of drought to the behavior of the growing plants must be considered, no less than the direct effect of the drought upon the weevils. Questions of the value of early and late varieties and of early and late planting require to be reconsidered and given further study now that the effects of dry weather are more fully appreciated” (p. 7).

HUNTER, W. D. (218)
Revision of Bureau of Entomology Circular (ser. 2) 56, The Most Important Step in the Cultural System of Controlling the Boll Weevil, by W. D. Hunter. 1904.
Reasons for and methods of fall destruction of plants.

Recommends raking and burning trash that might afford a shelter for the weevil.

NATURAL CONTROL

BAILEY, VERNON. (220)
Field work for the purpose of obtaining this information was begun at Seguin, Guadalupe County, in southern Texas, October 31, 1904, and was carried on at several localities in the bollweevil district until December 16.

COOK, O. F. (221)
COTTON CULTURE IN GUATEMALA. Yearbook 1904: 475-488, illus. $3.05.
“The Kekchi cotton is protected by the kelep, an antlike insect which feeds upon the boll weevils. It was also learned that this and other Guatemalan varieties of cotton have special characters which assist in protecting them from the weevils. Some of these weevil-resisting adaptations may be of use in the United States, since the cotton varieties cultivated by the Guatemalan Indians belong to the Upland type so extensively planted in this country. The nature of the protective characters and the cultural methods observed in Guatemala can best be understood, however, with certain local conditions and historical facts in mind.”

Brief preliminary report on kelep, or cotton-protecting ant, observed in Guatemala.

Preliminary report on the habits of the kelep after its importation into the United States on cotton fields near Victoria, Tex.


Bionomic study of Kekchi and other Central American varieties with weevil-resistant characters. Investigations were made in Guatemala in 1904 and 1905. The importance of the weevil-eating kelep is pointed out.
Henshaw, H. W. (226)


"The main purpose of this circular is to direct the attention of cotton growers and others in the cotton-growing States to the importance of birds in the bollweevil war, to emphasize the need of protection for them, and to suggest means to increase the numbers and extend the range of certain of the more important kinds" (p. 1).

Hinds, W. E. (227)


"The present paper does not pretend to be a study of proliferation in the botanical aspects of the question, but rather a practical statement of the large number of observations made by agents of the Bureau of Entomology primarily regarding the effect of this formation of loose tissue cells upon the bollweevil. It is consequently of an entomological and not a botanical character. The botanical significance of the phenomenon has been very fully considered by Mr. O. F. Cook, of the Bureau of Plant Industry." Bibliography of proliferation, p. 8, footnote.

---


"By 'natural control' is meant the combined effect upon the weevil of all natural enemies and of all conditions or forces in nature which retard or prevent the development of the weevils and reduce the injury which they might otherwise inflict upon the crop. These are, in general, the factors which operate to produce and to preserve what is often spoken of as 'the balance in nature.' The principal factors are temperature and moisture conditions in summer and in winter, the attack of predaceous enemies or parasites, and the dependence of the species upon a favorable condition of food supply" (p. 6).

Howell, A. H. (229)


"In the summary which follows, the results obtained by previous investigations are combined with those secured during the past season, thus bringing together all that is at present known concerning the relations of birds to bollweevils" (p. 10).

DESTRUCTION OF THE COTTON BOLL WEEVIL BY BIRDS IN WINTER. Bur. Biol. Survey Circ. 64, 5 pp., illus. 1908.


"As a result of investigations carried on intermittently during five seasons, 43 species of our native birds have been found to feed on the boll weevil. The greatest destruction of weevils in summer is wrought by swallows and orioles; in winter, by blackbirds and meadow larks." Recommends legislation needed to protect the useful birds; suggests designs for bird houses; gives status of the species of birds known to eat the bollweevil; describes field investigations in summer of 1906 and winter and spring of 1907.

Newell, Wilmon, and Barber, T. C. (232)


Bibliography, pp. 97-98.

The Argentine ant and the bollweevil, pp. 68-69. Experiments lead to the conclusion "that the Argentine ant will never be of material value as an enemy of the bollweevil. In fact, in this respect it cannot hope to approach in efficiency the common native fire ant, Solenopsis geminata Fab."
PIERCE, W. D., CUSHMAN, R. A., HOOD, C. E., and HUNTER, W. D. (233) 


Bibliography, pp. 97-99. 

"The present report is supplementary to a former bulletin which was based on investigations prior to 1907 (Pierce, 1908). The matter contained herein has mainly been gathered during the years 1907, 1908, and 1909. Only such notes as are of value for the sake of comparison have been repeated from the previous report. 

"The work is divided into three parts: I. The status of the cotton boll weevil and its enemies. II. The biological complex. III. The economic application" (p. 12). 


Bibliography, pp. 51-52. 

"There are two possible practical applications of the information obtained and recorded in this bulletin, both, however, requiring expert entomological knowledge and experience. These are: (1) The propagation and collection of parasites, and their distribution in regions where the same species are either present in but small numbers or altogether absent; and (2) the elimination of related weevils by the destruction of their food plants in or about cotton fields, thereby forcing the parasites to transfer their attention to the bollweevil." 

BOLLWORM AND COTTON WORM 

BISHOPP, F. C. (235) 

THE BOLLWORM OR CORN EAR WORM AS A COTTON PEST. Farmers' Bull. 1585, 14 pp., illus. 1929. 


"The average annual loss to cotton on account of its depredations has been estimated at $8,500,000. This injury to cotton is most severe in parts of Texas, Oklahoma, and Arkansas. There is also considerable injury in some seasons in Louisiana, Mississippi, and Alabama." 

and JONES, C. R. (236) 

THE COTTON BOLLWORM: A SUMMARY OF ITS LIFE HISTORY AND HABITS. WITH SOME RESULTS OF INVESTIGATIONS IN 1905 AND 1906. Farmers' Bull. 290, 32 pp., illus. 1907. 

COMSTOCK, J. H. (237) 


Part I, The cotton worm: Classification and nomenclature, past history, statistics of losses, cotton worm in other countries, habits and natural history, theory of migrations of the moth, influence of weather, natural enemies, remedies, bibliography; Part II, The bollworm: Importance of the subject, natural history, remedies; Part III, Nectar and its uses. 

HUNTER, W. D. (238) 

THE COTTON WORM OR COTTON CATERPILLAR (Alabama argillacea Hubn.) Bur. Ent. Circ. 153, 10 pp., illus. 1912. 

"Also but incorrectly called the 'army worm'." 

McClelland, C. K., and SAHER, C. A. (239) 


Methods described for controlling the bollworm in Hawaii: annual pruning; clean culture; and trapping the mature moths. 

MALLY, F. W. (240) 


"The bollworm was treated at some length in the fourth report of the United States Entomological Commission, and the chief object of the present investigation was to conduct further experiments with remedies, as well as to verify the value of those already employed" (p. 5).
MALLY, F. W.  
Habits and natural enemies, remedies, and bacteriological experiments with insect diseases.

QUAINTANCE, A. L., and BRUES, C. T.  
Bibliography, pp. 135–149 “prepared largely by Mr. A. A. Girault.”  
“The present work deals more especially with results of laboratory investigations and other points of interest concerning the insect as a pest to cotton and other crops throughout its extended range” (p. 4).  
Results of field investigations in 1903 are given in Farmers’ Bulletin 191; in 1904 in Farmers’ Bulletin 212.

—- and BISHOPP, F. C.  
THE COTTON BOLLWORM: SOME OBSERVATIONS AND RESULTS OF FIELD EXPERIMENTS IN 1904. Farmers’ Bull. 212, 32 pp., illus. 1905.  

UNITED STATES DEPARTMENT OF AGRICULTURE. DIVISION OF ENTOMOLOGY  
Observations and Experiments Upon the Cotton Worm (pp. 38–45) ; Report of Observations and Experiments on the Cotton Worm (Aelia xylostana) by R. W. Jones (pp. 47–51) ; Reports Upon the Cotton Worm, Bollworm, and Other Insects, by Lawrence Johnson (pp. 53–58).

—DIVISION OF ENTOMOLOGY.  

—DIVISION OF ENTOMOLOGY.  
Report Upon the Cotton Worm in South Texas in the Spring and Early Summer of 1883, by E. H. Anderson (pp. 31–38) ; Experimental Tests of Machinery Designed for the Destruction of the Cotton Worm, by W. S. Barnard (pp. 39–48).

PINK BOLLWORM

BUSCK, AUGUST.  
A detailed description, “based on an investigation * * * conducted in the Hawaiian Islands during the summer of 1915 and subsequent anatomical studies made from material from various sources.”  
Contains also a “similar detailed descriptive and anatomical study of another lepidopterous insect, Pyrodexes rileyi Walsingham, which may be called the ‘scavenger bollworm’ because it frequently occurs in decayed or dried bolls injured by other insects.” It has occasionally been mistaken for the pink bollworm.

FENTON, F. A., and WAITE, W. W.  
HEINRICH, CARL. (249)


This study was conceived and arranged by W. D. Hunter, in charge of the pink-bollworm eradication, to aid the work of his inspectors.

"The purpose of the present paper is to define the characters which will distinguish the larva and pupa of the pink bollworm, *Pectinophora gossypiella* Saunders, from those of other Lepidoptera attacking cotton or related malvaceous plants and of still others feeding on plants other than malvaceous but frequently found in the neighborhood of cotton fields." The field work upon which this paper is based was conducted throughout the pink-bollworm area in southeastern Texas and in Cameron County, in the southern extremity of Texas.

HUNTER, W. D. (250)


Texas pink-bollworm law discussed, pp. 360-362.

---


---

THE PINK BOLLWORM, WITH SPECIAL REFERENCE TO STEPS TAKEN BY THE DEPARTMENT OF AGRICULTURE TO PREVENT ITS ESTABLISHMENT IN THE UNITED STATES. Dept. Bull. 1397, 31 pp., illus. 1926.

Literature cited, pp. 29-30.

Supersedes Department Bulletin 723, issued under the same title in 1918.

LOFTIN, U. C., MCKINNEY, K. B., and HANSON, W. K. (253)


OHLENDORF, W. (254)

Studies of the Pink Bollworm in Mexico. Dept. Bull. 1374, 64 pp., illus. 1926.

Report based on 2 years' study of the pink bollworm in the Laguna district of Mexico, with especial attention to control measures.

Discusses in detail the distribution of the pink bollworm, its habits, damage caused, food plants, dissemination by flight, natural control, and repression by cultural methods; heat treatment of seeds, and poisoning.

SASSER, E. R. (255)

Pink Bollworm and Measures to Exclude It. Yearbook 1926: 582-584, illus. 1927.

Fumigation measures are described.

SCHUTZ, H. H., and HASKELL, E. S. (256)


UNITED STATES DEPARTMENT OF AGRICULTURE. FEDERAL HORTICULTURAL BOARD. (257)

Findings of Pink Bollworm Conference, Dallas, Tex., December 2, 1921. Report of Committee at Large. 2 pp. [1921.] [Mimeographed.]

---

FEDERAL HORTICULTURAL BOARD. (258)

Pink Bollworm Situation Summarized. 6 pp. [1921.] [Mimeographed.]

Issued in connection with the pink-bollworm conference called by the Department of Agriculture for May 16, 1921.

---

FEDERAL HORTICULTURAL BOARD. (259)

Report of Pink Bollworm Conference. 4 pp. [1921.] [Mimeographed.]

SUMMARY OF THE PINK BOLLWORM SITUATION. NOVEMBER 26, 1921. 6 pp. 1921. [Mimeographed.]

Prepared for the information of the persons attending the conference called by the Department of Agriculture for December 2 [1921.] at Dallas, Tex.

WILLARD, H. F.

PARASITES OF THE PINK BOLLWORM IN HAWAII. Tech. Bull. 19, 16 pp., illus. 1927.


The pink bollworm is attacked in Hawaii by seven parasites. Notes are given for two of these, Microbracon mellitor Say and Perisesicola emigrata.

OTHER INSECTS AND PESTS

BARBER, E. R.


"In corn, cotton, and sugarcane fields the Argentine ant, when present, is constantly attending the aphids and mealy bugs, increasing the numbers of these species to an alarming degree, much to the detriment of the plants" (p. 6).

BARBER, T. C.


Preliminary information concerning the life history and habits of Dysdercus obscuratus Distant, which was found in cotton fields in the lower Rio Grande Valley of Texas and in Tamaulipas, Mexico.

BECKER, G. G.

COTTON PEST RELATED TO BOLL WEEVIL NOW QUARANTINED IN WEST. Yearbook 1927: 226-228, illus. 1928.

"Quarantine No. 61 against the Thurberia weevil became effective July 15, 1926. The territory immediately affected by the quarantine was practically confined to cotton cultures in the Santa Cruz Valley of Arizona extending from Nogales north to and including the so-called 'Postvale area,'" map, (fig. 60, p. 228).

BROOKS, F. E., and COTTON, R. T.


Literature cited, p. 386.

There is "a possibility that sound cotton bolls are attacked and injured by the larvae" (p. 379).

COAD, B. R., FOLSO, J. W., and GAINES, R. C.

COTTON-LOUSE CONTROL. Leaflet 53, 4 pp., illus. 1929.

Method of dusting the louse or aphid with nicotine dust.

RELATION OF THE ARIZONA WILD COTTON WEEVIL TO COTTON PLANTING IN THE ARID WEST. Dept. Bull. 233, 12 pp., illus. [1915].

Habits of the wild cotton or Thurberia weevil and possibility of its transference to cultivated cotton.


COBB, N. A.


FOLSO, J. W., and BONDY, F. F.

CALCIUM ARSENATE DUSTING AS A CAUSE OF APHID INFESTATION. Circ. 116, 12 pp., illus. 1930.

Results of investigations conducted at the Delta Laboratory of the Bureau of Entomology at Tallulah, La., 1922-30, showed that "excessive applications of calcium arsenate are often followed by heavy infestations of the cotton louse * * * In experiments it was found that a heavy aphid infestation is built up by the killing of hymenopterous parasites when they emerge in the presence of the arsenical * * * Initial infestations were found to be due to the positive phototropic reaction of winged females to the white deposit of calcium arsenate" (p. 11).
COTTON AND COTTONSEED

Ford, E. (271)

Gibson, E. H. (272)
THE CORN AND COTTON WIREWORM IN ITS RELATION TO CEREAL AND FORAGE CROPS, WITH CONTROL MEASURES. Farmers' Bull. 733, 8 pp., illus. 1916.

"Cotton is injured in the early stages by larvae boring into the seed and injuring the very young plants, checking the growth so much that the plant dies or struggles along only to produce little or no cotton.” Life history, pp. 4-5.

Glover, Townsend. (273)

Rust and blight are described and the cotton louse is mentioned.

Hunter, W. D. (274)
COTTON HOPPER, OR SO-CALLED “COTTON FLEA.” Dept. Circ. 361, 15 pp., illus. 1926.

The cotton stainer. Bur. Ent. Circ. 149, 5 pp., illus. 1912.

JACKSON, C. T. (277)

Researches resulted in the discovery of “the art of making a yellow dye of a permanent character, from the red bug * * * Its value, however, is likely to be chiefly local, as the quantity of these insects the planters can collect would not be adequate to the demand.”

King, W. V., and Cook, W. S. (278)
FEEDING PUNCTURES OF MIRIDS AND OTHER PLANT-SUCKING INSECTS AND THEIR EFFECT ON COTTONS. Tech. Bull. 296, 12 pp., illus. 1932.

Experiments begun in 1927 and carried on for 3 years at Tallulah, La., “indicate that hopper damage is due to injected substances normally present in the insects and toxic to the plant, rather than to a transmissible disease” (p. 11).

McGregor, E. A. (279)

Lygus eliusus, also known as the “tarnished bug” and the “cotton dauber”, causes injury to cotton plants by puncturing the squares, blooms, and young bolls by mouth parts.

The red spider on cotton. Bur. Ent. Circ. 172, 22 pp., illus. 1913.

Supersedes Bureau Entomology Circular 150, issued under the same name in 1912.

The red spider on cotton and how to control it. Farmers' Bull. 831 (rev. ed.), 15 pp., illus. 1931.

Supersedes Farmers' Bull. 735, issued under the same title in 1916.

“For many years this trouble has been called 'rust' by cotton planters, who concluded from the reddening of the leaves that it was a disease. The injury, however, is caused by the presence on the cotton leaves of multitudes of small mites called 'red spiders.'” (p. 3).

The true cricket—a serious cotton pest in California. Circ. 75, 8 pp. 1929.

66278*—34——3
PAINTER, R. H. (283)
Literature cited, p. 516.

SNYDER, T. E. (284)
"WHITE ANTS" AS PESTS IN THE UNITED STATES AND METHODS OF PREVENTING THEIR DAMAGE. Farmers' Bull. 759, 20 pp., illus. 1916.
It is noted that white ants occasionally injure the stems and roots of cotton plants.

TITUS, E. S. G. (285)
THE COTTON RED SPIDER. Bur. Ent. Circ. 65, 5 pp., illus. 1905

UNITED STATES DEPARTMENT OF AGRICULTURE. BUREAU OF ENTOMOLOGY. (286)
Report on a Mexican cotton pest, the "conchuela" (Pentatoma ligata Say.), by A. W. Morrill, pp. 18-34.

SNYDER, T. E. (284)
"WHITE ANTS" AS PESTS IN THE UNITED STATES AND METHODS OF PREVENTING THEIR DAMAGE. Farmers' Bull. 759, 20 pp., illus. 1916.
It is noted that white ants occasionally injure the stems and roots of cotton plants.

TITUS, E. S. G. (285)
THE COTTON RED SPIDER. Bur. Ent. Circ. 65, 5 pp., illus. 1905

UNITED STATES DEPARTMENT OF AGRICULTURE. BUREAU OF ENTOMOLOGY. (286)
Report on a Mexican cotton pest, the "conchuela" (Pentatoma ligata Say.), by A. W. Morrill, pp. 18-34.

Issued in separate form on April 2, 1907.

AGRONOMY

BLAIR, R. E. (288)
Cotton, pp. 14-16. Nearly 64 percent of the entire irrigated area of the project, or 28,608 acres, was planted to cotton. Yields and farm values are given. Cotton experiments, pp. 26-63. Variety tests and ratooning, thinning tests, time-of-planting experiment with Pima cotton, the furrow-and-bed method, breeding work.

CAMP, W. B. (289)
COTTON CULTURE IN THE SAN JOAQUIN VALLEY IN CALIFORNIA. Dept. Circ. 164, 22 pp., illus. 1921.
"This circular is devoted principally to the growing of Pima Egyptian long-staple cotton in the San Joaquin valley, although the same methods are applicable to such long-staple upland varieties as the Durango and Acala, which are preferable for short-season districts." (p. 4.)

PRODUCTION OF ACALA COTTON IN THE SAN JOAQUIN VALLEY OF CALIFORNIA. Dept. Circ. 357, 24 pp., illus. 1925.
"Circular No. 164 [see item 289] * * * treated of the culture of Pima Egyptian cotton in the San Joaquin Valley, but since then the Acala variety of Upland cotton has been substituted and is now being grown to the exclusion of all others * * * Cultural methods which have proved well adapted to conditions there, including preparation of land, planting, thinning, irrigation, cultivating, etc., are described in this bulletin."

CAPRON, HORACE. (291)
Requirements of cultivation are given. It is stated that cotton cultivation is "second alone in importance to rice."

CARDON, P. V. (292)
EXPERIMENTS WITH SINGLE-STALK COTTON CULTURE IN LOUISIANA, ARKANSAS, AND NORTH CAROLINA. Dept. Bull. 526, 51 pp., illus. 1918.
Results of a series of experiments made in 1915. "There was no significant difference in the lint produced by the different systems of culture, the lint percentage, the size of the seed, the lint index (grams of lint of 100 seeds), and the grade and length of lint remaining about the same."
COTTON AND COTTONSEED

CARDON, P. V.

NURSE PLANTING SELECT COTTON SEED. Dept. Bull. 668, 12 pp., illus. 1918.
The experiments reported were conducted in 1917 at the United States Experiment Farm at San Antonio, Tex. The method suggested uses substitute seeds of a different type of cotton, or of beans or peas, in place of those select cotton seed that would produce surplus plants to be removed in thinning. Beans or peas are as effective as select cotton plants in breaking through the soil crust.

CHAMBERS, C. L.


CHILCOTT, E. C., and COLE, J. S.


Literature cited, p. 521.

Results of subsoiling at 12 stations [of the Office of Dry-Land Agriculture Investigations, United States Department of Agriculture] in the Great Plains area for a total of 66 station-years, or an average of 5½ years at each station. From four to seven crops have been grown each year at each station." Cotton was one of the crops under trial. Results of other investigations of subsoiling and deep tilling, pp. 517-519.

CLOUD, N. B.


Describes an improved system of culture, based upon the use of labor-saving machinery and proper fertilization.

COOK, O. F., and DOYLE, C. B.

ACALA COTTON, A SUPERIOR UPLAND VARIETY FROM SOUTHERN MEXICO. Circ 2, 30 pp., illus. 1927.

History of Acala cotton, cultural and marketing advantages, and production in 1-variety communities. Acala cotton "now forms the bulk of the crop in the irrigated districts of western Texas, New Mexico, Arizona, and California."


Issued 1912; revised 1920; reprinted 1922.

Early varieties and cultural methods that favor a rapid development of the crop are recommended.


Report on variety tests conducted in the season of 1928.

and MARTIN, R. D.

CULTURE OF PIMA AND UPLAND COTTON IN ARIZONA. Farmers' Bull. 1432, 14 pp., illus. 1924.

Revision of Farmers' Bull. 577, Growing Egyptian Cotton in the Salt River Valley, Arizona, by E. W. Hudson. 1914.


History of Durango cotton, the acclimatization of which was begun in 1905; its cultural characters, and comparison with the Columbia, Foster, Allen, and Egyptian varieties. The author concludes that "the introduction of the Durango cotton meets the demand for a long-staple variety adapted to the local conditions and promises the largest profits for the farmers of the valley ".


Conclusions drawn from a visit to the cotton-growing districts of Egypt in June and July 1910. "Hindi is the name applied in Egypt to an undesirable type of cotton with a short, weak fiber, that injures the high-grade Egyptian varieties by infesting them with hybrids. * * * The establishment of a profitable culture of Egyptian cotton in Arizona and southern California depends largely on the exclusion of the Hindi contamination."

A comparison made between two fields of Triumph cotton—one at Lockhart, Tex., the other at Kerrville, Tex., in the season of 1907.

The process of selection to restore the uniformity of a variety in a new place is called local adjustment.

"Selection for local adjustment is distinct in objects and methods from breeding for improvement or for originating new varieties. The object of local adjustment is to preserve varieties already existing and guard them against recurrence of diversity."


The descriptive portion of this bulletin (pp. 1-5) is to a large extent reprinted from a paper in Bureau of Plant Industry Circular 115, A New System of Cotton Culture, by O. F. Cook, issued in 1913, which is now out of print.

The new system is based on control of vegetative branches by improved methods of thinning, which permit an earlier development of the fruiting branches.


"Experiments with Egyptian cotton in Arizona show that the so-called 'Hindi' variations which appear among plants grown from seed imported from Egypt are one of the principal factors of the diversity that would diminish the commercial value of the fiber.

"Comparisons with other types indicate that the Hindi cotton is of American origin instead of a result of hybridization with a native Egyptian or other Old World species of cotton as various writers have assumed."


"Brief summary of the principal conclusions that have been reached [by research in the Bureau of Plant Industry], especially those that affect general problems of breeding and crop production.

"The present statement is to be considered as supplementary to that contained in the Annual Report of the Chief of the Bureau of Plant Industry for 1911."


"The cultural ideal under the new system is a cotton plant with only the single erect central stalk, bearing numerous well-developed fruiting branches, but none of the vegetative branches, or secondary stalks."

Cotton Convention, Atlanta, Ga.


Commissioner Loring's address (pp. 4-16). A discussion of "1. The increase of the crop of cotton to the acre; and, 2. the introduction of diversified farming as a source of profit to the farmer and of benefit to the soil he cultivates."—Address by Edward Atkinson, containing a plea for uniformity of staple (pp. 16-18).—Address by Professor Riley, describing machines for poisoning the boll worm (pp. 19-29).
COTTON AND COTTONSEED

CROSBY, M. A. (311)
FARM PRACTICES THAT INCREASE CROP YIELDS IN THE GULF COAST REGION. Farmers' Bull. 986, 28 pp., illus. 1918.

DEWEY, L. H. (312)
Importations; experiments with imported seed; description of varieties; cotton cultivation in Egypt; soil, temperature, humidity, and rainfall conditions in the United States compared with those in Egypt.

DOYLE, C. B. (313)
LIVE-AT-HOME PLANS AND SOIL BUILDING AID COTTON GROWERS. Yearbook 1933: 114–118. 1933.
"As a result of an intensive study made several years ago, the following general recommendations for improvements in farm practices with cotton are being emphasized by the United States Department of Agriculture and the Association of Southern Agricultural Workers."

Includes a discussion of the characters of a superior variety, cluster varieties, and novelty varieties.

FOADEN, G. P. (315)
Includes Exports of Cotton from Egypt, by F. H. Hitchcock, pp. 29–34.

Cotton, pp. 16–42. Methods of cultivation are discussed and some information on marketing is included. Notes are given on the Ashmouni, Mit Affi, Abbas, and Jannovitch varieties.
The author, at the time of writing this bulletin, was secretary of the Khedivial Agricultural Society, Cairo.

GALLOWAY, B. T. (317)
Progress in cotton improvement, pp. 228–230. Discusses investigations which have been made of diseases; development of new types of cotton for special regions and special purposes; and introduction of Egyptian cotton.

HALE, G. A. (318)

HARRIS, J. A., and NESS, M. M. (319)
Literature cited, p. 623.

Literature cited, p. 112.
"Consideration of the correlations between soil resistance and flowering date in an extensive culture of Pima Egyptian, Meade upland, and Acala upland cottons, made at the United States Field Station in the Gila River Valley at Sacaton, Ariz., indicates that there is a low negative correlation between the soil resistance and the time required for flowering in these three varieties of cotton. Since soil salinity is measured in terms of resistance, while flowering date is measured in terms of days after an arbitrary origin date (June 1), negative correlation coefficients indicate that the flowering date is slightly retarded by soil salinity."

(314)
HARRIS, J. A., HARRISON, G. J., and LOCKWOOD, E. K. (321)
A CRITERION OF THE DIFFERENTIATION OF VARIETIES OR OF EXPERIMENTAL AREAS
WITH RESPECT TO THEIR CAPACITY TO PRODUCE SEEDLING STANDS OF COTTON.
Literature cited, pp. 619-621.
"The primary purpose of this paper is to give and to illustrate the
applicability of criteria for the determination of differences in the seed-
ling stands produced by different varieties of cotton when grown under
the same conditions and by the same variety of cotton when grown under
different field conditions.
"Pearson's double \( x^2 \) criterion, which compares all the classes involved
in the two frequency distributions, is shown to be a suitable test of
differentiation in such cases.
"Incidentally, comparisons between the seedling stands produced by
a number of varieties, as grown under irrigation in southern Arizona,
are made. Pima Egyptian cotton showed a marked superiority over the
upland varieties with which it was compared in its ability to estab-
lish seedling stands under the rather saline soil conditions of the Gila
River Valley of southern Arizona. Sea-island cotton seemed to show a
behavior similar to Pima Egyptian in this respect."

HARRISON, G. J., and WADLEY, F. M. (323)
ILLUSTRATIONS OF THE APPLICATION OF A CRITERION OF THE DEVIATION OF AN
OBSERVED FROM A RANDOM DISTRIBUTION TO THE PROBLEM OF SEEDLING STAND
IN SEA-ISLAND, EGYPTIAN, AND UPLAND COTTON. Jour. Agr. Research 36:
603-614, illus. 1928.
"In this paper attention is limited to a comparison of the actual
frequency distribution of the number of seedlings per hill with the
theoretical distribution which should arise if frequencies were deter-
mixed solely by chance."

HASTINGS, S.H., and LETTEER, C. R. (325)
EXPERIMENTS IN SUBSOILING AT SAN ANTONIO [TEXAS]. Bur. Plant Indus.,
Circ. 114: 9-14, illus. 1913.
"Subsoiling consists in loosening the soil to a depth greater than it
can be loosened with an ordinary plow. This is accomplished by a
subsoil plow, which operates in the bottom of the furrow left by a break-
ing plow, loosening the soil to the additional depth of about 12 inches.
Corn, cotton (Triumph variety), oats, grain sorghums, and sorgos
were grown in the experiments.

HASTINGS, S.H., and LETTEER, C. R. (326)
Indus., West. Irrig. Agr. [Circ.] 10, 17 pp., illus. 1916.
"The work of the San Antonio Experiment Farm was continued in
1915 along the same general lines as those indicated in previous reports.
Experiments with cotton, pp. 13-14. "Some varietal tests were con-
tinued, further studies were made with regard to the acclimatization of
certain introduced varieties, and considerable breeding work was done."
HORNER, W. H. (327)  

Notes on cultivation.

HUBBARD, J. W. (328)  
OUTLINES OF COTTON CULTURE IN THE SAN JOAQUIN VALLEY OF CALIFORNIA.  
Circ. 256, 8 pp., illus. 1933.

HUDSON, E. W. (329)  
PREPARATION OF LAND FOR EGYPTIAN COTTON IN THE SALT RIVER VALLEY, ARIZONA.  

“To secure the best crop of Egyptian cotton, it is of very great importance that the grower select uniform land with very slight grade on which alfalfa has grown for at least 3 years.”

JACKSON, C. T. (330)  
CHEMICAL ANALYSES OF COTTON SOILS—ANALYSES OF THE ASH OF THE COTTON PLANT.  

JANSSEN, GEORGE, and BARTHOLOMEW, R. P. (331)  
THE INFLUENCE OF THE POTASH CONCENTRATION IN THE CULTURE MEDIUM ON THE PRODUCTION OF CARBOHYDRATES IN PLANTS.  


KEARNEY, T. H. (332)  
COTTON CULTURE IN THE SOUTHWESTERN UNITED STATES.  

— and MEANS, T. H. (333)  
CROPS USED IN THE RECLAMATION OF ALKALI LANDS IN EGYPT.  

The observations upon which this paper is based were made in the course of a visit to northern Africa under the auspices of the Office of Seed and Plant Introduction and Distribution, Bureau of Plant Industry. The primary object of this expedition * * * was to secure seeds of plants suitable for introduction into the arid parts of the United States. Crops used in the process of reclamation: Cotton, pp. 586–587.

— and PETERSON, W. A. (334)  
EGYPTIAN COTTON AS AFFECTED BY SOIL VARIATIONS.  

“It is evident that in order to obtain the largest yields and what is of the utmost importance, the greatest possible uniformity in the staple, strength, and other qualities of the fiber, Egyptian cotton must be grown in soils that do not vary greatly in texture and salt content.”

— and PETERSON, W. A. (335)  
EGYPTIAN COTTON IN THE SOUTHWESTERN UNITED STATES.  

Experiments made during 1902–7 in the Southwest, especially at Yuma, Ariz., show that the region is well adapted to Egyptian varieties of cotton. Suggestions as to cultural methods are given. Cotton culture in Egypt, pp. 10–26. Mean monthly and annual temperatures in degrees Fahrenheit, at localities in Egypt and in the southwestern part of the United States, table 1 (p. 12).

— and PETERSON, W. A. (336)  
EXPERIMENTS WITH EGYPTIAN COTTON IN 1908.  

Progress of the work since the publication of Bureau of Plant Industry Bulletin 128. (See item 335.) Includes a statement “regarding the volume and value of the imports of Egyptian cotton into the United States in 1908 and * * * a report on the spinning test made by manufacturers with the fiber produced at Yuma in 1907.”

— and PETERSON, W. A. (337)  
TESTS OF THE PIMA EGYPTIAN COTTON IN THE SALT RIVER VALLEY, ARIZONA.  

Comparison of plant characters of Pima and Yuma cottons show superiority of the Pima variety in boll productiveness, earliness, size of bolls, greater freedom of limbs, longer and finer fiber. Mention is made of field tests conducted in cooperation with the Salt River Valley Egyptian Cotton Growers’ Association.
KEATING, F. E. (338)
Experiments with cotton included rotation and tillage investigations; variety tests, date-of-seeding tests, and rate-of-seeding tests.

KING, C. J., and LOOMIS, H. F. (339)
AGRICULTURAL INVESTIGATIONS AT THE UNITED STATES FIELD STATION, SACATON, ARIZ., 1925-1930. Circ. 206, 64 pp., illus. 1932.
Studies on cotton included attention to diseases; variety tests; irrigation experiments; physiological investigations; experiments in genetics.
Genetics: Cotton of the Egyptian type, by T. H. Kearney, pp. 41-45.
and LEDING, A. R.
Cotton experiments, pp. 11-24. Variety tests; spacing rotation, time-of-planting, and irrigation experiments; production at the seed farm; breeding test with Pima, and studies of hybrids, pollination, and cell-sap properties (sections prepared by T. H. Kearney).

LOOMIS, H. F., and VARMETTE, D. L. (341)
Literature cited, p. 953.
"Adjacent plantings of Pima Egyptian and several Upland varieties of cotton were made at Sacaton, Ariz., from 1920 to 1923, and data of plant behavior secured on habits of growth, flowering, shedding, yields, and lint and boll characters. A series of measurements on selected groups of 25 plants of each variety were conducted through the seasons of 1922 and 1923."

CROP TESTS AT THE COOPERATIVE TESTING STATION, SACATON, ARIZ. Dept. Circ. 277, 40 pp., illus. 1923.
Tests with cotton are included, pp. 9-16; root rot, pp. 35-37; Breeding work with Egyptian cotton, report by T. H. Kearney, pp. 39-40.

WATER-STRESS BEHAVIOR OF PIMA COTTON IN ARIZONA. Dept. Bull. 1018, 24 pp., illus. 1922.
"An investigation of the practicability of using soil-moisture determinations as an index of the water requirement for growing Pima cotton was begun in 1918 and continued through the year 1919, in the belief that definite information would be of value in determining the best methods of irrigation." Water relations and the shedding of immature bolls, pp. 11-15.

KNAPP, BRADFORD.
Cotton, pp. 2-3.

Gives outlines of cultural methods recommended for cotton.

Results are given of 7 years' work since the organization of the service by S. A. Knapp in 1904 in Texas. Information on bollweevil control and crop diversification was carried to farmers by about 600 agents. A table shows "increased average yield of cotton and corn on demonstration farms over the average yield in several Southern States in 1909 and 1910." (p. 290).
KNAPP, S. A.


Contains the principal points covered in Farmers' Bulletin 189, Information Concerning the Mexican Cotton Boll Weevil, by W. D. Hunter, 1904, in addition to general cultural recommendations.


Recommendations for cultivating cotton.


LYNNER, C. R.

EXPERIMENTS IN CROP PRODUCTION ON FALLOW LAND AT SAN ANTONIO [TEXAS]. Dept. Bull. 151, 10 pp., illus. 1914.

Corn, cotton, and winter oats were used in the experiments, which covered the years 1911-13. "In this paper the word 'fallow' is used to mean thorough cultivation of the land from the time it is plowed after the removal of a crop throughout the next season and until the crop is planted at the beginning of the second season" (p. 1).

THE WORK OF THE SAN ANTONIO (TEXAS) EXPERIMENT FARM IN 1918. Dept. Circ. 73, 38 pp., illus. 1920.

Experiments with cotton, pp. 15-16.

LUDWIG, C. A.


"The following topics have been investigated and are considered here: (1) Varietal differences in the maturation periods of squares and bolls; (2) effect on the maturation periods of the time of application of nitrogenous fertilizer; (3) effect of the amount of nitrogenous fertilizer applied; (4) effect of the spacing of the plants; (5) effect of duration of cultivation; (6) effect of stripping the forms; and (7) the rate of development of the bolls."

LYMAN, J. B.


Selection of a cotton farm; stock, laborers, and implements; how cotton should be planted; enemies of the plant and how to destroy them; picking; ginning, baling, and marketing; improved and scientific cultivation; improvements in seed.

MCKEEVER, H. G.


Experiments with cotton grown on irrigated land. Yields are shown in table I (p. 1085).

MCLACHLAN, ARGYLE.


"The object of the present paper is to call attention to special methods and precautions that need to be observed in the development of a long-staple industry under the local conditions."

MCNAMARA, H. C.

COTTON-SPACING EXPERIMENTS AT GREENVILLE, TEXAS. Dept. Bull. 1473, 48 pp., illus. 1927.

"The spacing experiments discussed in this report extend over a period of five years, from 1921 to 1925, inclusive, and include many repetitions. The combined results show larger yields from the closer spacings and indicate that cotton plants generally are left in the fields at distances too far apart to obtain the best yields."

HUBBARD, J. W., and BECKETT, R. E.

GROWTH AND DEVELOPMENT OF COTTON PLANTS AT GREENVILLE, TEX. Dept. Circ. 401, 18 pp., illus. 1927.

Growth and development under various cultural methods as affected by environmental conditions.
MEADE, R. M. (358)
SINGLE-STALK COTTON CULTURE AT SAN ANTONIO. Dept. Bull. 279, 20 pp., illus. 1915.
Gives results of a series of tests made in 1914 on the United States Experiment Farm at San Antonio, Tex. The advantages of the single-stalk system as compared with wide spacing are shown.

MELOY, G. S., and DOYLE, C. R. (359)
MEADE COTTON, AN UPLAND LONG-STAPLE VARIETY REPLACING SEA ISLAND. Dept. Bull. 1030, 24 pp., illus. 1922.
Meade cotton was the subject of experimentation, in 1917 and 1918 in various sections of the Cotton Belt, in an effort to replace the sea-island variety, because of bollweevil injury to the latter. Origin and history of the Meade variety are given, and cultivation and production during 1920. Comparative spinning tests of Meade and sea-island, and Meade and Egyptian Sakellaridis, pp. 20-22.

MILLER, H. A. (360)
A SIMPLE WAY TO INCREASE CROP YIELDS. METHODS FOLLOWED BY FARMERS OF THE COASTAL PLAIN SECTION OF THE CENTRAL ATLANTIC STATES IN BUILDING UP SOIL FERTILITY. Farmers' Bull. 924 (rev. ed.), 20 pp., illus. 1932. Issued 1918; revised 1932.
Examples of soil improvement. A cotton farm, pp. 17-18. This farm was located in the southeastern part of Virginia. The following 2-year rotation was put in operation: First year—Cotton plus crimson clover after first picking. Second year—Corn plus cowpeas at last cultivation.

NOBLE, E. G. (361)
THE WORK OF THE YUMA RECLAMATION PROJECT EXPERIMENT FARM IN 1919 AND 1920. Dept. Circ. 221, 37 pp., illus. 1922.
The Yuma Experiment Farm, which includes 160 acres, is located on the Yuma reclamation project and adjoins the town site of Bard on the California side of the Colorado River. The work of the farm is under the immediate supervision of the Division of Western Irrigation Agriculture, while arrangements are provided for some special experiments under the direction of representatives of other offices of the Bureau of Plant Industry.

ORTON, W. A. (362)
SEA ISLAND COTTON. Farmers' Bull. 787, 40 pp., illus. 1916.

OSBORN, W. M. (363)
Results with cotton, pp. 21-25. Acre yield (in pounds) of cotton lint and seed cotton grown by different methods at the Lawton field station, 1917-30, table 14 (pp. 22-23).

PATTEN, H. E., and WAGGAMAN, W. H. (364)
ABSORPTION BY SOILS. Bur. Soils Bull. 52, 95 pp., illus. 1908.

PETERSON, W. A. (365)
Cotton (pp. 20-21). "In addition to the breeding and extension work with Egyptian cotton, extensive experiments along cultural lines have been carried on at the Yuma farm by the Office of Acclimatization and Adaptation of Crop Plants and Cotton-Breeding Investigations. It has been demonstrated that cotton can be reproduced from mature wood cuttings and that cotton plants can be volunteered by protecting the bases of the stems with soil during the winter."

PHILLIPS, M. W. (366)
Preparation of land and planting.
COTTON AND COTTONSEED

Ratliffe, G. T., and Atkins, I. M. (367)
CROP ROTATION AND TILLAGE EXPERIMENTS AT THE SAN ANTONIO (TEXAS) FIELD STATION. Circ. 193, 39 pp., illus. 1931.
Cotton. Crop yield in detail, pp. 14–16. Comparison of effects of rotations and cultural treatments on crop yields, pp. 29–33. "Cotton yields were generally higher in rotations than under continuous cropping."

McKop rotation and tillage experiments at the San Antonio (Texas) Field Station. Circ. 193, 39 pp., illus. 1931.
Cotton. Crop yield in detail, pp. 14–16. Comparison of effects of rotations and cultural treatments on crop yields, pp. 29–33. "Cotton yields were generally higher in rotations than under continuous cropping."

Literature cited, p. 39.
Experiments with cotton in 1920, pp. 15–19. "A variety test and a cultural experiment were planted, and breeding work with the Kekchi, Acala, and Lone Star varieties was continued."

Redding, R. J. (369)
ESSENTIAL STEPS IN SECURING AN EARLY CROP OF COTTON. Farmers’ Bull. 217, 16 pp., illus. 1905.
Discusses preparation of the soil, fertilizers, selecting the variety and planting, spacing the plants, cultivating the crop, clearing away the plants in autumn.

Scofield, C. S. (370)
"While alfalfa in rotation with cotton may serve as the basis of a profitable agriculture, particularly if accompanied by one or more of the possible animal industries, it is to be expected that several of the more intensive plant industries, such as orchard fruits, will be developed."

Describes experimental plantings by farmers in the Salt River Valley, Ariz., and the Imperial Valley, Calif.

Monthly range of prices (in cents per pound) quoted at Boston for Egyptian cotton and at Savannah for Middling upland cotton from November 1909 to October 1911.

Smith, Longfield. (373)
"Sea Island cottonseed was imported into the Virgin Islands from Barbados about 1908, and cotton raising has become one of the principal industries of the islands where the soil and climate are well suited to its cultivation. The area devoted to it, though at present small, is producing very well, the average yield of seed cotton in 1919–20 being around 1,000 pounds per acre. One of the plats at the experiment station produced at the rate of 4,450 pounds of seed cotton per acre" (p. 3.) Includes description of breeding and cultural methods; ginning and marketing; yield; diseases and pests. Process of sunning and whipping is mentioned on page 10. "Seed cotton is usually spread out in long trays to be sunned for a day before whipping. This operation consists in striking the seed cotton on a piece of stout mesh wire forming the bottom of the tray. When the dirt has passed through the tray, the stained and weak cotton, all leaves, and hardened bolls are picked out. After being cleaned the cotton is sent to be ginned and baled."

Tyler, F. J. (374)
Gives origin of upland varieties as a whole; defines botanical terms used in descriptions; classifies varieties as to groups (such as big-boll group, long-staple group, etc.); lists and describes varieties alphabetically by name, giving States and counties where grown, references to literature, history, and characteristics, pp. 24–122.
What cotton is and where it grows; its climate; the best cotton soil; preparation of the soil; planting and culture; result of an experiment in growing cotton north of its accustomed limits; statistics (world manufactures, 1850; production, 1856; exports, 1860; imports into Great Britain, 1850 and 1860.)

Improving the quality of American cotton. 7 pp. [1922] [Mimeographed.]

This statement was prepared by a special committee and approved by the Cotton Council of the Department of Agriculture, and represents a summary of the Department's attitude at present.

"Varieties of cotton recommended for specific conditions or regions, or indicated as outstanding" by the state experiment stations, list (pp. 3-7.)

Office of Experiment Stations.


Also issued as U.S. Cong., 54th, 2d sess., House Doc. 267, Serial no. 3536.

Bibliographies at end of chapters; Supplemental bibliography of cotton, pp. 423-433.


Bureau of Markets.

Brief history of development of American-Egyptian Pima cotton. 3 pp. 1918. [Mimeographed.]

Short account of the origin of this variety; description of production in Arizona; and summary of spinning tests, 1915-18.

Bureau of Plant Industry Library.

Agronomy; current literature. January 1926—date, biweekly. [Mimeographed.]

A bibliography compiled from material received in the Department of Agriculture library.

Publications on field cultivation of cotton included.

Bureau of Plant Industry. Committee on Southwestern Cotton Culture.


The committee on Southwestern cotton culture was composed of C. S. Scalfeld, C. J. Brand, O. F. Cook, T. H. Kearney, and W. T. Swingle. The growing of Egyptian cotton is recommended.

States Relations Service.


"The result of the experience of the demonstration work for the past 12 years in several of the more western cotton states."


Walker, R. M.


General information for planters.
THE ADVANTAGE OF PLANTING HEAVY COTTON SEED. Farmers' Bull. 285, 16 pp., illus. 1907.

This paper embodies the results of experiments in the separation of cotton seed, and shows the advantage to growers of making such a separation of their seed for planting. The methods presented and the apparatus described are new and are of great importance to the cotton industry.


Contains a short history of the introduction of long-staple cottons into the United States; descriptive notes on the varieties; methods of cultivating, picking, ginning, marketing. Prices for cotton of different lengths of staple at Yazoo City, Miss., are given in a table (p. 136).


FERTILIZERS

CYANAMID, ITS USES AS A FERTILIZER MATERIAL. Circ. 64, 12 pp., illus. 1929.

Use on cotton, pp. 9–10. "Cotton may receive up to about 100 pounds of cyanamid in the row, but not in contact with the seed." Photographs illustrate effect of use and nonuse on growth of the plants.

FIELD EXPERIMENTS WITH ATMOSPHERIC-NITROGEN FERTILIZERS. Dept. Bull. 1180, 44 pp., illus. 1924.

Experiments during 1919, 1920, and 1921 at the Government nitration-fixation plants at Muscle Shoals and Sheffield, Ala., of the effect of cyanamid, ammonium nitrate, and other synthetic-nitrogen products when used as fertilizers. Cotton and corn were the principal crops used. Cyanamid proved the least satisfactory as a source of nitrogen.

FARM PRACTICE IN THE USE OF COMMERCIAL FERTILIZERS IN THE SOUTH ATLANTIC STATES. Farmers' Bull. 388, 24 pp., illus. 1910.

Fertilizing cotton, pp. 17–19. Quantity and composition of fertilizer mixtures suggested for application to each acre of cotton grown on various kinds of soil, table 4 (p. 18).—Quantity and composition of a mixed fertilizer of definite analysis suggested for application to each acre of cotton grown on various kinds of soil, table 5 (p. 19).

POTASH HUNGER IN WAR YEARS TAUGHT LESSON. Yearbook 1926: 593–595, illus. 1927.

Cotton-rust problems, pp. 594–595. "In the case of cotton, the lack of potash was particularly marked on sandy soils and resulted in a condition known to cotton growers as cotton rust."

FERTILIZER'S VALUE MEASURED IN TESTS IN NORTH CAROLINA. Yearbook 1930: 263–266, illus. 1930.

Data from experiments at the North Carolina Agricultural Experiment Station are discussed. The relation of the cost of fertilizer to the total cost of the crop is shown in charts.


Effect of time of planting and quantity of green manure on the germination of cotton seed, pp. 1164–1165. "From the data of this experiment it is very evident that the serious injury caused by green manures is only temporary."

FERTILIZING CONSTITUENTS CONTAINED IN A CROP OF COTTON YIELDING 100 POUNDS OF LINT PER ACRE. [POUNDS PER ACRE.] Yearbook 1896: 615. 1897.

Table.
FERTILIZING CONSTITUENTS CONTAINED IN A CROP OF COTTON YIELDING 300
POUNDS OF LINT PER ACRE. Yearbook 1895: 569. 1896.

Table.

FERTILIZERS FOR COTTON. Farmers’ Bull. 14, 31 pp., illus. 1894.

The discussion in this bulletin is based on experiments at the South
Carolina Agricultural Experiment Station.

Mehring, A. L., and Cumings, G. A.

EFFECTS ON COTTON OF IRREGULAR DISTRIBUTION OF FERTILIZERS. Jour. Agr.
Research 44: 559–570, illus. 1932.

FERTILIZER COMPOSITION AND PLACEMENT PLAY BIG PART IN COTTON GROWING.
Yearbook 1933: 118–121. 1933.

FERTILIZER MATERIALS FOR COTTON GROWING MUST BE WELL CHOSEN. Year-

“Experiments conducted by the department deal with the nutrition
of the cotton plant, its response to different forms of nitrogen and
potash, to varying quantities of fertilizers, and a study to determine
the ratio of nitrogen, phosphoric acid, and potash suitable for cotton on
prominent soil types.”

FERTILIZER PLACEMENT OF VAST IMPORTANCE IN COTTON-GROWING STATES.

Experiments made on cotton in South Carolina are described.

FERTILIZERS FOR COTTON SOILS. Misc. Pub. 126, 10 pp., illus. 1931.

and Allison, F. E.

INFLUENCE OF FERTILIZERS CONTAINING BORAX ON THE GROWTH AND FRUITING

[1928] [Mimeographed.]

Presented at Fertilizer Short Course of Department of Agronomy,
North Carolina Agricultural Experiment Station, Raleigh, N.C., August
1928.

The effect of concentrated air-derived nitrogen salts used on cotton
in North Carolina soils.

RESULTS OF FERTILIZER EXPERIMENTS ON NORFOLK FINE SANDY LOAM AND ON
NORFOLK SANDY LOAM. Tech. Bull. 225, 23 pp., illus. 1931.

Experiments reported were made on cotton and corn at Pee Dee Ex-

THE USE OF COMMERCIAL FERTILIZER IN THE GROWING OF COTTON.” 8 pp.,

Address delivered before the Agronomy Section of the North Carolina
Farmers’ Convention, State College, Raleigh, N.C., July 31, 1930.

United States Department of Agriculture.

The Manuring of Cotton. Farmers’ Bull. 48, 16 pp., illus. 1897.

Condensed from an article by H. C. White, in Bulletin 33 of the Office
of Experiment Stations.

Division of Statistics.

The Fertilizer Industry: Review of Statistics of Production and Con-

Fertilizers and profit in cotton raising, pp. 16–19. Relationship between
the cost of fertilizers and profit or loss in raising cotton in 1896, table 10
(pp. 18–19).
Whitney, Milton. (408)
Results of 2,802 fertilizer tests reported by experiment stations. A large percentage of the tests were made from 1888 to 1893.

FARM MANAGEMENT

Seeds and Harvest. A Graphic Study of Seasonal Work on Farm Crops. Dept. Circ. 183, 53 pp., illus. 1922.

Bercau, L. O., compiler. (410)

For references to cotton, see the index.


"The principal factor in determining the amount of the tenant's labor income and the rate of the landlord's profits in this region is the yield of cotton per acre." A study made in 1913 and "based on 878 records relating to the business of tenants on plantations in the Yazoo-Mississippi Delta. Comparison is made between share croppers, who supply nothing but their labor and receive one-half of the crop; share-renters, who supply their own implements and livestock and receive two-thirds or three-fourths of the crop; and cash renters, who supply the same items as share renters but pay a fixed rent in cash or lint cotton."

Brodell, A. P. (412)

"Requirements for producing a pound of lint cotton * * * range from about 0.7 hour of man labor in the Eastern States to about 0.2 hour in the western district of Texas * * * In parts of Texas and Oklahoma growers frequently plant as much as 100 acres of cotton per man with extra labor for hoeing, thinning, and harvesting. Growers in the eastern cotton States usually plant from 10 to 20 acres per man."

Brook, D. A. (413)
Building Up a Run-Down Cotton Plantation. Farmers' Bull. 326, 22 pp., illus. 1915.

"An account of the progress made in 3 years in changing a run-down cotton plantation into a profitable stock and hay farm." Comparison of cotton operations for 1905, 1906, and 1907, pp. 6-9. Results show "striking example of the beneficial effect of leguminous crops in building up exhausted soils."

--- and Mc Clelland, C. K. (414)
Diversified Farming Under the Plantation System. Farmers' Bull. 299, 14 pp., illus. 1907.

The work reported in this study was carried on by the Louisiana Agricultural Experiment Station and the United States Department of Agriculture in 1906 on the plantation of William Polk, near Moreland, La. "From observations during the first year's work it was clearly seen that it was possible to establish a system of diversification on plantations and that the tenants were eager to raise other things than cotton, provided the owner was willing and they had some little instruction in the care of the new crops. However, it was noticed that true diversification is possible only where the tenant lives upon the land he tills."

Cates, H. R. (415)

Surveys were made of 19 areas throughout the Cotton Belt. Data of tillage practice, presented in tabular form, are accompanied by short summaries of various farm customs and conditions.
CLOTHIER, R. W. (416)
"This bulletin presents the results of a farm survey of 627 farms conducted in the three larger irrigated valleys in southern Arizona. The general object of these investigations was to determine those factors of business management and farm practice which influence financial returns and lead to success or failure, in order that recommendations might be made that would lead to general financial improvement among all farmers in the districts studied." Cotton farming, pp. 38-39. "It may be safely stated * * * that with yields as high as 400 pounds of lint, and with a price as low as 15 cents a pound, cotton farming is not so profitable as other well-established enterprises, but since the price has been below 20 cents but 1 year out of the 6 in which it has been grown in Arizona, the enterprise may be strongly recommended to supplement the livestock interests now so firmly established in these districts, the crop proving admirably adapted for rotation with alfalfa."

COVERT, J. R. (417)
Cotton, pp. 92-100.

CROSBY, M. A. (418)
AN EXAMPLE OF INTENSIVE FARMING IN THE COTTON BELT. Farmers' Bull. 519, 13 pp., illus. 1913.
Study of the system followed by an Alabama farmer on a 2-acre cotton farm. "Productiveness as measured by cotton was increased from one-third of a bale to 3 bales or more to the acre ", by processes of seed selection and by plowing under dead crops.

CROSBY, M. A., DUGGAR, J. F., and SPILLMAN, W. J. (419)
A SUCCESSFUL ALABAMA DIVERSIFICATION FARM. Farmers' Bull. 310, 24 pp., illus. 1907.
"The record of a 65-acre hog farm in the black prairie region of Alabama." Cotton, p. 13. Short record of cultivation of the cotton field, which was included in the farm for 1 year only.

DIXON, H. M., and HAWTHORNE, H. W. (420)
AN ECONOMIC STUDY OF FARMING IN SUMTER COUNTY, GA. Dept. Bull. 492, 64 pp., illus. 1917.
An analysis of farm management on 534 farms in a strictly cotton-growing section.

FUNK, W. C. (421)
value of a small plot of ground to the laboring man. a study of the food raised by operatives in southern cotton-mill towns. Dept. Bull. 602, 12 pp., illus. 1918.
The cotton-mill village, pp. 2-3.

GIFT, G. W. (422)
"Recommends a "mixed system of farming." Estimate of receipts and expenses for 25 acres, table (p. 412).

GOODRICH, C. L. (423)
COTTON GROWER OFTEN FINDS LARGER OUTLAY PAYS IN BIGGER YIELD. Yearbook 1927: 221-223, illus. 1928.
A chart "shows the average effect of increase in expenditures per acre on the yield of lint cotton per acre and on the cost per pound on 401 farms scattered throughout the Cotton Belt in 1926" fig. 59, (p. 222). The use of fertilizer, rotation systems, and approved practices of protection against insects are mentioned.

GOODRICH, C. L. (424)
FACTORs THAT MAKE FOR SUCCESS IN FARMING IN THE SOUTH. Farmers' Bull. 1121, 31 pp., illus. 1920.
Practices involved in the successful management of a cotton farm.
GOODRICH, C. L. (425)
"An account of the progressive and successful farm operations of a
farmer of South Carolina, who, by combining thorough tillage, crop
rotation, barnyard manure, and a judicious use of commercial fertilizer,
has changed a previously badly managed and run-down cotton farm into
a very productive and profitable enterprise."

TESTING FARMS IN THE SOUTH FOR EFFICIENCY IN MANAGEMENT. Dept. Circ.
83, 27 pp., illus. 1920.
Field practice and labor requirements for some crops (including
cotton) in central Georgia (about 100 farms) Table 13, (p. 19)

HASKELL, E. S. (427)
A FARM-MANAGEMENT SURVEY IN BROOKS COUNTY. Dept. Bull. 648, 60 pp.,
ilus. 1918.
"This area was selected for study because here has been developed a
diversified and profitable type of agriculture, with cotton retained as
the chief single source of income."

HOWARD, C. W. (428)
CONDITION OF AGRICULTURE IN THE COTTON STATES. Dept. Agr. Rpt. 1874:
215–238, 1875.
"Methods of improvement, pp. 220–238. The remedy for the low
condition of southern agriculture “is to be found in the abandonment of
exclusive cotton-culture and the devotions of a much larger area to the
growth of cereals, the grasses, and the raising of livestock."

JOHNSON, O. M., and TURNER, H. A. (429)
THE OLD PLANTATION PIEDMONT COTTON BELT. A PRELIMINARY REPORT. 32 pp.
List of references, p. 32.
"This preliminary report is an attempt to picture the conditions and
changes in the old plantation Piedmont as a whole, affecting at least
150,000 landowners and tenants, thus preparing the way for more in-
tensive reports that may be forthcoming later from the various agencies
that are interested in the problems of the section."

KNAPP, BRADFORD. (430)
SAFE FARMING IN THE SOUTHERN STATES IN 1920. Dept. Circ. 85, 19 pp.,
ilus. 1920.
"By safe farming is meant a system which maintains soil fertility,
produces the food and feed for the people and the livestock in sufficient
quantities to insure a comfortable surplus, and produces cotton as a
strictly cash crop" (p. 8).

KNAPP, S. A. (431)
FAMILIAR TALKS ON FARMING. DIVERSIFICATION. Bur. Plant Indus. Doc. 383,
4 pp. 1908.
Recommends diversification of cotton with other crops.

LANDON, M. D. (432)
"The following article is not presented as an abstract treatise on
cotton growing, but rather as a familiar history of how a thousand and
forty acres of cotton were raised in Arkansas by free labor. Slavery has
long seemed the sine qua non of successful agriculture in the South, and
well is it that the present revolution has developed the grand fact of
FREE LABOR; that labor is always commensurate with its reward. The
rich bottom lands of the Mississippi are now opening to a new civiliza-
tion. The dark-skinned menial, the chained hero of the soil, is becoming
an individual and, with the hoe and axe, is hewing his way to citizen-
ship.” The “average amount of wages earned by each person during the
summer” is shown in a table (p. 91). The average expense of raising
1,000 acres of cotton by free labor for 1 year was $30,000 or $30 per acre,
"including the payment of rent to the Government or private citizen, and
the purchase of new stock and implements from the North” (p. 92). A
discussion of cotton insects is included.
MANNY, T. B.  
FARMER OPINIONS AND OTHER FACTORS INFLUENCING COTTON PRODUCTION AND ACREAGE ADJUSTMENTS IN THE SOUTH.  Circ. 258, 42 pp., illus. 1933.  
In the course of the study, 834 farmers in 11 counties were interviewed. These counties were selected as representative of three principal cotton-growing areas east of the Mississippi River: The Mississippi Delta, the piedmont, and the South Atlantic coastal plain. The objectives of the study may be summarized as follows: (1) To note recent changes in acreage planted to cotton and to other important crops. (2) To learn the reasons given by farmers for planting the specific acreages they did. (3) To determine, if possible, the premises upon which these farmer decisions were based and the sources of information used in arriving at decisions of this kind. (4) To note the extent to which interviewed farmers received and utilized the outlook information prepared and distributed by Federal and State agencies. (5) To note general differences as regards the acreage adjustments between farmers as classified by various factors such as size of farm, tenure, schooling, length of farm experience, etc. (6) To discover the chief sources of resistance to adjustments in the farm business, especially sources that are not exclusively economic in character” (p. 1–2). Includes tables giving acreage statistics, 1926–31.

SMITH, A. G.  
A FARM-MANAGEMENT STUDY IN ANDERSON COUNTY, SOUTH CAROLINA.  Dept. Bull. 651, 32 pp., illus. 1918.  
"In a farm-management and cost-determination survey of 112 farms in Williamston, Belton, Broadway, and Honeapath Townships, in Anderson County, S.C. it was found that in the organization and operation of the farms there are three outstanding factors that determine the degree of success. These are (1) yields; (2) efficiency in use of labor and equipment or, as it may be indicated in this region, the acres of crops grown per work animal; and (3) the combination of enterprises. The purpose of this bulletin is to show the bearing of these outstanding factors on the business of the farms surveyed, their influence on farm efficiency, and how that efficiency can be improved.” Cotton is the predominating crop on these farms.

SPIELMAN, W. J., and others.  

THIBODEAUX, B. H., and WELLS, O. V.  

UNITED STATES DEPARTMENT OF AGRICULTURE.  
Discussion of answers to a questionnaire in regard to the following subjects: Cotton acreage, cultivation methods, labor prices (1860, 1867, 1868), planting by Negroes, size of plantations, diversification, stock-growing, rotation, fertilizers, and farm implements.

BUREAU OF PLANT INDUSTRY.  
A model of 160 acres of land designed for a combined cotton, hog, and dairy farm.

WILLARD, R. E.  
PRODUCTION COSTS

BRODELL, A. P., and COOPER, M. R. (440)
REQUIREMENTS AND COSTS FOR PICKING, SNAPPING, AND SLIIDDING COTTON IN WESTERN TEXAS AND OKLAHOMA. A PRELIMINARY REPORT. 7 pp. BUT. Agr. Econ., 1927. [Mimeographed.]

COOPER, M. R., and HAWLEY, C. R. (441)
Cotton production costs, 1923, pp. 25–27. “Shown by yield groups, rather than by States and by the entire Cotton Belt.” Fertilizer costs and cotton yields, p. 27.

FELDKAMP, C. L., compiler. (442)
SELECTED LIST OF REFERENCES ON THE COST OF COTTON PRODUCTION. 3 pp. Office of Farm Management, 1919. [Mimeographed.]
Entries are arranged chronologically, 1809–1919.

JENSEN, W. C. (443)
FARM MANAGEMENT AND COST INVESTIGATIONS IN ANDERSON COUNTY, SOUTH CAROLINA—1922. PRELIMINARY REPORT. 23 pp. BUT. Agr. Econ., 1924. [Mimeographed.]

LONG, L. E., and SWINSON, C. R. (444)
COST OF PRODUCING COTTON IN FIFTEEN SELECTED AREAS, 1923. PRELIMINARY REPORT. 18 pp., illus. BUT. Agr. Econ., 1925. [Mimeographed.]
The areas selected for study were Johnson County, N.C.; Darlington County, S.C.; Greene and Sumter Counties, Ga.; Madison and Chilton Counties, Ala.; Madison and Bolivar Counties, Miss.; Lee and Faulkner Counties, Ark.; McIntosh and Grady Counties, Okla.; and Rusk, Ellis, and Lubbock Counties, Tex.

The investigation covered farms in 10 districts in Alabama, Georgia, South Carolina, and Texas. “The basic factors of production constitute the fundamental data of this report * * * Such factors include the hours of man and mule labor utilized in growing the crop; the quantity of seed used; the amount of fertilizer applied per acre; and the quantities used of such other materials as are necessary in growing cotton.” Variation in cost of producing cotton (net cost per pound of lint) on farms studied (tables 1a–10a, appendix, pp. 50–59).

UNITED STATES PATENT OFFICE (446)
“From the National Intelligencer.”
Items of expense on several farms are discussed.

WATKINS, J. L. (447)
Average cost of producing an acre of cotton in 1896 on farms showing a profit, by counties [Alabama, Arkansas, Florida, Georgia, Indian Territory, Louisiana, Mississippi, Missouri, North Carolina, South Carolina, Oklahoma Territory, Tennessee, Texas, Virginia] table 20, (pp. 67–87). Average cost of producing an acre of cotton in 1896 on farms showing a loss, by counties [in the same States] table 21 (pp. 88–99).
Tables give 1896 costs of rent of land, plowing, seed for planting, planting, fertilizers, distributing fertilizers, chopping (to stand), hoeing, picking, ginning and pressing, bagging and ties, marketing, repairing implements, and incidental expenses. Cost of cotton production under the slave-labor system and under the free-labor system, pp. 41–56.

PRODUCTION CREDIT

MOORE, A. N. (448)
Discussion is based on data gained from a questionnaire, regarding the marketing of the 1926 crop, which was sent to cotton growers in 10 States.
Rowe, W. H.  
Agricultural credit corporations affiliated with cotton cooperative marketing associations. Tech. Bull. 322, 64 pp., illus. 1932.


Wickens, D. L.  

"Reports from over 4,000 farmers in 1926, three-fourths of whom were owners, showed that the average amount of short-term credit used per farm in 10 cotton States was about $340 * * * Expenditure for fertilizer usually appears as the principal purpose in borrowing in the Southeast."

FARM ENGINEERING

BrodeII, A. P.  

Sleeding and snapping cotton in the southwestern part of the United States.

Camp, W. B., and Townsend, J. S.  
Uniform-depth press-wheel cotton-planter attachment. Dept. Circ. 381, 6 pp., illus. 1926.

Mechanical application of fertilizers to cotton in South Carolina, 1931. Circ. 264, 32 pp., illus. 1933.

Third progress report of study made in South Carolina.

Progress report on mechanical application of fertilizers to cotton in South Carolina, 1930. Circ. 192, 32 pp., illus. 1931.

Hastings, S. H.  
Irrigation and related cultural practices with cotton in the Salt River Valley of Arizona. Circ. 200, 31 pp., illus. 1932.


Hurst, W. M., and Church, L. M.  

Power and machinery have not affected the labor requirements in cotton production so greatly as in small-grain or corn production, because of the larger amount of hand labor necessary in chopping, hoeing, and picking. However, from 1841 to 1930 the man-hours required in the production of cotton were reduced at least 50 percent in some areas (p. 5). Approximate labor requirements for major operations in the production of 1 acre of cotton (750 pounds seed cotton), table 3 (p. 4).


The cotton harvester, p. 446. Mentions two types of cotton harvesters in the experimental stage: the stripper harvester, which "removes all of the crop at one operation," and the mechanical picker, which "is designed to gather only the open cotton."

Marr, J. C., and Hemphill, R. G.  

This bulletin was prepared for the purpose of bringing together the available information on the irrigation of cotton in the United States. It includes a survey made in the States of California, Arizona, New Mexico, and Texas, and also the results of experiments carried on in Texas.

Experiment conducted at the Cooperative Testing Station, Sacaton, Ariz., in 1920. "Indicates the importance of giving more attention to the spring treatment of cotton, so as to have the plants in a normal fruiting condition when summer irrigations begin. When this normal fruiting condition is attained, the summer irrigation problems are simplified, since the plants are not so easily forced into rank growth by the application of water in excess of the actual requirements."


Literature cited, pp. 94-95.
Description and illustration of types of fertilizer distributors, pp. 42-72.


"The next few years should witness the success or failure of the cotton and cane machines." Factors resistant to mechanization, p. 429. These include the cropper system of tenure based on small farming units and the diversity of crops cultivated.


Dowlaw’s cotton planter, pp. 263-264.

FARM SOCIAL PROBLEMS


Results of a study made in the summer of 1925 of "the tenure status, financial progress, and standards of living" of a group of 300 white farmers in Gwinnett County, Ga., a "typical cotton county." "The general facts presented are more particularly representative of conditions in the upper counties of the cotton-growing piedmont."

COOPERATIVE PRODUCTION

COOK, O. F. (467) COMMON ERRORS IN COTTON PRODUCTION. Farmers’ Bull. 1386, 26 pp., illus. 1932.

Discusses certain cultural practices and improper ginning as factors in production of inferior cotton. Suggests organization of 1-variety communities as an improvement measure.


Factors in judging varieties, pp. 15-17.


Illustration shows effect of selection in cotton, figure 57 (p. 218): "The photograph shows uniform fiber on seeds from successive plants in a selected stock, compared with irregular fiber from successive plants in a mixed gin-run stock."


COTTON IMPROVEMENT ON A COMMUNITY BASIS. Yearbook 1911: 397-410, 1912.

"With production based on one variety, the crop can be standardized by reference to the conditions of growth. Working out these relations in the irrigated districts [of California] may be to the great advantage of the entire Cotton Belt."

---


---

Reissued in 1927.

LIST OF PUBLICATIONS ON COMMUNITY COTTON IMPROVEMENT, pp. 49-50.

---

COTTON GROWING IN ONE-VARIETY COMMUNITIES. Yearbook 1926: 263-267, illus. 1927.

"The advantage of community production comes in two ways—the community cotton is of better quality and can be sold at a higher price."

---

COMMUNITY PRODUCTION OF ACALA COTTON IN THE COACHELLA VALLEY OF CALIFORNIA. Dept. Bull. 1467, 48 pp., illus. 1927.

"The objective here has been to describe the development of an actual one-variety community from a mixed-variety condition, enumerating the difficulties encountered and the way in which they were surmounted. Many of the advantages of one-variety production are of course mentioned, but they are the ones incidental to the problems encountered and are discussed primarily from the standpoint of actual improvements effected."

---

COTTON COMMUNITIES SHOWING MORE INTEREST IN ONE-VARIETY PLAN. Yearbook 1932: 139-140, illus. 1932.

The steps to be taken in organizing a 1-variety community are outlined.

---


History of the industry in the Imperial Valley of California since 1902; varieties grown; connection of exchanges, associations and 1-variety communities in stabilizing the long-staple cotton industry.

---

PURE SEED IN RELATION TO COMMUNITY PRODUCTION OF COTTON. 13 pp. Bur. Markets [1920] [Mimeographed.]


Community production of single varieties, pp. 9-15.


---


Includes illustrations of the vertical seed-cotton drier developed by the Bureau of Agricultural Engineering, United States Department of Agriculture.

---

THE VERTICAL SEED-COTTON DRIER. Misc. Pub. 149, 8 pp., illus. 1932.

---


---

COTTON AND COTTONSEED

GERDES, F. L. (484)
COTTON QUALITY AFFECTED IN GINNING PROCESS BY MOISTURE IN SEED COTTON. Yearbook 1932: 431-433, illus. 1932.
The advantage of drying cotton artificially is discussed. Illustration shows effect on lint of drying the seed cotton before ginning.

HATTCOCK, J. S. (485)


POSSIBLE SERVICES OF COOPERATIVE COTTON GINS * * * ADDRESS BEFORE THE SCHOOL OF COOPERATIVE MARKETING, COLLEGE STATION, TEXAS, MARCH 1, 1928. 13 pp. Bur. Agr. Econ. [1928] [Mimeographed.]


Appendix D, Texas laws relating to ginning, pp. 55-59.

MELOY, G. S. (490)
COTTON GINNING. Farmers' Bull. 1465, 29 pp., illus. 1925.

ROETHE, H. E. (491)
FIRES IN COTTON GINS AND HOW TO PREVENT THEM. Circ. 76, 8 pp., illus. 1929.
Revises and supersedes Department Circular 28, Cotton Gin Fires Caused by Static Electricity, by H. H. Brown, 1920, and Department Circular 271, Grounding Cotton Gins to Prevent Fires, by H. E. Roethe, 1923.
A wiring system for grounding gins is described.

SAUNDERS, D. A., and CARDON, P. V. (492)
CUSTOM GINNING AS A FACTOR IN COTTONSEED DETERIORATION. Dept. Bull 288, 8 pp., illus. 1915.
Supplemented by Department Circular 205, Cottonseed Mixing Increased by Modern Gin Equipment, by W. W. Ballard and C. B. Doyle. 1922.
(See item 808.)

SWARTHOUT, A. V., and BEXELL, J. A. (493)
A SYSTEM OF ACCOUNTING FOR COTTON GINNERIES. Dept. Bull. 985, 42 pp., illus. 1921.

TAYLOR, Fred, GRIFFITH, D. C., and ATKINSON, C. E. (494)
COTTON GINNING INFORMATION FOR FARMERS. Farmers' Bull. 764, 10 pp., illus. 1916.
Discusses mechanical processes of ginning by saw gins. Written with the purpose of pointing out to farmers the importance of keeping seed pure and eliminating improper preparation of cotton for the market.

TOWNSEND, J. S. (495)
GINNING PIMA COTTON IN ARIZONA. Dept. Bull. 1319, 12 pp., illus. 1925.
Describes operation of the roller gin, emphasizing "the treatment which determines the mechanical condition and appearance of the cotton in the bales after the actual ginning is accomplished." Suggests improvements in methods.

UNITED STATES DEPARTMENT OF AGRICULTURE. (496)
Cotton gins, pp. 330-331.

WEBB, R. W. (497)
PROBLEMS AND RESEARCH METHODS IN COTTON GINNING. A PRELIMINARY REPORT. 13 pp., illus. Bur. Agr. Econ. 1929. [Mimeographed.]
The material presented in this paper was given in substance before the Alabama ginnings' convention at Montgomery, Ala., February 26, 1929.
MARKETING

BERCAW, L. O., and COVLIN, E. M., compilers. (498)
BIBLIOGRAPHY ON THE MARKETING OF AGRICULTURAL PRODUCTS. (Supplementary to Miscellaneous Circular 35.) Misc. Pub. 150, 351 pp. 1932.
"Designed to include the important references to printed publications in English on methods of marketing agricultural products and the principles on which methods of marketing should be based. It covers approximately the dates 1924-1931. No attempt has been made to cover the field of statistics" (p. 1). Cotton, pp. 48–53.

COX, A. B. (499)

DAY, E. L., JACOBS, KATHERINE, and OLCOTT, M. T., compilers. (500)
BIBLIOGRAPHY ON THE MARKETING OF AGRICULTURAL PRODUCTS. Misc. Circ. 35, 56 pp. 1924.
Revised and enlarged from Bibliographical Contributions 7, Library, United States Department of Agriculture. [Mimeographed.]
Part III, Cotton, pp. 14–16.
Supplemented by Miscellaneous Publication 150, Bibliography on the Marketing of Agricultural Products (see item 498).

EDWARDS, E. E. (501)
References to literature cited, pp. 11–13.
Address, third annual meeting, Southeastern Economics Association, Atlanta, Ga., November 14–15, 1930.
"A history of the cotton system, broadly considered."

GRIFFITH, M. E., compiler. (502)
Part 2. Cotton and cotton seed. 9 pp. Includes references on cotton, cottonseed, and storage and transportation.
Supplement. 2 pp., 1919.

MYERS, LAWRENCE, HOWELL, L. D., and THIBODEAUX, B. H. (503)
AMERICAN COTTON HOLDS GROUND DESPITE GROWTH OF FOREIGN COMPETITION. Yearbook 1933: 97–107, illus. 1933.
Pre-war and post-war production and consumption; quality of American cotton; utilization; transportation; storage; market organization; and the cotton farm situation.

UNITED STATES DEPARTMENT OF AGRICULTURE. (504)
Tables listing city and State, name of organization, and name of secretary of cotton exchanges.

BUREAU OF AGRICULTURAL ECONOMICS. (505)
FEATURES OF THE WORK OF THE U.S. DEPARTMENT OF AGRICULTURE IN IMPROVING COTTON MARKETING CONDITIONS IN THE UNITED STATES. 33 pp. [1922] [Mimeographed.]
Describes the details of the cotton projects of the Bureau of Agricultural Economics as follows: The official standards for grade; regulation of the future exchanges; the quotation service; and demonstrations to farmers of standards and grading.

BUREAU OF AGRICULTURAL ECONOMICS. DIVISION OF COTTON MARKETING. (506)
COTTON NEWS SUMMARY. October 9, 1929—date, daily. [Mimeographed.]

COTTON COUNCIL. (507)
THE COTTON MARKETING PROBLEM. 2 pp. 1922. [Mimeographed.]
"This statement was prepared by a special committee and approved by the Cotton Council of the Department of Agriculture."
Summary of the work of the Department of Agriculture in connection with cotton marketing.
UNITED STATES DEPARTMENT OF AGRICULTURE. OFFICE OF FARM MANAGEMENT.


UNITED STATES PATENT OFFICE.


Replyes to a questionnaire relating to "cotton" issued from the Patent Office on the 29th of February, 1856, and forwarded through the Department of State to our Diplomatic and Commercial Agents, Missionaries, Officers of the Navy, and other Public Functionaries, residing and travelling in the principal countries of the globe."

YOUNGBLOOD, BONNEY.


DEMAND AND COMPETITION

BROWNE, D. J.


Tables "show the amount and valuation of cotton consumed in the United States during the fiscal year ending June 30, 1857, and the character, quantity, and valuations of the goods manufactured therefrom, as far as returns have been made."

CLAIBORNE, JOHN.


DEWEY, L. H.


"Efforts to learn something definite about the identity of "English artificial cotton", press reports of which appeared in newspapers of England and the United States beginning in November 1928, proved unavailing. The conclusion is reached that "notwithstanding the many positive statements that have been published, there is no definite information available indicating that either a promising new fiber or fiber-producing plant actually exists. Unless and until something more definite and tangible for examination and testing is produced, the so-called English artificial cotton cannot affect the textile industry and is unworthy of serious attention.""

HIGHT, W. W.

COTTON EXPORTS OF UNITED STATES REFLECT CONTINUOUSLY SHIFTING WORLD MARKET. Yearbook 1931: 164-167, illus. 1931.

"Cotton, which is adapted to a wider range of uses than other vegetable fibers, has replaced hemp for many purposes, and in most cases advantageously, for it can be spun more easily and with less waste, making smoother and more uniform yarns."

FETROW, W. W.


"Cotton, which is adapted to a wider range of uses than other vegetable fibers, has replaced hemp for many purposes, and in most cases advantageously, for it can be spun more easily and with less waste, making smoother and more uniform yarns."

HITCHCOCK, F. H.


Testimony before the United States Industrial Commission, June 13 and 15, 1900. Some facts about cotton and cottonseed-oil exports are included.


Literature cited, pp. 179-184.

Cotton, pp. 103-104. "Cotton is not produced on a commercial scale but data on the cotton trade are given in Tables 90, 91, and 92 as indicating the recovery of this branch of the textile industry in contradistinction to the decline in flax spinning."


Cotton, pp. 130-131. "In recent years cotton has taken the leading place among these products." The cotton-spinning industry of China is described.


Exports of cotton to China and Japan are included in discussion.


Address, twenty-first annual meeting, American Farm Economic Association, Cleveland, Ohio, December 31, 1930.

"What agricultural products had we best export? A short answer to the question is: We should export those agricultural products which, sold in foreign markets, will return more net profit than would substitute products sold on a domestic market basis." The writer states that "cotton is by far the most important export commodity of the United States", and discusses points favorable to its export, pp. 3-4. Table shows exports of cotton, including linters, from the United States by principal countries, average 1909-13 and 1925-29, annual, 1928-29, (p. 12).

United States Department of Agriculture. Flax and Hemp Commission.


In an attempt to determine the future world consumption of American cotton, the author discusses the competition of cotton with wool, linen, and silk, and appraises India, Russia, Brazil, Egypt, and Africa as competitive sources of supply. Tables give statistics for the world's commercial cotton crop, 1860-1901; and world consumption, 1860-1900.

ADJUSTING THE QUALITY OF THE COTTON CROP TO SPINNERS' REQUIREMENTS

* * * ADDRESS DELIVERED BEFORE THE GENERAL SESSION OF THE ASSOCIATION OF SOUTHERN AGRICULTURAL WORKERS, AT MEMPHIS, TENNESSEE, FEBRUARY 1, 1928. 12 pp. Bur. Agr. Econ. [1928] [Mimeographed.]

KILLOUGH, H. B., and STRANG, P. M.


THE QUALITY OF COTTON AND MARKET DEMAND * * * ADDRESS AT THE MEETING OF THE SOUTHERN AGRICULTURAL WORKERS, HOUSTON, TEXAS, FEBRUARY 7, 1929. 10 pp. Bur. Agr. Econ. [1929] [Mimeographed.]

MOVEMENT

ANDREWS, FRANK.


WHITE, J. C., and GOULD, B. R.


SUPPLY

AGELASTO, A. M., FETROW, W. W., and FARRINGTON, C. C.


"Long-staple cotton, or staple cotton, as used in this report, refers to cotton having a staple length of 1½ inches and longer. The supply of this cotton in the United States consists of both domestic and foreign growths. The domestic production consists of (1) that portion of the upland crop having a staple length of 1½ inches and longer, (2) American-Egyptian or Pima cotton, and (3) sea-island cotton. The principal foreign growths of staple cotton consumed in the United States are Egyptian and Peruvian." Tables (pp. 11–47)—Statistics of staple length, production, ginnings, consumption, imports, prices, premiums, etc., charts (figs. 1–17).

BECKER, J. A.


Cotton increase or decrease in acreage, map (p. 486). Higher levels prevail in western Texas, Oklahoma, and the Mississippi Delta; lower levels prevail in Georgia and South Carolina.

BRANNER, J. C.

COTTON IN THE EMPIRE OF BRAZIL; THE ANTIQUITY, METHODS, AND EXTENT OF ITS CULTIVATION; TOGETHER WITH STATISTICS OF EXPORTATION AND HOME CONSUMPTION. Misc. Spec. Rpt. 8, 79 pp., illus. 1885.

"During the winter of 1883–84, Mr. J. C. Branner, assisted by Mr. A. Koebele, was sent to Brazil to collect certain entomological information and, incidentally, any facts relating to cotton and its culture. A preliminary account of the journey has been published in Bulletin No. 4 of the Division of Entomology, and the entomological observations have been, or will be, used elsewhere." (p. 5). The early uses of cotton, pp. 16–20. Replies to questionnaire regarding cotton cultivation in Brazil, pp. 53–77.
Callander, W. F. (536)

Cook, O. F. (537)
Possibility of extension of the cotton industry in the Southwestern States is attended by several obstacles, such as the presence of a temporary population and the fact that living and working methods there are not well adapted to the climate.

"Superior varieties of long-staple upland cotton are now available, as early and productive as varieties with less than an inch staple. All of the field operations—preparing, planting, and cultivating—are the same for growing inferior cotton as for producing good fiber."

"Whether long-staple cotton can take the place of sugar cane on any of the Louisiana lands and how far such a substitution may be expected to go are questions of present interest, but even outside the sugar districts it is important to have more definite knowledge of the possibilities of improvement. The presence of the boll weevil introduces a new element of uncertainty and requires many readjustments that are not yet complete. New varieties and improved cultural methods have been developed in recent years by the Department of Agriculture and are likely to be useful in Louisiana, but they have still to be tested and adapted to the local conditions. There are problems of other kinds that remain to be solved. The selling of the cotton must be considered, as well as the raising of it. The substitution of short fiber is now a more serious menace to the long-staple industry than the boll weevil."

"Cotton was grown in California half a century ago, but the early attempts were made on a basis of direct competition with the South, which could not be maintained when normal conditions had been reestablished after the Civil War. The present possibilities of development of cotton culture in California lie in the direction of producing Egyptian or other special types of long-staple cotton."

"The production of long-staple cotton is one of the undeveloped agricultural resources of the United States and one that is capable of enormous expansion. But it is equally apparent that anything like a full development of these resources must be accompanied by extensive changes and readjustments in the commercial and industrial world."

Doyle, C. B. (542)
Sea-Island and Meade Cotton in the Southeastern States. Dept. Circ. 414, 20 pp., illus. 1927.
"Object of the present circular is to call attention to the facts that should be considered in any attempts that are made to produce sea-island cotton or other extra-length staples in the Atlantic coast districts of South Carolina, Georgia, and Florida. One-variety communities, pp. 6-9.

Doyle, C. B. (543)
"At present, satisfactory market arrangements have not been worked out with manufacturers, and until more information is available, farmers are being advised not to plant sea-island on a large scale anywhere in the continental United States."
COTTON AND COTTONSEED

Fetrow, W. W.  (544)
STAPLE LENGTHS OF WORLD COTTON CROPS. A PRELIMINARY REPORT. 10 pp.

Flint, Wilson.  (545)
1865.
Cotton growing in the Pacific States a failure from meteorological
causes, pp. 473-475.

Hitchcock, F. H.  (546)
EXPORTS OF COTTON FROM EGYPT. Sec. Foreign Markets Circ. 15, 7 pp., illus.
1897.
Stas. Bull. 42. 1897.

Holmes, C. L.  (547)
SHIFTS IN PRODUCTION AREAS IN THE UNITED STATES INDUCED BY CHANGES IN
(1931) [Mimeographed.]
Address, Conference of Principal and Reviewing Appraisers of the
Federal Farm Loan Bureau, Washington, March 16, 1931.
Shifts in areas of cotton production, pp. 12-17. Includes the follow-
ing charts: Cotton picked, increase in acreage, 1919-24.—Cotton picked,
dercrease in acreage, 1919-24.—Cotton acreage in Texas, Georgia, and
South Carolina 1890-1930. "The increase in cotton acreage between
[1919] and 1924 was notable in Texas and Oklahoma and in the upper
end of the Mississippi Delta. Some increase occurred in portions of
the Coastal Plain. Decreases during the same 5 years were notable
in Georgia and South Carolina, and a small decrease is indicated in the
Delta near Memphis and southward."

Kearney, T. H.  (548)
COTTON OF AMERICAN-EGYPTIAN VARIETY IN U.S. Yearbook 1926: 251-254,
ilus. 1927.
A general discussion of selection and marketing of American-Egyptian
cotton. Production and estimated value to the growers of the 14 annual
crops 1912-25, table 3 (p. 252).

Knapp, S. A.  (549)
Address on the outlook for cotton production in boll weevil territory,
delivered at Greenville, Miss., January 17, 1910.

Lanham, W. B.  (550)
COTTON DATA RECORD VARIATION IN STAPLE LENGTH, 1928-1931. Yearbook
1932: 140-142, illus. 1932.

———  (551)
COTTON GRADE AND STAPLE ESTIMATES SHOW QUALITY TREND. Yearbook 1930:
195-197, illus. 1930.
A description of the work of the grade and staple estimates project
of the United States Department of Agriculture. Distribution of co-
operating gins is shown in figure 42 (p. 196). Supply of American up-
land cotton in the United States, by staple length, 1928-29, figure 43
(p. 197).

———  (552)
GEOGRAPHIC DISTRIBUTION OF STAPLE LENGTHS OF AMERICAN UPLAND COTTON—
Agr. Econ., 1932. [Mimeographed.]
——— and McCollum, J. L.  (552a)
GRADE, STAPLE LENGTH, AND TENDERABILITY OF COTTON IN THE UNITED STATES,
Much of the information presented herein was released previously
in preliminary reports, but this is the first publication issued by the
United States Department of Agriculture in which detailed information
on the subject is assembled for 4 consecutive years.
——— and McCollum, J. L.  (553)
GRADE AND STAPLE OF ALABAMA COTTON—CROPS OF 1928 AND 1929. A PRELIM-
——— and McCollum, J. L.  (554)
GRADE AND STAPLE OF ARKANSAS COTTON—CROPS OF 1928 AND 1929. A PREL-
IMINARY REPORT. 15 pp., illus. Bur. Agr. Econ., 1931. [Mimeo-
graphed.]
LANHAM, W. B., and McCOLLUM, J. L. (555)

BETTS, R. E. (556)

BETTS, R. E. (557)

MCCOLLUM, J. L. (558)

Address delivered before the meeting of the Southern Agricultural Workers Association, New Orleans, La., February 1, 1933.

BETTS, R. E. (560)


MEADOWS, W. R. (563)
ECONOMIC CONDITIONS IN THE SEA ISLAND COTTON INDUSTRY. Dept. Bull. 146, 18 pp., illus. [1914]
Results of investigation made, during August and September 1913, of economic conditions in the sea-island cotton industry in Charleston, S.C., and nearby islands, in Georgia and Florida, and of the American mills spinning yarns from sea-island cotton. It was found that deterioration in quality, and competition with Sakellaridis were among factors causing decrease in consumption of sea-island. Statistics of crops, prices, grades, imports, consumption of sea-island cotton are given in appendix (pp. 16-18).

Pryor, W. L. (564)
Length estimates by States and amount produced 1916-17 are given in tables. Discussion of distribution of varieties is included.

Scofield, C. S. (565)
A survey of the cotton industry in the southwestern part of the United States.

Spillman, W. J. (566)
CHANGES IN SOUTHERN AGRICULTURE AND THE PROBLEMS ARISING THEREFROM. 7 pp., illus. Bur. Agr. Econ. [1928] [Mimeographed.]
Address before the Economics Section, Association of Southern Agricultural Workers, Memphis, Tenn., February 2, 1928.
"The principal change in the agriculture of the South since 1909 has consisted in a vast shift of cotton production westward and northward. This has given rise to a number of new problems and has placed more marked emphasis on a number of old problems * * *

Charts: (1) Cotton area as percent of total crop area, 1909; (2) Cotton area as percent of total crop area, 1924.
Changes in cotton acreage, p. 207. Cotton acreage decreased in all the States from South Carolina to Louisiana except Alabama, and increased in the Western States. "For the country as a whole there was an increase of 16.2 percent. These increases were the result of the high prices for cotton that prevailed during most the war years and for some years afterward. The increase appears to have gone too far, for at the present time the situation of the cotton grower is critical because of low prices."

"The principal facts of the cotton situation have been summarized to aid southern farmers in planning their crop production for 1932." Charts show prices, 1911-30; supply, consumption, 1920-31; acreage, yield per acre, production, 1890-1931.
UNITED STATES DEPARTMENT OF AGRICULTURE. BUREAU OF PLANT INDUSTRY.

COMMITTEE ON SOUTHWESTERN COTTON CULTURE


Revision of Department Bulletin 332, Community Production of Egyptian Cotton in the United States, by the Committee on Southwestern Cotton Culture, 1916.

The committee on southwestern cotton culture was composed of C. S. Scofield, T. H. Kearney, C. J. Brand, O. F. Cook, and W. T. Swingle.

Bibliography, pp. 28-29.

"The purposes of this bulletin are to tell how Egyptian-cotton production became established in the Southwest as a result of community action, to describe the present status of the industry, and to give the reasons for encouraging the growing of this type of cotton in the United States."

OFFICE OF THE SECRETARY.


List of contents includes the following headings: Demand for cotton; How supply of long-staple cotton was reduced; Efforts to re-establish long staples; Future demand for long-staple cotton; Cooperative efforts bring results; Increase the production per acre; Choose best variety for local conditions; Increase through cultural practices; Relation of disease to cotton production; Insect enemies of cotton; Seed greatly increases value of crop; Cotton marketing. Products and uses of cotton seed, diagram (taken from Bur. Census Bull. 131), p. 19.

UNITED STATES PATENT OFFICE.


Consists of articles reprinted from various periodicals and other sources. Includes the following: On the culture of cotton; Cotton manufacture in Austria, in India; Cultivation of cotton in India; Growth of cotton in India; Report of the Committee of the Barnwell Agricultural Society on the Culture of Cotton, signed by J. H. Hammond, chairman; Preparing Fine Cottons for Market, by Alexander McDonald; "Liverpool annual report" and "Manchester market—annual report."

WOOTEN, E. O.


Discusses the appearance of cotton as a crop in this region which was primarily considered a cattle range. The success of the crop is indicated by figures for receipts in Lubbock County, Tex., in 1924.

YOUNGBLOOD, Bonney.

COTTON QUALITY STUDIES SHOW OPPORTUNITIES TO ADJUST STAPLE PRODUCTION. Yearbook 1928: 240-241. 1929.

"Data obtained in Georgia and a Texas-Oklahoma area, compared with results of a study of American mill consumption, indicate that these areas produce too much cotton seven-eighths of an inch and under, and too little cotton fifteen-sixteenths of an inch and above, in length."


A discussion of data from grade and staple reports of cotton produced in Georgia and in certain counties in Texas and Oklahoma, preceded by a short history of the official standards for grade and staple.

CROP ESTIMATING AND REPORTING

BECKER, J. A.

COTTON CROP REPORTS OF THE UNITED STATES DEPARTMENT OF AGRICULTURE. 16 pp., illus. Bur. Agr. Econ. [1926] [Mimeographed.]

For Southwestern Political Science Association meeting, Dallas, Tex., April 2, 1926.

"An attempt to provide a full discussion of the methods used in making the estimates and forecasts of cotton production."

CROP REPORTING BOARD POLICY IN FORECASTING COTTON PRODUCTION FROM CONDITION. 6 pp. Bur. Agr. Econ. [1929] [Mimeographed.]

Prepared upon request for August 11, 1928, issue of United States Daily.
BECKER, J. A. (585)
Forecasts of the cotton crop by the United States Department of Agriculture are discussed as illustration of the crop-yield forecasting system.

CALLANDER, W. F., and CHILDS, V. C. (586)
METHODS USED BY CROP REPORTING BOARD IN ESTIMATING THE COTTON CROP. 8 pp. Bur. Agr. Econ. [1931] [Mimeographed.]

RECENT DEVELOPMENTS IN COTTON CROP ESTIMATING. 15 pp. Bur. Agr. Econ. [1928] [Mimeographed.]
An address given before the American Statistical Association, New York City, April 20, 1928.

CRAWFORD, J. C. (588)
Directions are given for using a table for “number of cotton bolls per plant of various classes required at certain distances to produce a bale per acre when cotton gins 53½ percent of lint.”

SABLE, C. F. (589)
Cotton, pp 75-80. Comparison of yield estimates of the Department of Agriculture and yields derived from Census data, cotton, pp. 122-126.

TAYLOR, H. C. (590)
Published in Commerce and Finance. September 12, 1923.
Discusses sources of information; reports issued; sources and methods of determining acreage; the monthly crop condition estimates and forecasts; construction and use of “pars”; the July and August forecasts, and intentions to plant.

UNITED STATES DEPARTMENT OF AGRICULTURE.
REPORT OF ADVISORY COMMITTEE ON COTTON CROP REPORTS TO THE SECRETARY OF AGRICULTURE, DECEMBER 22, 1923. 6 pp. [1924] [Mimeographed.]

STATISTICS

AGELASTO, A. M., DOYLE, C. B., MELOY, G. S., and STINE, O. C. (592)
Includes notes on world production: principal commercial types of cotton; shifts in production; acreage, yield and production; diversification of crops; pests and diseases; cost of production; production credit, handling and marketing: consumption 1896-97 to 1920-21; summary of the situation and outlook.
Statistical charts and tables are contained in the discussion. “Soil regions of the cotton belt”, by H. H. Bennett, map (p. 339).

1 Statistics of cotton, cottonseed, and cottonseed products appear regularly in the Yearbook of Agriculture. For example, see the following:
U. S. DEPARTMENT OF AGRICULTURE. BUREAU OF AGRICULTURAL ECONOMICS. STATISTICAL COMMITTEE.
AGRICULTURAL STATISTICS. Yearbook 1933: 399-776, illus. 1933.
Chairman of the Statistical Committee, J. A. Becker.
Statistics of cotton, sugar, and tobacco, pp. 472-507. Tables for cotton acreage, production, value, exports, etc., United States, 1890-1932; acreage and production in specified countries, 1925-26 to 1932-33; world production of lint, 1909-10 to 1932-33; consumption by domestic mills, etc. Includes also statistics on production, prices, trade, etc., of cottonseed, cottonseed oil, and cottonseed meal. “For current statistics to supplement Yearbook statistics, the following sources should be used: (1) Crops and Markets—a monthly publication of the department carrying the latest current statistics on agriculture in the United States; (2) Foreign Crops and Markets—issued weekly by the Bureau of Agricultural Economics and devoted to current world statistics of crops, livestock and markets”; (3) World Cotton Propects—published monthly by the Bureau of Agricultural Economics; (4) The Agricultural Situation—issued monthly; “(6) market news reports of the Bureau of Agricultural Economics—issued daily, weekly, monthly, quarterly, or at irregular intervals, at Washington and at the principal markets”; (6) Cotton Grade and Staple Reports—issued by the Division of Cotton Marketing, Bureau of Agricultural Economics.
Andrews, Frank, compiler. (593)
**Handbook of Foreign Agricultural Statistics.** Dept. Bull. 987, 69 pp., illus. 1921.

Baker, O. E. (594)
**Agricultural Maps.** Yearbook 1928: 640-665, illus. 1929.
Cotton, p. 4. Acreage and production, 1924.

“Revision and enlargement of A Graphic Summary of American Agriculture contained in the 1915 Yearbook of the Department of Agriculture which was also issued as Yearbook Separate 681, and of a second contribution having the same title in the 1921 Yearbook, which was also issued as Yearbook Separate 878.” Cotton, pp. 30-35. Maps. Comparison of cotton with other crops in importance; acreage increases and decreases; changes in production and yield; number of farmers growing cotton, 1924. Farmers’ associations handling cotton, 1929 (p. 144).

Dodge, J. R. (596)
Cotton, pp. 24-26. Progress of production; area. Production and export of cotton from 1841 to 1884, diagram xxiv; acreage, 1879, diagram xxv.

Hyde, John. (597)
**The Cotton Crop of 1896-97.** Div. Statis. Circ. 8, 14 pp., illus. 1897.
Includes tables.

Knapp, S. A. (598)
Report of visit to rice-producing countries. Statistics for cotton are given in table 1. Area (in acres) under crop of principal products in each province of British India, 1897-1900, p. 31.

Myers, Lawrence, and Cooper, M. R. (599)
Supplement no. 1, a revision of pages 28, 29, and 30, appeared in World Cotton Prospects C-92, Sup., May 31, 1933.

Robinson, H. A. (600)
**Acreage, Production, and Value of Principal Farm Crops in the United States, 1866 to 1895, with Other Data as to Cotton and Wool.** Div. Statis. Circ. 1, 8 pp., illus. 1896.

Preliminary report upon crop of 1896-97 is included.

United States Department of Agriculture. Bureau of Agricultural Economics. (602)
**Farm Value, Gross Income, and Cash Income from Farm Production. . . A Preliminary Report.** Pts. 1-3, 5, illus. 1930-33. [Mimeographed.]
Statistics for the cotton crop are included.

Bureau of Agricultural Economics. Division of Crop and Live-

stock Estimates (603)
**Gross Income from Farm Production, 1929-1931. Summary of the Income Estimates.** 5 pp., illus. 1932. [Mimeographed.]
Table includes figures for income from cotton lint and cottonseed.

Bureau of Agricultural Economics. Division of Information. (604)
**Sources of Facts about Cotton Production, Marketing and Other Economic Statistics from Federal Sources.** 12 pp. 1926. [Mimeographed]
COTTON AND COTTONSEED

UNITED STATES DEPARTMENT OF AGRICULTURE. BUREAU OF AGRICULTURAL ECONOMICS. DIVISION OF STATISTICAL AND HISTORICAL RESEARCH

(605) COTTON FACTS. 28 pp., illus. 1930. [Mimeographed.] Supersedes Facts about Cotton 1930 Outlook, February 1930. Illustrated by diagrams.


(608) BUREAU OF STATISTICS. DIVISION OF FOREIGN MARKETS. BULLETINS 1-37. 1895-1903. Statistics of cotton and other commodities are contained in a number of these bulletins, which include material regarding world markets for American products; distribution of agricultural exports of the United States, etc.

(609) BUREAU OF STATISTICS. DIVISION OF FOREIGN MARKETS. CIRCULARS 1-26. 1895-1903. Contain information regarding imports, exports, foreign trade, etc. Statistics of the cotton trade are included in most of these circulars.

(610) DIVISION OF STATISTICS. PRODUCTION AND DISTRIBUTION OF THE PRINCIPAL AGRICULTURAL PRODUCTS OF THE WORLD, COMPILED FROM OFFICIAL SOURCES. Div. Statis. Rpt. (misc. ser.) 5, 205 pp., illus. 1893. "The tables presented in this report may be grouped under three heads: (1) A general presentation of the production, imports and exports, of the various countries for which data are available of the products considered in the report; (2) a summary, so far as such a summarization is possible, of the net supply of each product available in the various countries; (3) a detailed statement of the production, imports, and exports of each product, for a period of years, for each country separately." Cotton, pp. 33-36. "In the absence of official data it has been thought best to present a commercial estimate of the world's crop, and the careful compilation of Mr. Thomas Ellison, of Liverpool, has been selected."

WATKINS, J. L


(612) THE COMMERCIAL COTTON CROPS OF 1900-1901, 1901-1902, AND 1902-1903. Bur. Statis. Bull. 28, 83 pp., illus. 1904. Tables give statistics of crops by States; shipments from railroad stations; progress of cotton spinning in the South; consumption at principal mill points; sea-island crops; prices and value of the crops; course of prices; cost of picking; exports and imports; world's spindles and consumption; acreage and crops since 1897; industry in Brazil; imports into Great Britain, 1895 to 1902; world's cotton crop, 1865-1902.

(613) CONSUMPTION OF COTTON IN THE COTTON STATES. Yearbook 1903: 463-478, illus. 1904. The history of southern cotton manufacturing from 1787 through 1903. Includes pictures of early mills. Tables for consumption and production, 1850-1903, in South Carolina, North Carolina, Georgia, Alabama, Tennessee, Virginia, and in the Southern States as a group.


(615) THE COTTON CROP OF 1895. Div. Statis Circ. 4, 14 pp., illus. 1896.
Studies the causes of the great fluctuations which sometimes occur in the prices of this commodity—how far prices have been governed by the law of supply and demand, and how far affected by artificial causes. “With this view the following tables have been prepared, showing the supply and consumption and surplus stocks of cotton in the United States, Great Britain, and Continental Europe, and its prices in the leading markets of the world. The period under consideration, for convenience, is divided decennially, and begins and ends with two of the most remarkable events in the history of cotton, namely, the introduction of Whitney’s saw gin (the invention was completed in 1793 and patented in 1794) and the production of the largest crop the world has ever seen. The figures prior to 1795 are given merely to show the rapid increase in the production of cotton brought about by the invention of Whitney’s saw gin.

In the compilation of the tables the estimates and prices furnished by Levi Woodbury, Secretary of the Treasury in 1836, the Liverpool Cotton Association, Thomas Ellison, A. B. Shepperson, E. J. Donnell, B. F. Nourse, Ott-Trumpler, and Latham, Alexander & Co., have been used. Other well-known and trustworthy authorities have been consulted.”

A summary of some of the most interesting events relating to the growth and consumption of cotton, and the most important facts affecting its prices follows each table. The commercial instead of the crop year is used. An abstract of this bulletin was issued under the title “Cotton and Currency,” 3 pp. [1895] (not seen).

COX, A. B. (624)
COTTON PRICES AND MARKETS. Dept. Bull. 1444, 78 pp., illus. 1926.

"An understanding of the marketing of cotton involves a knowledge of the demand for cotton, the supply of it, the machinery developed to bring demand and supply into trading relations, and the historical development of these three market factors. This analysis of the fundamental factors involved in cotton price making and this description of the markets in which prices are made is a contribution to that understanding." Illustrated by charts.

GIST, F. W., and POPE, J. D. (625)

Tables.

HOLMES, G. K. (626)
AGRICULTURAL PRODUCTION AND PRICES. Yearbook 1897: 577-606, illus. 1898.

Prices of cotton and wheat (pp. 594-595). Average prices of cotton per pound in New York and Liverpool, 1791 to 1896, by periods of years table (p. 594). Influences that depress prices (pp. 595-599). Includes discussion of transportation, cost of marketing, effect of inventions, results of use of fertilizers. Charges for marketing a bale of cotton, 1840 and 1897, table (p. 596).

HOWELL, L. D. (627)
COTTON PRICES TO GROWERS DO NOT REFLECT ACCURATELY VARIATIONS IN QUALITY. Yearbook 1931: 171-172, illus. 1931.

"Data on prices paid and on the classification of 107,247 bales sold during the season of 1928-29 in 143 local markets, representing as nearly as possible a cross section of the types of local markets in the United States, were collected and analyzed" in a study made by the United States Department of Agriculture. A summary of findings is discussed. Illustrated by charts of grade and staple length.

and BURGESS, J. S., JR. (628)

BURGESS, J. S., JR., and NEUBAUER, T. A. (629)


MYERS, LAWRENCE. (632)
FERTILIZER CONSUMPTION IN COTTON AREA VARIES WITH RETURN FROM CROP. Yearbook 1928: 292-293, illus. 1929.

Charts show "the average effect of fertilizer prices at planting time, cotton prices during the fall and winter prior to planting time, and yield per acre and acreage of the previous year's cotton crop upon the annual consumption of fertilizers in the cotton States" (p. 293).

SARLE, C. F. (633)
RELIABILITY AND ADEQUACY OF FARM-PRICE DATA. Dept. Bull. 1480. 66 pp., illus. 1927.

"This bulletin is designed to meet the needs of those students and research workers in the field of agricultural economics who may have occasion to work with the farm-price data which are collected and published by the Department of Agriculture. It is intended primarily for those students who are familiar with technical, statistical terms. The data published by the United States Department of Agriculture are too often taken for granted by the research worker, largely because the
reliability and adequacy of the data have never been fully analyzed. Many students would like to know what is back of farm-price data—how and when collected, and their most obvious limitations before trying to use them in some important economic problem.” Analysis of cotton and cottonseed prices, pp. 30-31. Farm prices of cotton and cottonseed: Selected illustrations of size of sample, measures of dispersion, and probable error, table 12 (p. 31).

SMITH, B. B.
FACTORS AFFECTING THE PRICE OF COTTON. Tech. Bull. 50, 75 pp., illus. 1928.

“...a study of factors influencing the yearly and monthly price variations over a period of 20 years. The first part * * * has been written in the nature of a general summary of results, followed by a detailed description of the methods used, the reasons for selecting certain data to represent factors of supply and demand, and the logic and assumptions underlying the study. To this latter section all readers are referred who are interested in the technic of price analysis.” Tables and charts are included.

STINE, O. C.
THE EFFECT OF THE BUSINESS DEPRESSION ON AGRICULTURE. ADDRESS, TWENTY-SECOND SEMI-ANNUAL MEETING, AMERICAN RAILWAY DEVELOPMENT ASSOCIATION, CHICAGO, DECEMBER 5, 1930. 4 pp., illus. Bur. Agr. Econ. [1930] [Mimeographed].

“Cotton prices have followed fairly closely the long-time swings in the general price level.” Cotton consumption and industrial production in the United States, 1919–1930, fig. 5.

PROGRESS IN PRICE ANALYSIS AND AN APPRAISAL OF SUCCESS IN PRICE FORECASTING. ADDRESS BEFORE THE ANNUAL MEETING OF THE AMERICAN FARM ECONOMIC ASSOCIATION, CHICAGO, DECEMBER 28, 1928. 8 pp., illus. Bur. Agr. Econ. [1928] [Mimeographed].

The writer states: “Let me illustrate the possible significance to farmers of some improvement in their knowledge of the real value of a product and the probable course of prices through a marketing season. I will use cotton as an illustration.” Charts, (1) Farm prices of cotton and index of retail prices of commodities farmers buy, 1910-30.—(2) Cotton: Farm marketings and farm prices, 1926-27, 1927-28.

TAYLOR, FRED.

Survey made in 1912-13 of Oklahoma and in 1913-14 of the remainder of the Cotton Belt. The conclusion is drawn from figures given that “practically no premium is paid for the grades above middling.” Tables are included.

UNITED STATES DEPARTMENT OF AGRICULTURE. BUREAU OF AGRICULTURAL ECONOMICS.

DISCUSSION OF PRICE FORECASTING AT A CONFERENCE WITH STATE REPRESENTATIVES. ANNUAL OUTLOOK MEETING OF THE BUREAU OF AGRICULTURAL ECONOMICS, JANUARY 26, 1928. 14 pp., illus. [1928] [Mimeographed].

COTTON AND COTTONSEED

United States Department of Agriculture. Bureau of Agricultural Economics (639)

Index Numbers of Farm Prices and Other Tables. 1925, 1927, 1928, 1931, 1932. [Mimeographed.]

Index numbers of cotton and cottonseed prices are included.

Warren, G. F. (640)

Prices of Farm Products in the United States. Dept. Bull. 999, 72 pp., illus. 1921.


Wells, O. V. (641)


For references to cotton see the index.

Marketing Methods and Practices

Beveridge, E. A. (642)


Deals with the usual so-called "square" bale, unless the context indicates a gin-compressed bale. "Tare" is used in the usual trade sense of the bagging and ties themselves, that is, the material used for covering. Estimated annual savings in the major items affected by tare standardization, table (p. 5).

Brand, C. J. (643)


Cook, O. F. (644)


Deals with the long-staple cotton situation. "The present tendency to buy long-staple cotton at flat prices like short-staple cotton does not encourage greater care and discrimination on the part of the farmer, but encourages the opposite tendencies to carelessness, loss of uniformity of fiber and degeneration of varieties."

Cox, A. B. (645)


Written "to picture the marketing facilities and the marketing processes as they are related to America and Americans, rather than to go into an analysis of the more fundamental demand and supply factors which explain price" (p. 5).

Marketing American Cotton on the Continent of Europe. Tech. Bull. 78, 95 pp., illus. 1928.

A description of marketing practices in Europe, centering around the larger markets in Germany, Belgium, Italy, Spain, and France.


A survey of the following services: Preparation; standardization; classing; assembling and distributing; warehousing; inspection and regulatory work; financing; and furnishing information (regarding demand, supply, price, personnel of buyers and sellers, etc.). Agencies of market information and data supplied, table 7 (p. 34). Sources of cotton prices, the data, and the publication in which they appear, table 8 (p. 35).

Crawford, G. L. (649)


Address, Economic Section, meeting of Southern Agricultural Workers, Jackson, Miss., February 6, 1930.
CRESWELL, C. F.  

DISADVANTAGES OF SELLING COTTON IN THE SEED. Dept. Bull. 375, 19 pp., illus. 1916.  

Reports an investigation conducted in Oklahoma during the season of 1913–14. It is shown by tables of price variations that in most cases losses resulted from selling cotton in the seed.

LOSSLFS FROM SELLING COTTON IN THE SEED. Farmers' Bull. 775 (rev. ed.), 10 pp., illus. 1926.  

Issued 1916; revised 1926 by G. S. Meloy.  

"Based on personal interviews during May and June of 1916 with farmers, ginners, oil-mill men, and others in all the important sections where cotton is sold in the seed, and on a study of seed-cotton marketing made in Oklahoma during the 1913–14 season." For the latter study, see Department Bulletin 375, Disadvantages of Selling Cotton in the Seed, by C. F. Creswell. 1916. (See item 650.)

HOLT, W. I.  

STANDARDIZED COTTON TARE IN EGYPT. Circ. 47, 14 pp., illus. 1928.  

"This study of the Egyptian methods of baling and marketing cotton is published in the hope that it will suggest practical methods for improving the American bale."

Principal among the advantages of the Egyptian bale are the following: "Uniformity of bale * * *; completeness of protection afforded the cotton by the covering; regularity of tare; lightness of tare; square heads, or ends, facilitating storage; and general neatness of the package" (p. 2). A discussion of the relation of Egyptian marketing methods and the Egyptian bale is included. "Tare" is used in this circular to mean "the collective weight of covering and bands put on bale."

MCCONNELL, O. J., and CAMP, W. R.  

A STUDY OF COTTON MARKET CONDITIONS IN NORTH CAROLINA WITH A VIEW TO THEIR IMPROVEMENT. Dept. Bull. 476, 19 pp., illus. 1917.  

"This investigation was confined to the eastern part of the State during the season of 1914-15, and embraced all cotton-producing sections during the season of 1915-16." An attempt was made to ascertain the value to the farmer of his knowing the class of his cotton before selling it. It was found that classed cotton sold at a primary market increased the price paid for unclassed cotton in the same market about 50 cents per bale. Includes a discussion of related problems.

SUGGESTED IMPROVEMENTS IN METHODS OF SELLING COTTON BY FARMERS, BASED ON A COMPARISON OF COTTON PRODUCERS' AND CONSUMERS' PRICES. Dept. Circ. 56, 8 pp., illus. 1919.  

"The average cotton mill in North Carolina paid about $11.50 per bale more than North Carolina farmers received for the same class of cotton during the period covered by the investigation" [1916–17 and 1917–18 seasons] (p. 6). After a comparison of cotton producers' and consumers' prices, suggestion is made of the following improvements in farmers' selling methods: (1) The production of such cotton as the mills need; (2) the erection of a compress and ample storage and shed space at some central point or points in the main producing area; (3) a disinterested classing service; (4) better ginning facilities; (5) the shipment of less damaged cotton to the mills; (6) cultivation of varieties that produce a better staple.

MARTIN, J. G., and WHITE, G. C.  

HANDLING AND MARKETING DURANGO COTTON IN THE IMPERIAL VALLEY. Dept. Bull. 458, 22 pp., illus. 1917.  

Investigations made in 1915 in the Imperial Valley of California.


Classing the Arizona-Egyptian cotton, pp. 7–8; staples, pp. 9–10.

SCOFIELD, C. S.  

STRAP ON THE COTTON AND COTTONSEED, 71

SHERMAN, W. A., TAYLOR, Fred, and BRAND, C. J. (658)

STUDIES OF PRIMARY COTTON MARKET CONDITIONS IN OKLAHOMA. Dept. Bull. 36, 36 pp., illus. [1913]

A survey, begun in October 1912, of 103 towns in Oklahoma shows relation of grade and staple to prices paid in local markets, and irregularities in prices of identical cotton in the same markets on the same dates. Includes discussion of selling cotton in the seed and of marketing "bolly" and "gathered" cotton.

UNITED STATES DEPARTMENT OF AGRICULTURE. BUREAU OF AGRICULTURAL ECONOMICS.

AVOIDABLE LOSSES IN COTTON HANDLING. STENOGRAPHIC TRANSCRIPT OF PROCEEDINGS OF CONFERENCE HELD FEBRUARY 24, 1925, AT WASHINGTON, D. C. 57 pp. [1925] [mimeographed.]

The conference was attended by Government officials, representatives of cotton exchanges and associations, manufacturers, editors, and others.

WEIGHT, J. W., and CHEATHAM, R. J. (660)


Appendix A. Abstract of State laws relating to cotton tare (pp. 58-61.)—Appendix B. Abstract of tare rules of cotton exchanges and trade associations (pp. 61-73.)

COMMERCIAL CLASSIFICATION

EARLE, D. E., and TAYLOR, Fred. (661)

CLASSIFICATION OF AMERICAN UPLAND COTTON. Farmers' Bull. 802, 28 pp., illus. 1917.


FINCH, C. L. (662)

COTTON CLASSIFICATION SERVICE IS MAINTAINED UNDER STANDARDS ACT. Yearbook 1928: 233, illus. 1929.

A short description of the cotton classification service of the Division of Cotton Marketing, Bureau of Agricultural Economics.

PALMER, A. W. (663)

THE COMMERCIAL CLASSIFICATION OF AMERICAN COTTON, WITH REFERENCE TO THE STANDARDS FOR GRADE, COLOR, AND STAPLE. Dept. Circ. 278, 36 pp., illus. 1924.

UNITED STATES DEPARTMENT OF AGRICULTURE. BUREAU OF AGRICULTURAL ECONOMICS. DIVISION OF COTTON MARKETING.

OFFICIAL CLASSIFICATION OF COTTON. SERVICE AVAILABLE UNDER COTTON STANDARDS ACT TO GROWERS, MERCHANTS, SPINNERS, AND OTHERS. 3 pp. [1931?] [mimeographed.]

STORAGE

BRAND, C. J., and SHERMAN, W. A. (665)


Reports of experiments at Bennettsville, S. C., during the picking season of 1912. Discusses temperature in unginned cotton stored under varying conditions; and moisture conditions in unginned cotton in farm storage. Results show "the perfect safety with which considerable bodies of mature seed cotton can be stored if care is taken to have the cotton free from exterior moisture when stored." The effect on seed germination of temperatures developed during storage: "The practical point to be observed is that cotton from which planting seed is to be saved must be so thoroughly dried out before bulking or must be spread out in such thin layers as to prevent any noticeable development of heat if the germination of the seed is not to be affected."

NEWTON R. L., and WORKMAN, J. M. (666)

COTTON WAREHOUSING—BENEFITS OF AN ADEQUATE SYSTEM; WITH A DISCUSSION OF THE RECEIPT UNDER THE UNITED STATES WAREHOUSE ACT. Yearbook 1918: 399-432, illus. 1919.

"Graphic presentation of the fluctuations of New York spot price levels for middling upland cotton as related to the 'into-sight' movement and the heavy marketing period" fig. 1 (pp. 402-403.)
NEWTON, R. L., and HUMPHREY, J. R. (667)
A SYSTEM OF ACCOUNTS FOR COTTON WAREHOUSES. Dept. Bull. 520, 31 pp., illus. 1917.

NIXON, R. L. (668)
COTTON WAREHOUSE CONSTRUCTION. Dept. Bull. 277, 38 pp., illus. 1915.

Descriptions and diagrams of several types of standard warehouses.

COTTON WAREHOUSES: STORAGE FACILITIES NOW AVAILABLE IN THE SOUTH. Dept. Bull. 216, 26 pp., illus. [1915]
Results of warehouse survey of Georgia and North Carolina made early in 1914. Some data for other Southern States also included. Discusses present number and conditions of warehouses, insurance rates and importance of proper warehousing.

WEATHER DAMAGE TO COTTON. Dept. Bull. 1438, 15 pp., illus. 1926.
"The findings of the experiments here described should be useful in combating the prevalent belief, especially on the part of farmers, that the exposure of baled cotton to unfavorable weather does not reduce the value of the product. The data emphasize the desirability of storing cotton in proper warehouses immediately after ginning and point out the best method of storing cotton in the open when it is necessary to do so. "Weather damage", as here used, means damage resulting to the cotton fibers on account of an excess of moisture."

Six tests were conducted at five representative points in the Cotton Belt as follows: (1) Little Rock, Ark., November 25, 1918, to June 7, 1919; (2) Raleigh, N.C., November 20, 1918, to June 9, 1919; (3) Dallas, Tex., December 23, 1919, to August 3, 1920; (4) Raleigh, N.C., January 15, 1920, to August 24, 1920; (5) Jefferson, Ga., January 10, 1920, to August 26, 1920; (6) Dunn, N.C., December 13, 1921, to July 31, 1922.

STEECE, H. M., compiler. (671)
Also in Agr. Jour. India, March 1929 issue, pp. 127-134.

WORKMAN, J. M. (672)
CONSTRUCTION AND FIRE PROTECTION OF COTTON WAREHOUSES. Dept. Bull. 801, 79 pp., illus. 1919.
Standard warehouse plans are given in an appendix.

COOPERATIVE MARKETING

CHRISTENSEN, C. L. (673)
BUSINESS SET-UP OF A COOPERATIVE MARKETING ASSOCIATION. Dept. Circ. 403, 14 pp. 1926.
The Staple Cotton Cooperative Association, pp. 6-7. Discussion is based on a business study and analysis made by the United States Department of Agriculture. (See item 684.)

ELSWORTH, R. H. (674)
Cotton and cotton-products associations, pp. 33-36. "The 121 associations listed by the Department in 1925 included 15 large-scale associations engaged in marketing cotton, approximately 50 cooperative cotton gins, and about 50 small associations performing miscellaneous functions." Cotton marketed by centralized associations and value, 1921-26, table 12 (p. 34).

COOPERATIVE MARKETING AND PURCHASING, 1920-1930. Circ. 121, 121 pp., illus. 1930.
"The material now presented includes data based on a count of the active farmers' business associations in 1930, with estimates as to the membership in 1925 for each of the States in the various commodity groups and estimates on the same basis for the business transactions for the 1927-28 marketing season. This information will bring up to date the more important part of Technical Bulletin No. 40." (See item 674.) Cooperative associations for handling cotton, pp. 12-15.
COTTON AND COTTONSEED

ELSWORTH, R. H. (676)
Issued 1924; revised 1925.
State and regional cotton marketing associations. June 1924, table 56 (p. 63).

GARDNER, CHASTINA, compiler. (677)
coopération in agriculture. A selected and annotated reading list, with special reference to purchasing, marketing, and credit. Including only works printed in English. Misc. Circ. 97, 76 pp. 1927.
Supersedes Miscellaneous Circular 11, Agricultural Cooperation: A Selected and Annotated List with Special Reference to Purchasing, Marketing, and Credit, by Chastina Gardner. 1923.

GATLIN, G. O. (678)
cooperative marketing of cotton. Dept. Bull. 1392, 48 pp., illus. 1926.

HATHCOCK, J. S. (679)
A list is given of economic services rendered advantageously to the grower by the cooperative associations.

HATCH, OLIVER B., and KERR, W. H. (680)
significance of recent changes in the cooperative marketing of cotton. 11 pp. Bur. Agr. Econ. [1929] [Mimeographed.]
Address at cooperative-marketing school, Stillwater, Okla., February 20, 1929.

JONES, J. W., and JESNESS, O. B. (681)
cooperative purchasing and marketing organizations among farmers in the United States. Dept. Bull. 547, 82 pp., illus. 1917
History, present forms, statistics, and digest of laws of cooperative organizations. Cotton organizations, pp. 34-35. "Reports were received from 213 cotton associations distributed among 14 States. Over one-half of them are located in the States of Texas and Georgia, the former reporting 71 and the latter 44. Alabama reported 19, Arkansas 15, South Carolina 14, Oklahoma 13, Mississippi 11, and North Carolina 10; and the remainder are scattered over the cotton-producing States of the South. Practically all are cotton warehousing associations. Comparing the number of grain elevators and the number of cotton associations, it is evident that the cotton growers of the South are not nearly as well organized as the grain growers of the North Central States." Tables list type of organization, volume of business, and number of members of organizations reporting, by States and kinds of business (pp. 14-24).

JESNESS, O. B., and KERR, W. H. (682)
membership relations of cooperative associations (cotton and tobacco). Dept. Circ. 407, 28 pp., illus. 1927.

MANNY, T. B. (683)
farmers' experiences and opinions as factors influencing their cotton-marketing methods. Circ. 144, 63 pp., illus. 1931
One of several studies undertaken by the Bureau of Agricultural Economics during 1928-29 for the purpose of analyzing existing cotton marketing conditions. The objectives of this study may be briefly outlined as follows: To determine farmers' experiences in selling cotton through various methods during the period 1920-30; to find out the characteristics of members and nonmembers of cotton cooperative marketing associations; to find out what these farmers think as to what the associations have and have not accomplished; to ascertain possibilities of increasing membership in cotton cooperative-marketing associations. Data and conclusions are based on personal interviews which were held in 1928 with farmers in six counties in North Carolina and Georgia. "Only farmers who have control of marketing the cotton crops that they or their tenants grow" were interviewed. "It is suggested that the findings be accepted as tentative for the larger areas."
FARMERS’ COOPERATIVE BUSINESS STUDY. THE STAPLE COTTON COOPERATIVE ASSOCIATION. Dept. Circ. 397, 56 pp., illus. 1926.

"The purpose of the study was to cover thoroughly every feature of the association’s operations during the 4 years of its existence [1921–25] and to bring out, if possible, the experiences which would be helpful to other cooperatives."

UNITED STATES DEPARTMENT OF AGRICULTURE. BUREAU OF AGRICULTURAL ECONOMICS. DIVISION OF COOPERATIVE MARKETING. (685)

FARMERS’ BUSINESS ASSOCIATIONS, LIST PREPARED FROM REPORTS RECEIVED BY THE DIVISION OF COOPERATIVE MARKETING, BUREAU OF AGRICULTURAL ECONOMICS, UNITED STATES DEPARTMENT OF AGRICULTURE, WASHINGTON, D.C., JULY 1, 1929. [1929] [Mimeographed.]

Part 1. Cotton and cotton products (5 pp.)

FIBER QUALITY

GENERAL

ALLARD, H. A. (680)


The writer states that the apparently un-uniform longer fibers often found in upland cottons “are not longer fibers as they have been generally considered, but are caused by more or less curling and interweaving, which results in the pulling out of fibers from adjacent seeds” (p. 14).

Chandler, E. E. (687)


DEWEY, L. H., and Goodloe, Marie. (689)


Strength of cotton fibers, pp. 17–19; tensile strength of cotton fibers, by varieties, table I (p. 19); diameters of cotton fibers, table II (p. 19); American upland, sea-island, Egyptian (American grown); photograph of fiber tester used in Office of Fiber Investigations, fig. 1 (p. 18); strength of long fibers [bast and hard fibers] (pp. 19–21).

DODGE, C. R. (691)


Gossypium spp. Cotton, pp. 174–186. Common and native names in various counties; habitat and species; surface fiber; cultivation in various sections of the world; cotton industry of the United States, including cultivation, ginning, baling, manufacture; use of the bast fiber.


Gossypium herbaceum. Cotton, pp. 513–517. Origin, history, production; and description of samples in the museum of the Department of Agriculture.

Appendix III, list of patents for fiber machinery and processes (pp. 609–611). List of patents granted, 1875–79, “for inventions for obtaining and preparing fibrous substances other than cotton and wool, with name of inventor and date of issue.”

Hawkins, R. S., and Serviss, G. H. (692)


“The data included in the present publication relate to the life history of two types of cotton fibers developing in successive periods during the growing season of 1926.” The plants were grown at the Salt River Valley Experiment Station.
Hawkins, R. S., and Serviss, G. H. (693)


The extent of fluffiness in the boll, and the color, plumpness, and maturity of a representative quantity of the delinted seed are indicative of the amount of immature fibers present.

Keeney, T. H. (694)


Investigations were made upon material collected in two pickings of Yuma cotton at Sacaton, Ariz., in fall of 1911. "The earliest ripening bolls (chiefly those near the base of the plant), which open while extremely high temperatures prevail, are likely to contain less abundant, shorter, weaker, coarser, and less uniform fiber than bolls which ripen later."

and Harrison, G. J. (695)


Investigations on Pima cotton grown under irrigation at the United States Field Station at Sacaton, Ariz. "The fiber in the bolls borne on fruiting branches at nodes 9 to 14, from which a large part of the first picking probably is derived, is decidedly shorter than the fiber produced higher on the plant."

and Scofield, C. S. (696)


Palmer, A. W. (697)

Cotton-fiber research points way to better marketing practices. Yearbook 1928: 235-236, illus. 1929.

"An evaluation of the properties of cotton fibers is the key to the extension of the standards system and to further simplification and refinement of existing standards."

Pope, O. A. (698)


Sheppard, W. (699)


Composition of ash residuum of burnt cottonseed and of cotton wool.

Taylor, Thomas. (700)


Fiji Island cotton, pp. 192-193. The writer discusses "artificial knots" seen with microscope and concludes that they are caused by the use of rollers in ginning.

United States Patent Office. (701)


Consists of replies to a questionnaire sent manufacturers in different parts of the United States "in consequence of a degree of uncertainty prevailing in regard to the amount of injury or loss sustained by careless harvesting and ginning." The following questions are among those discussed: "(1) Does the well-matured cotton-boll yield its staple, or fibre, of different lengths in one or the same boll or lock; or does the product of an individual seed exhibit an approximate uniformity in its length before separation by the gin? * * * (4) What is the percentage of loss arising from shortened or divided fibre, caused by ginning, which flies off during the process of manufacturing; and how much * * * are the strength and durability of * * * fabrics diminished in consequence of such breakage or division? (5) Has the general condition of cotton staple, as to length and strength, deteriorated within the last 20 years?" Continued in U.S. Commr. Patents Rpt. 1854 (Agr.): 181-186. 1855.

Remarks on the cottons of India. [From the reports of the juries of the Exhibition of the Works of Industry of all Nations at London, 1851 pp. 195-197.
SPINNING AND MANUFACTURING TESTS

CAMPBELL, M. E. (702)

——— and WILLIS, H. H. (703)

COBB, N. A. (704)
TESTS OF THE WASTE, TENSIILE STRENGTH, AND BLEACHING QUALITIES OF THE DIFFERENT GRADES OF COTTON AS STANDARDIZED BY THE UNITED STATES GOVERNMENT. Dept. Bull. 62, 8 pp., illus. [1914.]

Preliminary statements of tests made at certain institutions and mills. Sources of cotton used and mill conditions of the experiments are described.

DEAN, W. S. (705)
MANUFACTURING TESTS OF COTTON FUMIGATED WITH HYDROCYANIC-ACID GAS. Dept. Bull. 366, 12 pp., illus. 1916.

Tests on cotton (Sakeellaridis Egyptian) fumigated for the destruction of pink bollworm larvae. Results indicated that fumigation does not materially affect "the percentages of waste, spinning qualities, tensile strength, bleaching, dyeing, or mercerizing properties of the cotton."

——— and TAYLOR, FRED. (706)

Tests showed that "after making allowances for the losses due to the cleaning processes there is comparatively little difference between the grades above and those below middling in the price paid by the manufacturer for each pound of the usable cotton obtained from bales of the different grades, but that there is a difference in the intrinsic value per pound of the manufactured product" (p. 27).

MEADOWS, W. R., and BLAIR, W. G. (707)
COMPARATIVE SPINNING TESTS OF MEADE AND SEA-ISLAND COTTONS. Dept. Bull. 346, 5 pp., illus. 1921.

"Comparing the breaking strength of the Meade and sea-island yarns for the three seasons [1916-17, 1918-19, 1919-20], a difference of 17.2 pounds was found in favor of the sea-island for the 23's yarn and 1.68 pounds for the 100's yarn."

——— and BLAIR, W. G. (708)
COMPARATIVE SPINNING TESTS OF SUPERIOR VARIETIES OF COTTON (GROWN UNDER WEEVIL CONDITIONS IN THE SOUTHEASTERN STATES; CROP OF 1921). Dept. Bull. 1148, 7 pp., illus. 1923.

The tests "were conducted to determine the relative spinning value of cotton commercially thought to be of superior character with that of a number of pure strains of superior varieties of cotton. All were grown under bollweevil conditions in the southeastern cotton States during the season of 1921." Results showed spinning advantages of fiber produced by purebred strains of superior varieties over fiber produced from commercial seed.

——— and BLAIR, W. G. (709)
PRELIMINARY MANUFACTURING TESTS OF THE OFFICIAL COTTON STANDARDS OF THE UNITED STATES FOR COLOR FOR UPLAND TINGED AND STAINED COTTON. Dept. Bull. 990, 12 pp., illus. 1921.

——— and BLAIR, W. G. (710)
SPINNING TESTS OF COTTON COMPRESSED TO DIFFERENT DENSITIES. Dept. Bull. 1135, 19 pp., illus. 1923.

"Tests showed that compressing cotton to standard or high density when in a dry or normal condition is not injurious to its spinning value."

——— and BLAIR, W. G. (711)
COTTOK AND COTTOKSEED

TAYLOR, Fred, and Dean, W. S. (712)
COMPARATIVE SPINNING TESTS OF THE DIFFERENT GRADES OF ARIZONA-EGYPTIAN WITH SEA ISLAND AND SAKELLARIDIS EGYPTIAN COTTONS. Dept. Bull. 359, 21 pp., illus. 1916.

"The difference in the tensile strength of yarn made from the three kinds of cotton was practically negligible. * * * After bleaching, dyeing and mercerizing, the Arizona-Egyptian and sea-island cottons were practically equal and slightly superior to the Sakellaridis."

and EARLE, D. E. (713)
MANUFACTURING AND LABORATORY TESTS TO PRODUCE AN IMPROVED COTTON AIRPLANE FABRIC. Dept. Bull. 882, 48 pp., illus. 1920.

Varieties tested were Pima, sea-island and high-grade Sakellaridis-Egyptian. Sakellaridis-Egyptian gave the strongest yarn and cloth. Signal Corps specifications for airplane cloth, pp. 2-6. Elasticity curves (figs. 1-23).

and SHERMAN, W. A. (714)
SPINNING TESTS OF UPLAND LONG-STAPLE COTTONS. Dept. Bull. 121, 20 pp., illus. [1914.]

"Tests of upland long-staple cotton as compared with Deltas of the 1912 crop" showed that certain varieties being produced in the Southeast were "fully equal in almost every respect to average Deltas of the same length."

WILLIS, H. H. (715)

Results of a test "to determine the relative spinning value of cottons harvested by the three methods—picking, snapping, and sledging—the snapped and sledded cottons having been passed through a boll extractor. Other factors such as variety and, in so far as possible, environment, were identical. A subtest was also conducted on sledded cotton to study the effect of an additional process of cleaning in the picker room."


Discusses the work of the cotton-testing project of the Bureau of Agricultural Economics, United States Department of Agriculture. Includes a description of the cotton-fiber laboratory.


and CUMMINGS, E. S. (719)

Conducted to determine the relative spinning value of three grades of representative cotton grown in certain sections of South Carolina.


The varieties tested were Acala, Mexican no. 6, Mexican no. 14, Mexican no. 18, Trice, Sugar Loaf, and Cleveland, grown in several counties in the eastern part of North Carolina.
WILLIS, H. H. (723)
Conducted to study the comparative spinning value of seven well-known varieties grown in South Carolina: Deltatype no. 4, Hartsville no. 20, Deltatype-Webber no. 49, Dixie Triumph, Piedmont-Cleveland, Coker-Cleveland, and Wannamaker-Cleveland.


and MCNAMARA, H. C.

UTILIZATION OF PIMA COTTON. Dept. Bull. 1184, 27 pp., illus. 1922.
"The purpose of this bulletin is to discuss some of the objections current among manufacturers regarding the production, the textile qualities, and the utilization of Pima cotton as found during a cooperative investigation conducted by the Bureau of Plant Industry, the Bureau of Agricultural Economics, and the Arizona Pima Cotton Growers." Pima cotton compared with Sakellaridis in strength and capability for mercerization, pp. 7-10.

COLOR STUDIES
NICKERSON, DOROTHY. (729)
Literature cited, pp. 35-36.

and WELSH, C. F., compilers. (730)
Compiled for use in standardization work.

COLOR MEASUREMENT OF FARM PRODUCTS IS A FACTOR IN GRADING. Yearbook 1928: 206-208, illus. 1929.

COTTON PROGRESSIVELY LOWERED IN GRADE BY EXPOSURE, TESTS SHOW. Yearbook 1932: 150-152, illus. 1932.
Methods of procedure and some results of a color study made in 1930 by the United States Department of Agriculture on cotton grown at the South Carolina Agricultural Experiment Station at Clemson College.

"Experiments made on cotton are used throughout this bulletin as an example of what may be done with other products. They include spectrophotometric, photometric, and colorimetric measurements. In order to illustrate how these color readings may be translated into terms which may be used by nonscientific workers the development of hay conversion tables is described."

To determine the kind and amount of color change in cotton and to study the extent to which other factors are related to these changes, a series of seven cottons from different parts of the Cotton Belt was examined. One cotton was examined for the 1931 season; six other cottons were added for the study of 1932 cotton. Results are summarized as follows: "The chief points are that: (1) Upland cottons at time of opening were fairly constant in brightness; (2) upland cottons at time of opening varied greatly in amount of creaminess or chroma; (3) the creamier cottons held their brightness better than did the whiter cottons; and (4) in most cases there seemed to be a high correlation between amount of rainfall and change in brightness."

UTILIZATION

GENERAL

BENTON, M. C., compiler. (735)

This bibliography lists references to books, pamphlets, and periodical articles which show the variety of uses for cotton. No attempt has been made to include references to uses for cottonseed and cottonseed products, although several such uses appear in connection with other references. With a few exceptions the period covered is 1910 to November 1932, inclusive.

BRAND, C. J. (736)
CROP PLANTS FOR PAPER MAKING. Bur. Plant Indus. Circ. 82, 19 pp., illus. 1911.

"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.


Cheatham, R. J., Fetrow, W. W., and Farrington, C. C. (738)

"It is estimated that the power laundries of the United States consumed about 52,000 bales of cotton during 1928, through wash nets, twine, padding, sheeting, laundry bags, double-faced felt, and cover duck" (p. 16). Statistical data for various uses are included.

and Wigington, J. T. (739)

STRANG, P. M. and CLEAVES, FLORENA. (740)

NEW USES FOR COTTON . . . ADDRESS, FARMERS' WEEK, CLEMSON COLLEGE, SOUTH CAROLINA, AUGUST 7, 1929. 6 pp. Bur. Agr. Econ. [1929] [Mimeographed.]

"Broadly speaking, the uses of cotton may be grouped under three heads, depending upon whether the manufactured product is intended (1) for clothing, (2) for use in the building trades or other industries, or (3) for household furnishings."
CHEATHAM, R. J., MELOY, G. S., and WIGINGTON, J. T. (742)  
Chart listing uses of cotton fiber and cottonseed. The uses of the  
fiber are subdivided into agricultural, household, industrial uses, and  
wearing apparel. Uses of cottonseed are listed as derived from oil, meal,  
linters, and hulls.

GROGGINS, P. H. (743)  
VAT DYES PLAY BIG PART IN BROADENING COTTON GOODS MARKET.  Yearbook  
1931: 537.  1931.  
"The utilization of printing methods for applying vat colors on lustrous  
cotton goods has made possible the manufacture of fabrics which are at  
one serviceable and attractive."

HOLMAN, H. P., LEVINE, B. S., and JARRELL, T. D. (744)  
WATERPROOFING AND MILDEWPROOFING OF COTTON DUCK.  Farmers' Bull.  
1157 (rev. ed.), 10 pp., illus. 1931.  
Issued 11/20; revised 1931.  
Care of cotton duck or canvas on the farm, where it is used "for the  
protection of machinery, sacked grain, shocks, stacks and ricks, for  
wagon and truck covers, for awnings and temporary shelters, for horse  
covers, and for catching grain which falls to the ground during  
threshing."

JARRELL, T. D., and HOLMAN, H. P. (745)  
WATERPROOFING OF CANVAS. REVIEW OF INVESTIGATIONS. 7 pp.  
Bur. Chem. and Soils, 1927. [Mimeographed.]  
Presented before the Sixteenth Annual Convention of the National  
Tent and Awning Manufacturers' Association, Long Beach, New York,  
October 11-14, 1927.  
Answers "as briefly and simply as possible a number of questions  
that might be asked" regarding the waterproofing of canvas, such as:  
How does waterproofing affect the durability of canvas? What are the  
best treatments for paulins, light-weight tent fabrics, and awning mate- 
rials? How can treated canvas be tested for water resistance?

KILLOUGH, H. B. (746)  
A PARTIAL LIST OF USES OF AMERICAN RAW COTTON. A PRELIMINARY REPORT.  
1927. [Mimeographed.]  
"Some of the principal secondary sources of information about uses  
for cotton", pp. 16-19.  
Tabulations indicate "in so far as possible: (1) Uses for the finished  
product, (2) grades and staples of cotton required in the manufacture  
of different fabrics, and (3) relative proportions of the total consumption  
of raw cotton in the United States which the different manufactures  
classes of manufacture represent."

O'BRIEN, RUTH. (747)  
SELECTION OF COTTON FABRICS.  Farmers' Bull. 1449, 22 pp., illus. 1926.  
Lists the standard cotton fabrics, classified according to suitability  
for various uses; discusses and illustrates details of fabric construction.  
Glossary of some common cotton fabrics, pp. 19-22.

PHILLIPS, MAX. (748)  
LIGNIN, FARM BYPRODUCT, NOW WASTED, MAY SUPPLY CHEAP ORGANIC CHEM- 
"The various byproducts of the agricultural industry, such as cereal  
straws, cotton stalks, corn stalks, and hulls, are composed principally of  
carbohydrates, chiefly cellulose and pentosans, and a substance called  
lignin."

UNITED STATES DEPARTMENT OF AGRICULTURE. [BUREAU OF AGRICULTURAL  
ECONOMICS. DIVISION OF INFORMATION.] (749)  
AGRICULTURAL AND INDUSTRIAL USES OF COTTON. SOME FACTS IN CONNECTION  
WITH THE EXHIBIT AT THE NATIONAL COTTON SHOW, MEMPHIS, TENNESSEE,  
SEPT. 28-OCT. 5, 1929. 4 pp. [1929] [Mimeographed.]  
[Prepared by J. C. Gilbert.]  
The exhibit was sponsored by the New Uses for Cotton Committee.  
Some of the industries using cotton, list (p. 4).
COTTON AND COTTONSEED

BAGS AND OTHER CONTAINERS


UNITED STATES DEPARTMENT OF AGRICULTURE. BUREAU OF AGRICULTURAL ECONOMICS. DIVISION OF FRUITS AND VEGETABLES. (755) use of consumer packages in marketing potatoes. 3 pp. [1930] [Mimeographed.]


HOUSEHOLD USES

O'BRIEN, RUTH. (757) textile buying for the home would be aided by system of labeling. Yearbook 1931: 513-516. 1931.

"A large gap now exists between the technical information in regard to fabric manufacture and the practical information of value in everyday living * * * It is this type of research upon which the Bureau of Home Economics is making a beginning." A study on the "relative wearing qualities of sheets made with different grades of cotton of the same staple length" is discussed.

UNITED STATES DEPARTMENT OF AGRICULTURE. BUREAU OF AGRICULTURAL ECONOMICS. DIVISION OF INFORMATION. (758) cotton in the home: an exhibit prepared by the United States departments of agriculture and commerce, and the cotton textile institute, cooperating, national cotton show, memphis, tenn., september 28 to october 5, 1929. 8 pp. [1929] [Mimeographed.]

Prepared by J. C. Gilbert.
List of uses of cotton in a 4-room house, pp. 4-5.


From the Jackson (Mss.) Southron.
The advantages of cotton for use in mattresses, and an analysis of the cost of a cotton mattress. Among advantages mentioned is the "medicinal value" of cotton: it is stated that "raw cotton, worn on the parts affected, is one of the best and most effectual cures for rheumatic affections" (p. 75).


Some results of tests made by the Bureau of Agricultural Economics and the Bureau of Home Economics on experimental fabrics. A new cotton material is compared with various kinds of burlap ordinarily used for hooked-rug foundations, table 13 (p. 560).
Wearing Apparel

Campbell, Maude.
Dresses for the Little Girl. Leaflet 26, 7 pp., illus. 1928.
Cotton dresses are recommended.

Clark, E. L.
"The purposes of this study were: First, to find how the use of cotton, silk, and rayon in the different garments worn by men and women had changed during the preceding 5 years; and second, to determine the extent to which cotton is used in household articles at present and whether there is a tendency for its use in these articles to increase or decrease relative to other textile fibers."

Summary of answers of 231 farm women to a survey, conducted in 1927 by the Bureau of Home Economics, of the uses of cotton in clothing and household articles.

Davis, M. A.
Children's Rompers. Leaflet 11, 7 pp., illus. [1927.]
Suggestions for rompers made of cotton fabrics.

Downey, K. M.
Discusses results of data from a study made by the Bureau of Home Economics of cotton and woolen materials for children's wear. "The results obtained * * * seem to indicate that the needed protection from wind and moisture will be given by one of the tightly woven, low permeability materials such as the new American cotton or a proofed sailcloth." A comparison of the construction, weight, and tensile strength of a representative group of the fabrics [cotton and woolen], table 7, (p. 223).

Hays, M. B., compiler.

Hess, Katherine, Floyd, E. V., and Baker, Lilian.
"The following fabrics commonly used in clothing were studied: Canton flannel, nap in and nap out; knit cotton underwear; knit infant's vest, wool and cotton; navy-blue flannel; and gray astrakhan, pile in and pile out."

Hamilton, J. O., and Justin, Margaret.
"The data submitted from a number of tests tend to prove that the protection from sunburn afforded the skin by fabrics depends primarily upon the percent of interspace due to weave but that the vegetable fibers, cotton and linen, transmit some of the rays that burn and tan, thus offering a small coefficient of protection, whereas the animal fibers, silk and wool, absorb a larger portion of these rays, thus offering a higher coefficient of protection. Due to the fact that temperature is a factor in the burning of the skin the greater conductivity of cotton and linen, as compared with that of silk and wool, might in a measure account for the higher prospective value of silk and wool."

O'Brien, Ruth, Peterson, E. C., and Worne, R. K.
Includes references to books and articles in English, French, and German.
References to properties of cotton, subject index, p. 143.

The suitability of cotton for summer garments is discussed; the possibilities of industrial cloths, such as osnaburg, for household decoration are mentioned.


"An attempt was made recently [by the Bureau of Home Economics] to determine the influence of dress styles and patterns on the consumption of yardage. The results of the study showed that during the past 10 years there has been a marked decrease in the amount of fabric required for women's dresses. About 2 yards less of material is needed now for each dress than was required in 1918."

SUN SUITS FOR CHILDREN. Leaflet 24, 7 pp., illus. 1928.

Includes pictures of suits made of cotton.


DRESSES FOR LITTLE GIRLS. Leaflet 80, 8 pp., illus. 1931.

Cotton materials are recommended.

ENSEMBLES FOR SUNNY DAYS. Leaflet 63, 4 pp., illus. 1930.

Cotton is used for these garments.

ROMPERS. Leaflet 79, 8 pp., illus. 1931.

Cotton broadcloth is used.

SUTS FOR THE SMALL BOY. Leaflet 52 (rev. ed.), 8 pp., Illus. 1930.

Issued 1929; revised 1930.

"Children may wear cotton fabrics the year round provided the underwear is adjusted to the season. Heavy cottons such as jean, madras, and piqué may be used for winter wear" (p. 7).

VAN DEMAN, Ruth, compiler.


COTTON, pp. 5–7.

VIERMONT, B. M.

PLAY SUITS FOR WINTER. Leaflet 54, 8 pp. illus. 1929.

"For many years wool fabrics were considered the only ones that would really hold in heat. Recently, however, cotton materials that compare favorably with the wools, are appearing on the market. Although they may not replace wool entirely, in some cases they may be used to advantage."

FABRIC FINISHING AND LAUNDERING

DOWNEY, K. M.


Tests were made by the Bureau of Home Economics on sheets, manufactured under supervision of the Bureau of Agricultural Economics from known grades of raw cotton. A method for measuring the degree of scorch is discussed. Photographs of materials, yarns, and fibers show weakening effect of scorch.

FURRY, M. S.

SOME PHYSICAL PROPERTIES OF STARCH PASTES WHICH AFFECT THEIR STIFFENING POWER ON FABRICS. Tech. Bull. 284, 18 pp., illus. 1932.

"This study shows that the stiffness of a sized fabric depends on the penetrating and coating powers of starch pastes, and these factors in turn depend in a general way on the consistency of the pastes. The size of the swollen starch granules bears a definite relation to the penetrating and coating powers of the starch pastes." Photomicrographs are included.
HILL, A. E.  (782)


*"A comparative study of the black constituents suggested for use in experimental soiling methods results in the recommendation of Oildag for this purpose. Samples soiled with mixtures containing this material are of uniform and reproducible brightness."

PETERSON, E. C.  (783)


*Experiments have been made in the Bureau of Home Economics approximately 25 different common cotton fabrics were laundered and ironed but not resized. The effect of the laundering operation was then observed by making a comparison between the original and the laundered fabrics."

and DANTZIG, TOBIAS.  (784)


*"As a part of the study on starches and other sizing agents for finishing new fabrics and restoring the finish to laundered materials, a quantitative method of measuring stiffness in fabrics has been developed in the Bureau of Home Economics."

and DANTZIG, TOBIAS.  (785)


*Literature cited, pp. 27-29.

Stiffness has been considered an important property included in the term "feel." "A physical method for measuring the stiffness of materials and the abilities of wheat, rice, corn, and potato starches to produce stiffness in a cotton fabric have been determined. The methods employed for desizing the fabric and preparing the starches and starch pastes are given."

**COTTONSEED AND COTTONSEED PRODUCTS**

BOERNER, E. G.  (786)

*The Intrinsic Values of Grain, Cottonseed, Flour and Similar Products, Based on the Dry-Matter Content.* Dept. Bull. 374, 32 pp., illus. 1916.

CRESWELL, C. F., and BIDWELL, G. L.  (787)

*Composition of Cottonseed.* Dept. Bull. 948, 221 pp., illus. 1921.

*"Issued for the guidance of producers, dealers, and crushers in order that they may know more nearly the content of the product in which they are dealing and be better able to judge the value and consequently the price that can be paid for seed. It sets forth data showing as nearly as possible approximate oil and meal yields in each county of the cotton belt." Data were collected from 1914-15 to 1918-19, inclusive.

GARNER, W. W., ALLARD, H. A., and FOUBERT, C. L.  (788)


Experiments were made for the most part on soybeans, but some tests were made with cottonseed, pp. 240-241. Varietal differences in the oil content of cottonseed grown in northern Georgia and in the Coastal Plain region of South Carolina, table 8 (p. 239). Results of tests with cotton at Manning, S.C., to determine the influence of fertilizers on the oil content of the seed, table 12 (p. 246).

MELOY, G. S.  (789)

*Cottonseed Grades Are to Be Issued.* Yearbook 1926: 275-276. 1927.

*"During the crushing season of 1925-26, the Department of Agriculture began a study of cottonseed to determine whether it is possible to grade them for crushing purposes in the primary markets. These studies indicate that cottonseed may be graded on the basis of their kernel content and official grades will be established as soon as the necessary apparatus and proper methods for grading are worked out."*
The value of a ton of seed may be measured by its kernel content even though a pound of oil is worth many pounds of protein, for nature has set up a natural correlation between the amount of oil and the amount of protein in the same seed. This relation is so consistent that it may be considered a rule that as the percentage of oil goes down the percentage of protein goes up, the values tending to balance one another.


Includes discussion of variations in composition of cottonseed of different crops; possible influence of rainfall on the composition of cottonseed; variations during a season. Tables are included.

A STUDY OF COTTONSEED WITH REFERENCE TO VARIETAL CHARACTERISTICS AND SOURCES OF PRODUCTION. 12 pp., Illus. Bur. Plant Indus. [1932] [Mimeographed.]

Review of the literature, pp. 2-4.

"A study of the relative value of the seed of cotton varieties for the production of oil-mill products with reference to the oil and ammonia content of the seed was undertaken at the request of the Cottonseed Products Industries. Through a cooperative arrangement the seed samples were furnished by the Division of Cotton, Rubber, and Other Tropical Plants from experimental plots grown in connection with adaptation and lint-production studies.

"The work extended through five successive seasons, from 1923 to 1927, inclusive. Seed from 42 varieties was included, but data sufficient to be of value were obtained from only 30 of these. The varieties were grown in a number of localities * * * 1 each in Arizona, Florida, Kansas, New Mexico, Oklahoma, South Carolina, and Virginia, 3 in Texas, and 4 in California. In Arizona, New Mexico, and California, the varieties were grown under irrigation.

"The percentage of moisture, fuzz, meats, oil, and ammonia in the seed was determined, but only the last three are included in the tabulated data. The ammonia determinations were made by the Barrow-Agee laboratories at Memphis, Tenn."

GERMINATION, SELECTION, AND DISTRIBUTION

DUVAL, J. W. T.


"Gossypium hirsutum L. was one of the seeds selected for experimentation."

HICKS, G. H.

THE VITALITY OF SEED TREATED WITH CARBON BISULPHID. Div. Bot. Circ. 11, 5 pp., Illus. [1897.]

Cottonseed will "endure the most severe treatment with the fumes of carbon bisulphid without their germination being injured to any appreciable extent."

KEARNEY, T. H.


Bibliography. pp. 7-8.

History of Egyptian type and its cultivation in Arizona. Methods to be used by farmers and associations in maintaining a pure seed supply.

KNAPP, BRADFORD.


KNAPP, S. A. and BARROW, D. N. (797) 
SEED SELECTION FOR SOUTHERN FARMS. Bur. Plant Indus. Doc. 386, 8 pp., illus. 1908.

"Five points should be carefully noted in cottonseed improvement: Type, variety, selection, ginning, and storing."

LUDWIG, C. A. (798) 

ORTON, W. A. (799) 

Circular mailed with seed. Includes description of variety, and directions for planting and saving seed.

PIETERS, A. J. (800) 
Cotton, pp. 249-250. "A great deal of special breeding is now going on among cotton experts, but such careful methods have not yet come into general use."

Description of methods of the Office of Seed and Plant Introduction and Distribution of the Bureau of Plant Industry. Cotton, pp. 295-296. "As new varieties of merit are found seed is bought and distributed, and contracts are made for an acreage of such new varieties as are still in process of selection."

TOOLE, E. H., and DRUMMOND, P. L. (801) 
A preliminary study of germination tests.

UNITED STATES DEPARTMENT OF AGRICULTURE (802) 
Tahiti cotton, p. 423. Results of planting seeds of Tahiti cotton. "The Tahiti cotton is evidently a sea-island variety, resembling that of the Fiji Islands in black seed and length and fineness of staple. It is feared, however, that when planted inland it will very much deteriorate."

BUREAU OF PLANT INDUSTRY (803) 
Consists of a number of circulars prepared by different members of the scientific force of the Bureau of Plant Industry and one prepared by the Chief of the Bureau of Soils. These circulars were originally printed to accompany the seeds sent out through the Congressional distribution and consist of descriptions of varieties and directions for their culture. Partial contents: Plan of distributing the varieties; description of varieties distributed; methods of cultivation and ginning, by H. J. Webber.—Rivers sea-island cotton (a variety resistant to the wilt disease or "Black-root"), by W. A. Orton.—Sea-Island cotton no. 224, by W. A. Orton.

BUREAU OF PLANT INDUSTRY (804) 
Consists of a number of circulars prepared by different members of the scientific force of the Bureau of Plant Industry and one prepared by the Chief of the Bureau of Soils. These circulars were originally printed to accompany the seeds sent out through the Congressional distribution and consist of descriptions of varieties and directions for their culture. Partial contents: Plan of distributing the varieties; description of varieties distributed; methods of cultivation and ginning, by H. J. Webber.—Rivers sea-island cotton (a variety resistant to the wilt disease or "Black-root"), by W. A. Orton.—Sea-Island cotton no. 224, by W. A. Orton.

BUREAU OF PLANT INDUSTRY (805) 
DISTRIBUTION OF COTTON SEED, 1903-1923. 21 nos., illus. 1903-[1923]. 
1921 is Dept. Circ. 151. No more published.

WEBBER, H. J. (806) 
IMPROVEMENT OF COTTON SEED SELECTION. Yearbook 1902: 365-386, illus. 1903. 
"It is the writer's object in this paper to discuss the salient principles on which the production of improved seed rests, and to describe both simple and complex methods of selection."
COTTON AND COTTONSEED

COTTONSEED FOR PLANTING PURPOSES

BALLARD, W. W., and DOYLE, C. B. (808)
COTTONSEED MIXING INCREASED BY MODERN GIN EQUIPMENT. Dept. Circ. 205, 12 pp., illus. 1922.
Supplemental to Department Bulletin 288, Custom Ginning as a Factor in Cottonseed Deterioration, by D. A. Saunders and P. V. Cardon. 1915 (see item 492).
This circular "shows the result of a similar test conducted in 1920 by one of the writers, Mr. Ballard, at Greenville, Tex., by the method that was used in 1914, but with a more recent type of ginning equipment."

BARR, J. E. (809)
DELINTING AND RECLEANING COTTONSEED FOR PLANTING PURPOSES. Dept Bull. 1219, 20 pp., illus. 1924.
The delinting machine was the same type as that used extensively in cottonseed-oil mills, and the recleaning machine, a type used for recleaning all kinds of seed.
"Investigations show that each of the two processes possesses certain definite advantages but is of greatest value or is most effective when performed in conjunction with the other."

Issued 1922; revised 1926.
Discussion of "some of the fundamental points in selecting, improved methods of preparing and storing, and ways of overcoming or eliminating some of the existing unfair and unscrupulous practices in selling planting cottonseed." Total quantity of cottonseed required for planting and estimated normal percentage and quantity obtained from various sources, table I (p. 2). Delinting, pp. 4–11.

COTTONSEED PRODUCTS

GENERAL

AGELASTO, A. M. (811)
LINTERS. Dept. Circ. 175, 10 pp., illus. 1921.
A general discussion of how linters are obtained, production of linters, handling, commercial values, uses, etc. Included is a statement prepared by the War Department describing "the processes through which the cotton fiber passes in its preparation for use in the manufacture of gun cotton" (p. 9).

BOYKIN, E. B. (812)
COMPARATIVE VALUE OF WHOLE COTTON SEED AND COTTON-SEED MEAL IN FERTILIZING COTTON. Farmers' Bull. 286, 14 pp., illus. 1907.
Experiments were "carried on in connection with Mr. John C. Fletcher's cotton farm at McColl, S.C.", over a period of several years. "In these tests 1,000 pounds of meal were used in comparison with 1 ton of seed, and it is evident from the results that less meal would have yielded as much as the seed. It is believed, therefore, that these results amply justify the assumption that 900 pounds of meal is at least equivalent to a ton of seed in effect on the crop; that is, on such land as was used for this experiment."

COLEMAN, D. A., and FELLOWS, H. C. (813)
"The optical method applied to cottonseed products by Wesson was found most promising. The procedure necessary in the application of the optical method to a number of commodities was worked out in the grain-research laboratory of the Bureau of Agricultural Economics, and a standard practice for each is recommended."

COOPER, J. H. (814)
The writer suggests that oil and cake be manufactured from cottonseed, "of so little value hitherto." He concludes that "The present low prices of cotton will present a sufficient inducement to planters to save and sell the seed at reasonable prices; and it is believed that, if a cheap and effective mode of refining the oil can be discovered, this branch of manufacture will become one of very high value to the country."
DAUGHERTY, C. M. (815)

The growth of the industry is traced. Statistics for manufacture of oil and oil products, oil exports, and home consumption are given (p. 294) (year ended June 30, 1872-1901.)


Discussion of production and consumption in the United States, United Kingdom, France, Germany, Holland, Belgium, and Denmark. Statistics for imports and exports are given.

HICKS, G. H. (816)

Cottonseed oil, pp. 186-188. "In 1826 a Virginian was led to experiment with cottonseed. He made a small machine with which he was able to express a dark-red oil that gave a fair light when burned in an ordinary lamp. In the same year, it is reported, an oil mill was constructed at Columbia, S.C., which expressed a good quality of oil from cottonseed."

JACKSON, C. T. (817)

The author, having noticed that "refuse cottonseeds are partly saved for planting, but by far the greater mass of them is allowed to rot and is then used for manure", makes a suggestion based on analyses of cottonseed, "that cottonseed may be profitably employed in the production of a rich, fat oil, and that the woolly fiber, adhering to the hulls, may be economised in the manufacture of paper, while the substance of the seeds, or their "meats" after having the oil extracted may be employed for feeding animals; and, probably, would also serve as an excellent fertiliser * * * The object of the present paper is to call the attention of Southern planters and of Northern manufacturers to these new uses to which cottonseed may be applied."

JAMIESON, G. S. (818)
PRODUCTION AND UTILIZATION OF FATS, FATTY OILS, AND WAXES IN THE UNITED STATES. Dept. Bull. 1475, 36 pp., illus. 1927.


Cottonseed oil, pp. 4-8; preparation: pressing, settling, refining, wintering; grades (as established by the Interstate Cotton Seed Crushers Association); uses; statistics, pp. 34-36; production, consumption, imports, raw materials used, 1921-25.

LANGWORTHY, C. F. and HOLMES, A. D. (819)
DIGESTIBILITY OF SOME VEGETABLE FATS. Dept. Bull. 505, 20 pp., illus. 1917.

The fats studied included cottonseed oil.

MELLOY, G. S. (820)

Extract from address on the use of the official standards for American cotton linters, Annual Convention of the Better Bedding Alliance of America, Chicago, Ill., January 17, 1928.

COTTON WASTES ARE TURNED BY CHEMISTS INTO PROFIT SOURCES. Yearbook 1927: 234-236, illus. 1928.

"The increased use of cotton goods, resulting from enhanced attractiveness and durability due to mercerization, is problematical, but the diverting of 5,558,243 tons (1926) of cottonseed from the refuse pile into channels of consumption produced $256,027,431 of value that would never have existed but for the intercession of chemical research." A chart (p. 235) shows "where chemistry touches the cotton industry" during growth of plant, in manufacturing processes of the cotton, and in numerous forms of seed products, which are listed.
Meoly, G. S. (823)

It is stated that the first practical extraction of cottonseed oil was attempted in a small mill in Columbia, S.C., in 1826. Growth of the cottonseed-crushing industry in the United States [1826-1925], table 4 (p. 260). (Number of mills, seed crushed, value of products, remarks.)

Powluck, W. C. (825)

Literature cited, pp. 360-362.

Cottonseed oil was among the oils studied.

Ross, W. H., and Merz, A. R. (826)

Includes a formula for cottonseed meal in fertilizer mixtures (p. 291).

Stanley, Louise. (827)

Recent research in the department has demonstrated that cottonseed is a valuable source of the pellagra-preventing vitamin. Accordingly, the Bureau of Home Economics is studying the possibilities of cottonseed as a food for human beings." The composition of cottonseed flour is discussed.

Tolman, L. M. (828)

The author describes the Bömer test method, with which cottonseed oil is identified by the presence of the telescopic crystals of phytosterol.

UNITED STATES DEPARTMENT OF AGRICULTURE. OFFICE OF EXPERIMENT STATIONS. (829)

Condensed from original articles.

Discusses method of manufacturing cottonseed products; the cottonseed oil industry; cottonseed meal; cottonseed hulls; cotton-hull ashes; and feeding cottonseed products to farm stock.

BUREAU OF SOILS. (830)
MINUTES OF CONFERENCE HELD AT THE DEPARTMENT OF AGRICULTURE, WASHINGTON, D.C., TO CONSIDER COST OF PRODUCTION OF COTTONSEED MEAL. ALL PRODUCERS OF THIS MATERIAL WERE INVITED TO BE PRESENT. [OCT. 7, 1919] 41 pp. [1919] [mimeographed.]

UNITED STATES PATENT OFFICE. (831)

Wiley, H. W., editor. (832)

The Occurrence of Metaphosphoric and Pyrophosphoric Acids in Cottonseed Meal, by M. B. Hardin, pp. 50-52.

COTTONSEED PRODUCTS AS FEED

Armsby, H. P. (833)
THE COMPUTATION OF RATIONS FOR FARM ANIMALS BY THE USE OF ENERGY VALUES. Farmers' Bull. 346, 32 pp., illus. 1919.

Cottonseed meal was among the rations studied.

Bell, G. A., and Williams, J. O. (834)
COTTONSEED MEAL FOR HORSES. Dept. Bull. 929, 10 pp., illus. 1920.

Reports experiments to determine value of cottonseed meal as partial substitute for grain and to assess amount which can be fed to horses with safety.
BETHKE, R. M., SASSAMAN, H. L., KENNARD, D. C., and EDINGTON, B. H. (835)

Literature cited, pp. 870-871.
Experiments were conducted with rats, pigs, calves, and growing chicks.

BLACK, W. H., LANTOW, J. L., and BURNHAM, D. R. (836)

"Ground milo, sorgo fodder, sorgo silage, cowpea hay, and cottonseed meal were used. * * * Of the four rations * * * not one seems to be materially superior to any of the others in the rate of producing gains in weight. In feed required for 100 pounds of gain, the use of cowpea hay instead of cottonseed meal results in a considerable saving of concentrates. The fodder lot was more economical in the use of concentrates than the silage lot fed cottonseed meal. This is important because about one-sixth to one-seventh of the concentrates fed was cottonseed meal costing about 50 percent more than milo and twice as much as cowpea hay."

JONES, J. M., and KEATING, F. E. (837)
SORGO SILAGE, SORGO FODDER, AND COTTONSEED HULLS AS ROUGHAGES IN RATIOS FOR FATTENING CALVES IN THE SOUTHWEST. Tech. Bull. 43, 24 pp., illus. 1928.

"Sorgo silage and sorgo fodder, in each of the three tests, proved to be more efficient than cottonseed hulls when fed to fattening calves."

GALLUP, W. D., and KUHLMAN, A. H. (838)

Literature cited, p. 669.
"Choice cottonseed meal containing 43 percent crude protein was used in these experiments. The autoclaved meal was prepared in the laboratory by cooking the meal under 25 pounds of steam pressure for 30 minutes."

HOSKING, F. J. (839)

"Consumption of cottonseed cake and meal as feed totaled nearly 2,000,000 tons in 1926 and 1927, and about 1,500,000 tons in 1927-28."

LINDSEY, J. B., BEALS, C. L., and ARCHIBALD, J. G. (840)

Literature cited, pp. 603-604.
Cottonseed meal, pp. 586-587, 597.

MITCHELL, H. H., and HAMILTON, T. S. (841)

Literature cited, p. 748.
Tables are included.

SHEETS, E. W., and THOMPSON, E. H. (842)
FEEDING COTTONSEED PRODUCTS TO LIVESTOCK. Farmers' Bull. 1179 (rev. ed.), 14 pp., illus. 1930.


Composition of cottonseed products, table 1 (p. 2); quantities of products yielded by a ton of cottonseed, p. 2 (shells, hulls, cake or meal, crude oil, dirt and loss in manufacture); grades and classes of cottonseed products, pp. 2-3. Includes definition of cottonseed cake, meal, hulls, and cottonseed-hull bran.
COTTON AND COTTONSEED

TAYLOR, G. W.
Discussion of cottonseed meal, pp. 275-276. "In the albuminous, or flesh-forming portions, it far exceeds the best English or American linseed meal. The same qualities make it most excellent feed for milch cows and we have, by repeated experiments, proved that for the production of milk it is worth just about double corn-meal, pound for pound."

WARD, W. F., JERDAN, S. S., AND LLOYD, E. R.
A COMPARISON OF CONCENTRATES FOR FATTENING STEERS IN THE SOUTH. Dept. Bull. 761, 16 pp., illus. 1919.
I. The comparative value of cottonseed meal, cold-pressed cottonseed cake, and a mixture of cottonseed meal and corn for fattening steers.
II. A comparison of cottonseed meal, cottonseed meal and broken-ear corn, and cottonseed meal and shelled corn for fattening steers.

GOSSYPOL CONTENT AND TOXICITY

DOWELL, C. T., AND MENAUL, PAUL.
Results of a series of feeding experiments carried on with young pigs at the Oklahoma Agricultural Experiment Station. "These experiments seem to show (1) that autoclaving cottonseed meal destroys the poison peculiar to it (2) that different lots of the meal contain different amounts of the poison. Further work will have to be done to determine whether it is the high temperature that destroys the poison or oxidation by the oxygen of the air during the drying."

GALLOP, W. D.
Literature cited, p. 480.

Literature cited, pp. 991-992.

MENAUl, PAUL
Literature cited, p. 237.
Experiments were made with rabbits, sheep, and fish. "Gossypol causes death in animals by reducing the oxygen-carrying capacity of the blood. Thus an excessive burden is thrown on the respiratory and circulatory organs which results in the condition found in animals that have died from gossypol or cottonseed meal poisoning—namely, a passive hyperemia and oedema of the lungs and some hydrothorax. These conditions are always present and are not due to bacterial infection."

ROMMEL, G. M., AND VEDDER, E. B.

SCHWARTZE, E. W., AND ALSBERG, C. L.
Literature cited, p. 197.
Results of "investigation upon the toxicity of gossypol for cats, together with some additional observations on rabbits, guinea pigs, rats, and mice, are here presented."
MISC. PUBLICATION 203, U.S. DEPT. OF AGRICULTURE

SCHWARTZE, E. W., and ALSBERG, C. L. (851)
Literature cited, p. 295.
The gossypol content appears to depend upon factors other than varietal factors. If a varietal influence exists, practically it is masked. A variation of 200 percent was found in samples of one variety from the same plantation, but from crops of different years. * * * * The variation in the gossypol content was fairly regular in that it tended to vary directly with and bore a true relationship to the oil content. This was true for all seeds from any one region, regardless of the regional tendency."

--- and ALSBERG, C. L. (852)
Literature cited, pp. 188-189.
"Rats were fed upon a totally adequate diet to which were added in some cases known quantities of gossypol and in other cases raw cottonseed kernels in which the gossypol content had been determined. The toxicity of these diets with moderate variations corresponded to their gossypol content."

SHERWOOD, F. W. (853)
Literature cited, p. 800.

WITHERS, W. A., and CARRUTH, F. E. (854)
Literature cited, pp. 451-452.
"In this paper are reported "some of the experiments conducted to ascertain to what extent the change in toxicity takes place under oil-mill conditions. These experiments led to the conclusion that there still remained a toxic factor in all the samples of cottonseed meal and cottonseed flour [which were fed]. Rats and hens are less affected by this factor than rabbits and swine. In fact, in diets well supplemented with milk powder the toxic factor for rats may remain entirely masked" (p. 426). In the experiments various cottonseed products, including raw cottonseed kernels, ether-extracted kernels, gossypol, and several meals, were fed to rats, rabbits, poultry, and swine.

--- and CARRUTH, F. E. (855)
Literature cited, pp. 100-101.
"Inasmuch as no comparative experiments with an isolated and purified substance have been reported, we present the results of additional experiments with various animals to supplement those given in our previous experiments, in which rabbits and fowls were used." Review of previous work, p. 83. Experiments were conducted with rats, rabbits, and pigs. "Cottonseed meal is much less toxic than raw cottonseed, owing mainly to the oxidation of gossypol during cooking. * * * * Outdoor exercise, access to forage and soil, and improved diets tend to postpone or avert cottonseed-meal poisoning of swine. The deficiency hypothesis that cottonseed-meal poisoning of swine is similar to beriberi is untenable."

--- and CARRUTH, F. E. (856)
LEGISLATION AND REGULATION

COTTONSEED AND LINTERS

UNITED STATES DEPARTMENT OF AGRICULTURE. BUREAU OF AGRICULTURAL ECONOMICS. (857)


— BUREAU OF AGRICULTURAL ECONOMICS. (858)

FUTURES TRADING

UNITED STATES DEPARTMENT OF AGRICULTURE. BUREAU OF AGRICULTURAL ECONOMICS. (859)

Act authorizing the Secretary of Agriculture to collect and publish statistics of the grade and staple length of cotton, pp. 12–13.

— BUREAU OF AGRICULTURAL ECONOMICS. (860)


Amendments 1–2, 1931.

— OFFICE OF MARKETS AND RURAL ORGANIZATION. (861)

— OFFICE OF MARKETS AND RURAL ORGANIZATION. (862)

— OFFICE OF MARKETS AND RURAL ORGANIZATION. (863)

[ITEMS RELATING TO THE U.S. COTTON FUTURES ACT.]

Opinions of general interest regarding questions arising under the United States Cotton Futures Act, pp. 30–48.

— OFFICE OF MARKETS AND RURAL ORGANIZATION. (864)


(Address delivered before the Alabama State Bar Association at Montgomery, Ala., July 10, 1915).—Opinions of general interest.

— OFFICE OF MARKETS AND RURAL ORGANIZATION. (865)

Contents: Necessity for adequately designating by letters, marks, or lot numbers the bales involved in disputes. The determination of disputes. Record of disputes, 1915, arranged by dispute number, tables (pp. 59–95).

— OFFICE OF MARKETS AND RURAL ORGANIZATION. (866)

Includes a review of some of the provisions of the pending cotton futures bill, H.R. 11861, and of causes of differences between prices of Middling cotton in New York and Liverpool; charts of comparative price variations, 1913, 1914, 1915, showing "the fact that the cotton futures Act has accomplished the results intended by its framers."

— OFFICE OF MARKETS AND RURAL ORGANIZATION. (867)
REGULATION OF PRICES

EDMIDDEN, L. R., SCHABEN, L. J., and LYNDEY, MYER. (869)

“A descriptive summary of recent and present agricultural price-supporting measures in foreign countries. In general the measures discussed are such as have involved more or less intervention on the part of governments.” Measures relating to cotton are included.

LACY, M. G., HANNAY, A. M., and DAY, E. L., compilers. (870)

For references to cotton see the index.

REGULATION OF PRODUCTION

BENTON, M. C., compiler. (873)
COTTON SURPLUS RELIEF PLANS. SOME REFERENCES TO COMMENT ON THE SUBJECT. 1830—DATE. 11 pp. Bur. Agr. Econ. [1932] [Mimeographed.]

BERCOW, L. O., compiler. (874)

For references to cotton see the index.

EDWARDS, E. E. (875)

EZECIEL, MORDECAI. (876)

Address before Section Q, American Association for the Advancement of Science, Philadelphia, Pa., December 30, 1926.

The cotton crop is used as an illustration of the discussion. “The surpluses which are due to inadequacies of the marketing arrangements may be grouped according to the time and space involved into day-to-day surpluses, short-time surpluses, seasonal surpluses, and crop-year surpluses. * * * The possibility of increasing returns by holding part of the supply over from one crop year to another depends upon four major factors: (1) The expenses involved in storing; (2) the probable future changes in price if only the usual quantity is put into storage; (3) the probable effect upon price at the time of withdrawing the stored supply from the market; (4) the effect upon price at the time of selling the stored supply. These last two points differ when the question is re-
garded from the point of view of storing by individuals or of storing by a whole group of organized producers, and each would have to be considered separately.” Relation between world supplies of American cotton and average price for the season, fig. 4. Relation between price of cotton and carry-over into next season, fig. 5.

HANNAY, A. M., compiler. (877)
CONTROL OF PRODUCTION OF AGRICULTURAL PRODUCTS BY GOVERNMENTS. A SELECTED BIBLIOGRAPHY. BUR. AGR. ECON. LIBR., AGR. ECON. BIBLIOG. 23, 88 pp. 1927. [Mimeographed.]

“By control of production is meant, in general, direct limitation of output, although a few instances are given in which limitation of production is the result of monopoly of trade or of price fixing.” Cotton, pp. 2–16.

UNITED STATES DEPARTMENT OF AGRICULTURE. (878)
SURPLUS FARM PRODUCTS. LETTER FROM THE SECRETARY OF AGRICULTURE TO SENATOR SIMEON D. FESS, SUBMITTING INFORMATION AND CHARTS ON THE HANDLING OF SURPLUS FARM PRODUCTS AND A COOPERATIVE PLAN THEREON. U.S.CONG., 69th, 1st sess., Senate Doc. 125, 20 pp., illus. 1926.

A discussion of the cotton surplus is included.

^AGRICULTURAL ADJUSTMENT ADMINISTRATION. (879)
THE AGRICULTURAL ADJUSTMENT ACT APPLIED TO COTTON. 4 pp. 1933.

STANDARDS

COBB, N. A. (880)
MEMORANDUM OF INFORMATION CONCERNING OFFICIAL COTTON GRADES. BUR. PLANT INDUS. DOC. 720, 3 pp. 1912.
Short notes on method of preparation and on the act governing the sale of official types; the names of the advisory committee are listed.

TENNY, L. S. (881)
NATIONAL STANDARDS FOR FARM PRODUCTS. CIRC. 8 (REV. ED.), 52 PP., ILLUS. 1930.
Issued 1927; revised, 1930, by Caroline B. Sherman.

UNITED STATES DEPARTMENT OF AGRICULTURE. BUREAU OF AGRICULTURAL ECONOMICS. (882)
PROCEEDINGS OF THE INTERNATIONAL UNIVERSAL COTTON STANDARDS CONFERENCE . . . 1929, 1931, 1933, 1929–1933. [MIMEOGRAPHED.]
Title varies. Proceedings of the 1929 conference are also contained in Serv. and Regulat. Announc. 117. For history of the conference, see Serv. and Regulat. Announc. 82 and 92.
The Division of Cotton Marketing has a typewritten copy of proceedings for the conferences of 1923, 1925, and 1927.

BUREAU OF AGRICULTURAL ECONOMICS. (883)
PROCEEDINGS OF INTERNATIONAL UNIVERSAL COTTON STANDARDS CONFERENCE OF 1929 AND ITEMS RELATING TO THE ADMINISTRATION OF THE UNITED STATES COTTON FUTURES AND COTTON STANDARDS ACTS. SERV. AND REGULAT. ANNOUNC. 117, 23 PP. 1929.
Act relating to investigation of new uses of cotton (approved Apr. 12, 1928, 45 STAT.L. 426), pp. 22–23.
Amendment, July 30, 1932.
Supplement no. 1. Determinations of Staple Length (3 PP. APR. 10, 1933). [MIMEOGRAPHED.]

BUREAU OF AGRICULTURAL ECONOMICS. (884)
REGULATIONS OF THE SECRETARY OF AGRICULTURE UNDER THE UNITED STATES COTTON STANDARDS ACT. EFFECTIVE MAY 1, 1931. SERV. AND REGULAT. ANNOUNC. 125, 23 PP. 1931.
Amendments 1–4, 1931–1933. [MIMEOGRAPHED.]

66278—34—7
UNITED STATES DEPARTMENT OF AGRICULTURE. BUREAU OF AGRICULTURAL ECONOMICS.


STANDARDS FOR COTTON CLASSIFICATION IN THE UNITED STATES AND ABROAD. Serv. and Regulat. Announc. 92, 23 pp., illus. 1925. Prepared by C. L. Finch, supervisor of administration, United States Cotton Futures and Cotton Standards Acts. This pamphlet was published to bring up to date and supplement the information given in Serv. and Regulat. Announc. 82. 1924. American cotton in export trade—formal action of the European cotton exchanges in adopting official cotton standards of the United States for grades and colors of American upland cotton as universal standards, pp. 12–17. Original and supplemental agreement, pp. 17–20.

Public notice establishing the grades constituting the official standards of the United States for American cotton linters, pp. 10–11. Amendment. 1928. [Mimeographed.]

UNITED STATES COTTON STANDARDS ACT. A PAMPHLET CONTAINING QUESTIONS AND ANSWERS ON THE COTTON STANDARDS ACT OF 1923. 12 pp. 1924. [Mimeographed.]


HANDBOOK FOR SUPERVISORS OF COTTON INSPECTION (UNITED STATES COTTON FUTURES ACT AND UNITED STATES COTTON STANDARDS ACT). 11 pp. 1931. [Mimeographed.]

STAPLE STANDARDS CONFERENCE JULY 18–JULY 21, 1932. 22 pp. [1932.] [Mimeographed.]

The conference was held in Washington, D.C., and attended by representatives of the cotton trade and of the Bureau of Agricultural Economics.


UNIVERSAL STANDARDS FOR AMERICAN COTTON WITH A BRIEF HISTORY OF THE MOVEMENT TO SECURE UNIVERSAL COTTON STANDARDS. THE UNITED STATES DEPARTMENT OF AGRICULTURE. 34 pp. [1921.] [Mimeographed.]

French and German editions also were issued.

BRIEF HISTORY OF THE MOVEMENT TO SECURE UNIVERSAL COTTON STANDARDS. Serv. and Regulat. Announc. 7, 50 pp., illus. 1916.

COTTON AND COTTONSEED

UNITED STATES DEPARTMENT OF AGRICULTURE. OFFICE OF MARKETS AND RURAL ORGANIZATION.

The official cotton standards of the United States. Serv. and Regulat. Announc. 6, 32 pp., illus. 1916.

"A full description of the work and equipment of the Office of Markets and Rural Organization in connection with the standards." Includes detailed illustrations of standard boxes; arrangement of the cotton in glass tubes for preservation; mechanical equipment used in the evacuation of vacuum tubes; skylight in grading room. Holders of sets of standards, listed by States (pp. 22-32).

REGULATION OF WAREHOUSING

UNITED STATES DEPARTMENT OF AGRICULTURE. BUREAU OF AGRICULTURAL ECONOMICS.


Amendments 1, 2. 1927, 1929. [Mimeographed.]

BUREAU OF AGRICULTURAL ECONOMICS.


BUREAU OF MARKETS.

COMPILED LISTS OF WAREHOUSEMEN, CLASSIFIERS, INSPECTORS, GRADERS, AND WEIGHTERS LICENSED UNDER THE UNITED STATES WAREHOUSE ACT. LISTS OF LICENSES ISSUED PRIOR TO APRIL 1, 1921. Serv. and Regulat. Announc. 68, 26 pp. 1921.

List of cotton warehousemen, classifiers, and weighers licensed prior to April 1, 1921, pp. 2-16.

BUREAU OF MARKETS.

INFORMATION CONCERNING THE UNITED STATES WAREHOUSE ACT. Serv. and Regulat. Announc. 61, 36 pp., illus. 1920.

Illustrations of forms of cotton warehouse receipts are included.

MISCELLANEOUS REGULATIONS


Amendment, 1924.

PLANT QUARANTINE AND CONTROL ADMINISTRATION.

RESEARCH PROGRAMS

FIGHTROW, W. W.

COTTON RESEARCH PROGRAM OF THE UNITED STATES DEPARTMENT OF AGRICULTURE AS AN AID TO COTTON COOPERATIVES * * * ADDRESS AT THE OKLAHOMA COOPERATIVE MARKETING SCHOOL, STILLWATER, OKLAHOMA, FEBRUARY 19, 1929. 11 pp., illus. Bur. of Agr. Econ. [1929] [Mimeographed.]
UNITED STATES DEPARTMENT OF AGRICULTURE. BUREAU OF AGRICULTURAL ECONOMICS. (904)

COTTON RESEARCH COORDINATION COMMITTEE. (905)
LIST OF RESEARCH PROJECTS PERTAINING TO COTTON, INDICATING OBJECTIVES, ESTIMATED SUPPORT AND AVAILABLE PUBLICATIONS. 59 pp. 1929. [Mimeographed.]

COTTON RESEARCH COORDINATION COMMITTEE. (906)
MINUTES OF THE THIRD MEETING OF THE COTTON RESEARCH COORDINATION COMMITTEE. 5 pp. [1930] [Mimeographed.]

YOUGLEOD, Bonney. (907)
THE CORRELATION OF RESEARCH IN COTTON MARKETING * * * ADDRESS DELIVERED BEFORE THE GENERAL SESSION OF THE ASSOCIATION OF SOUTHERN AGRICULTURAL WORKERS, AT MEMPHIS, TENNESSEE, FEBRUARY 2, 1928. 11 pp. Bur. Agr. Econ. [1928] [Mimeographed.]

You describes the program of the Division of Cotton Marketing, Bureau of Agricultural Economics, United States Department of Agriculture. (908)

THE NECESSITY FOR BETTER CORRELATION OF RESEARCH ACTIVITIES IN THE FIELD OF AGRICULTURE WITH SPECIAL REFERENCE TO COTTON GROWING. 16 pp. Off. Expt. Sta. [1930] [Mimeographed.]

Presented before the Association of Southern Agricultural Workers, Jackson, Miss., February 5, 1930. (909)


"The program, as now under way, may be outlined as follows: (1) Studies having to do with the spinning utility, or utilities, of the annual supply of American cotton * * * (2) studies of the consumption of cotton * * * (3) studies of the cotton markets themselves."

STUDY AND TEACHING

LANE, C. H. (910)
LESSONS ON COTTON FOR THE RURAL COMMON SCHOOLS. Dept. Bull. 294, 16 pp., illus. 1915.

Designed to supplement organized school work.

MERRILL, F. A. (911)
LESSONS ON COTTON FOR ELEMENTARY SCHOOLS. Misc. Circ. 43, 27 pp., illus. 1925.

"Intended as aids in teaching the subject in the seventh or eighth grades of elementary schools. * * * The lessons furnish only special features of the subject and are not intended to be exhaustive" (p. 1).

GENERAL BIBLIOGRAPHIES AND INDEXES

BRADLEY, M. A., and HUNT, M. G. (912)

Covers all the publications of the United States Department of Agriculture for the period given with the exception of the periodicals issued by the Bureaus. The Journal of Agricultural Research and the News Letter, later called the Official Record, are included (p. 1).

DAY, E. L., compiler. (913)

Superseded Current Literature on Cotton; Selected References, July–December 1930. [Mimeographed.]
EDWARDS, E. E., compiler. (914)
A BIBLIOGRAPHY OF THE HISTORY OF AGRICULTURE IN THE UNITED STATES.
For references to cotton see the index.

HAWKS, E. B., compiler. (915)

OGDEN, E. L., and HAWKS, E. B., compilers. (916)

Item 34 (p. 7), Cotton: Breeding and genetics of cotton. Approximately 500 entries by author. Fairly complete since 1910. (T. H. Kearney, Bureau of Plant Industry)—Item 94 (p. 14), Southern field crop insects, e.g. cotton, tobacco, sugarcane, rice. A fairly complete bibliography of American and foreign species filed by author and by insect species, up to date. (J. L. Webb, Bureau of Entomology).

WARNER, M. F., compiler. (917)

A continuation of the original list with the same title, compiled by E. B. Hawks in 1926. (See item 915.)
APPENDIX

LIST OF DEPOSITORY LIBRARIES

The libraries listed have been designated by Congress to receive copies, as issued, of all publications printed by the Government for public distribution. These publications may be consulted by anyone during library business hours.

<table>
<thead>
<tr>
<th>State or Territory</th>
<th>Place</th>
<th>Name of library</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ala.</td>
<td>Auburn</td>
<td>Alabama Polytechnic Institute</td>
</tr>
<tr>
<td></td>
<td>Birmingham</td>
<td>Howard College</td>
</tr>
<tr>
<td></td>
<td>Florence</td>
<td>State Teachers College</td>
</tr>
<tr>
<td></td>
<td>Jacksonville</td>
<td>Department of Archives and History, State Capitol</td>
</tr>
<tr>
<td></td>
<td>Montgomery</td>
<td>State and Supreme Court</td>
</tr>
<tr>
<td></td>
<td>Tuskegee Institute</td>
<td>Hollis Burke Frissell</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>University of Alabama</td>
</tr>
<tr>
<td></td>
<td>Alaska College</td>
<td>Alaska Agricultural College and School of Mines</td>
</tr>
<tr>
<td></td>
<td>Juneau</td>
<td>Territorial Historical Library and Museum</td>
</tr>
<tr>
<td>Ariz.</td>
<td>Jerome</td>
<td>Public</td>
</tr>
<tr>
<td></td>
<td>Phoenix</td>
<td>Do, State Law and Legislative Reference</td>
</tr>
<tr>
<td></td>
<td>Tucson</td>
<td>University of Arizona, College of the Ozarks</td>
</tr>
<tr>
<td></td>
<td>Clarksville</td>
<td>Hendrix College</td>
</tr>
<tr>
<td></td>
<td>Fayetteville</td>
<td>University of Arkansas</td>
</tr>
<tr>
<td></td>
<td>Jonesboro</td>
<td>State A &amp; M College</td>
</tr>
<tr>
<td></td>
<td>Russellville</td>
<td>Arkansas Polytechnic College</td>
</tr>
<tr>
<td>Calif.</td>
<td>Alturas</td>
<td>Modoc County Public Library</td>
</tr>
<tr>
<td></td>
<td>Berkeley</td>
<td>University of California</td>
</tr>
<tr>
<td></td>
<td>Claremont</td>
<td>Pomona College</td>
</tr>
<tr>
<td></td>
<td>Eureka</td>
<td>Eureka Free</td>
</tr>
<tr>
<td></td>
<td>Fresno</td>
<td>Fresno County Free</td>
</tr>
<tr>
<td></td>
<td>Los Angeles</td>
<td>Loyola University, Public</td>
</tr>
<tr>
<td></td>
<td>Long Beach</td>
<td>Public</td>
</tr>
<tr>
<td></td>
<td>Oakland</td>
<td>Oakland Free</td>
</tr>
<tr>
<td></td>
<td>Pasadena</td>
<td>California Institute of Technology</td>
</tr>
<tr>
<td></td>
<td>Redlands</td>
<td>University of Redlands</td>
</tr>
<tr>
<td></td>
<td>Sacramento</td>
<td>California State, City Free</td>
</tr>
<tr>
<td></td>
<td>San Diego</td>
<td>Public</td>
</tr>
<tr>
<td></td>
<td>San Francisco</td>
<td>Mechanics Mercantile</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Place</th>
<th>Name of library</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santa Rosa</td>
<td>Free Public</td>
</tr>
<tr>
<td>Stanford University</td>
<td>Stanford University</td>
</tr>
<tr>
<td>Stockton</td>
<td>Free Public</td>
</tr>
<tr>
<td>Boulder</td>
<td>University of Colorado</td>
</tr>
<tr>
<td>Colorado Springs</td>
<td>Colorado College</td>
</tr>
<tr>
<td>Denver</td>
<td>Colorado State</td>
</tr>
<tr>
<td>Fort Collins</td>
<td>Regis College</td>
</tr>
<tr>
<td>Gunnison</td>
<td>University of Denver</td>
</tr>
<tr>
<td>Pueblo</td>
<td>State Agricultural College</td>
</tr>
<tr>
<td>Bridgeport</td>
<td>University of Denver</td>
</tr>
<tr>
<td>Hartford</td>
<td>University of Denver</td>
</tr>
<tr>
<td>Middletown</td>
<td>University of Denver</td>
</tr>
<tr>
<td>New London</td>
<td>University of Denver</td>
</tr>
<tr>
<td>New Haven</td>
<td>University of Denver</td>
</tr>
<tr>
<td>Waterbury</td>
<td>Silas Bronson</td>
</tr>
<tr>
<td>Dover</td>
<td>University of Delaware</td>
</tr>
<tr>
<td>Newport</td>
<td>University of Delaware</td>
</tr>
<tr>
<td>Wilmington</td>
<td>Wilmington Institute</td>
</tr>
<tr>
<td></td>
<td>Army War College</td>
</tr>
<tr>
<td></td>
<td>Department of Agriculture</td>
</tr>
<tr>
<td></td>
<td>Department of Interior</td>
</tr>
<tr>
<td></td>
<td>Department of Justice</td>
</tr>
<tr>
<td></td>
<td>Naval Records and Library, Navy Department</td>
</tr>
<tr>
<td>Fla.</td>
<td>De Land</td>
</tr>
<tr>
<td></td>
<td>Gainesville</td>
</tr>
<tr>
<td></td>
<td>Jacksonville</td>
</tr>
<tr>
<td></td>
<td>Lakeland</td>
</tr>
<tr>
<td></td>
<td>Tallahassee</td>
</tr>
<tr>
<td></td>
<td>Winter Park</td>
</tr>
<tr>
<td>Ga.</td>
<td>Athens</td>
</tr>
<tr>
<td></td>
<td>Atlanta</td>
</tr>
<tr>
<td></td>
<td>August</td>
</tr>
<tr>
<td></td>
<td>Augusta</td>
</tr>
<tr>
<td></td>
<td>Dahlonega</td>
</tr>
<tr>
<td>State or Territory</td>
<td>Place</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Ga.</td>
<td>Emory University</td>
</tr>
<tr>
<td></td>
<td>Macon.</td>
</tr>
<tr>
<td></td>
<td>Savannah.</td>
</tr>
<tr>
<td></td>
<td>Honolulu.</td>
</tr>
<tr>
<td></td>
<td>Idaho.</td>
</tr>
<tr>
<td></td>
<td>Albion.</td>
</tr>
<tr>
<td></td>
<td>Boise.</td>
</tr>
<tr>
<td></td>
<td>Caldwell.</td>
</tr>
<tr>
<td></td>
<td>Moscow.</td>
</tr>
<tr>
<td></td>
<td>Pocatello.</td>
</tr>
<tr>
<td>III.</td>
<td>Belleville.</td>
</tr>
<tr>
<td></td>
<td>Bloomington.</td>
</tr>
</tbody>
</table>
|                   | Carbondale.    | Wheeler Library, Southern Illinois State Normal Univer-
|                   | Chicago.       | sity                                                   |
|                   | Danville.      | Public                                                 |
|                   | Evanston.      | Northwestern University                               |
|                   | Freeport.      | Public                                                 |
|                   | Galesburg.     | Do                                                     |
|                   | Jacksonville.  | MacMurray College                                     |
|                   | Joliet.        | Do                                                     |
|                   | Lisle.         | St. Procopius College                                 |
|                   | Monmouth.      | Monmouth College                                       |
|                   | Normal.        | Illinois State Normal University                       |
|                   | Peoria.        | Public                                                 |
|                   | Rockford.      | Illinois State                                        |
|                   | Springfield.   | University of Illinois                                |
|                   | Urbana.        | Bloomington                                            |
|                   | Crawfordsville | Wabash College                                         |
|                   | Evansville.    | Public                                                 |
|                   | Fort Wayne.    | Do                                                     |
|                   | Greencastle.   | DePauw University                                     |
|                   | Hanover.       | Hanover College                                        |
|                   | Huntington.    | City Free                                              |
|                   | Indianapolis.  | Indiana State                                         |
|                   | LaFayette.     | Purdue University                                     |
|                   | Muncie.        | Public                                                 |
|                   | Notre Dame.    | University of Notre Dame                               |
|                   | Richmond.      | Morrison-Reeves, Indiana State Teachers College        |
|                   | Terre Haute.   | Vermont Free                                           |
|                   | Valparaiso.    | Valparaiso University                                 |
|                   | Ames.          | Iowa State College                                     |
|                   | Boone.         | Free Public                                            |
|                   | Cedar Falls.   | Public                                                 |
|                   | Council Bluffs | Public                                                 |
|                   | Des Moines.    | Iowa State University                                 |
|                   | Dubuque.       | Carnegie Stout Free Public                             |
|                   | Fairfield.     | Free Public                                            |
|                   | Fayette.       | Upper Iowa University                                  |
|                   | Grinnell.      | Grinnell College                                        |
|                   | Iowa City.     | State University of Iowa                               |
|                   | Lamoni.        | Graceeland College                                     |
|                   | Mount Pleasant.| Iowa Wesleyan College                                 |

<table>
<thead>
<tr>
<th>State or Territory</th>
<th>Place</th>
<th>Name of library</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iowa.</td>
<td>Mount Vernon.</td>
<td>Cornell College</td>
</tr>
<tr>
<td></td>
<td>Sioux City.</td>
<td>Public</td>
</tr>
<tr>
<td></td>
<td>Baker University.</td>
<td>Kellogg Library of Kansas State Teachers College</td>
</tr>
<tr>
<td></td>
<td>Emporia.</td>
<td>Forryth Library of Fort Hays Kansas State College</td>
</tr>
<tr>
<td></td>
<td>Hays.</td>
<td>Morrill Free Public</td>
</tr>
<tr>
<td></td>
<td>Hiawatha.</td>
<td>University of Kansas</td>
</tr>
<tr>
<td></td>
<td>Lawrence.</td>
<td>Kansas State College of Agriculture and Applied Science</td>
</tr>
<tr>
<td></td>
<td>Manhattan.</td>
<td>Public</td>
</tr>
<tr>
<td></td>
<td>Pittsburg.</td>
<td>Kansas Wesleyan University</td>
</tr>
<tr>
<td></td>
<td>Salina.</td>
<td>Kansas Wesleyan University</td>
</tr>
<tr>
<td></td>
<td>Topeka.</td>
<td>Kansas State</td>
</tr>
</tbody>
</table>
|                   | Kansas State Hi-
|                   | Story School.   | Kansas State Historical Society                       |
|                   | Wichita.         | Morrison Library of the Municipal University of Wis-
<p>|                   | Danville.        | hesota                                                 |
|                   | Frankfort.       | Kentucky State                                         |
|                   | Henderson.       | Public                                                 |
|                   | Lexington.       | University of Kentucky                                |
|                   | Lincoln Ridge.   | Lincoln Institute of Kentucky                          |
|                   | Louisville.      | Free Public                                            |
|                   | Murray.          | Murray State Teachers College                          |
|                   | Somerset.        | Carnegie Public                                       |
|                   | Winchester.      | Kentucky Wesleyan College                             |
|                   | New Orleans.     | Howard Memorial                                        |
|                   | Natchitoches.    | Louisiana State University                            |
|                   | Louisiana State Normal College. | Howard Memorial. |
|                   | Shreveport.      | Shreve Memorial                                        |
|                   | Augusta.         | Maine State                                            |
|                   | Bangor.          | Public                                                 |
|                   | Brunswick.       | Bowdoin College                                        |
|                   | Lewiston.        | Bates College                                           |
|                   | Machias.         | Washington State Normal School                         |
|                   | Orono.           | University of Maine                                    |
|                   | Portland.        | Public                                                 |
|                   | Waterville.      | Colby College                                           |
|                   | Annapolis.       | Maryland State                                         |
|                   | Baltimore.       | United States Naval Academy                           |
|                   | Chestertown.     | Washington College                                     |
|                   | College Park.    | University of Maryland                                 |
|                   | Westminster.     | Western Maryland College                              |
|                   | Amherst.         | Converse Memorial Library of Amherst College           |
|                   | Massachusetts.  | Massachusetts State College                           |</p>
<table>
<thead>
<tr>
<th>State or Territory</th>
<th>Place</th>
<th>Name of library</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cambridge</td>
<td>Public.</td>
</tr>
<tr>
<td></td>
<td>Lynn</td>
<td>Public.</td>
</tr>
<tr>
<td></td>
<td>New Bedford</td>
<td>Do.</td>
</tr>
<tr>
<td></td>
<td>Worcester</td>
<td>Public.</td>
</tr>
<tr>
<td></td>
<td>Ann Arbor</td>
<td>Public.</td>
</tr>
<tr>
<td></td>
<td>Benton Harbor</td>
<td>Public.</td>
</tr>
<tr>
<td></td>
<td>Grand Rapids</td>
<td>Public.</td>
</tr>
<tr>
<td>Mont.</td>
<td>Missoula</td>
<td>State University of Montana.</td>
</tr>
<tr>
<td></td>
<td>Lewistown</td>
<td>Public. Fergus County High School.</td>
</tr>
<tr>
<td>State or Territory</td>
<td>Place</td>
<td>Name of library</td>
</tr>
<tr>
<td>--------------------</td>
<td>-------</td>
<td>-----------------------------------------</td>
</tr>
<tr>
<td>N. C.</td>
<td>Charlotte</td>
<td>Davidson College</td>
</tr>
<tr>
<td></td>
<td>Davidson</td>
<td>Library of Davidson College</td>
</tr>
<tr>
<td></td>
<td>Durham</td>
<td>Duke University</td>
</tr>
<tr>
<td></td>
<td>Raleigh</td>
<td>North Carolina State University College</td>
</tr>
<tr>
<td></td>
<td>Salisbury</td>
<td>Catawba College</td>
</tr>
<tr>
<td></td>
<td>Wake Forest</td>
<td>College</td>
</tr>
<tr>
<td></td>
<td>Washington</td>
<td>Public Schools</td>
</tr>
<tr>
<td></td>
<td>Wilson</td>
<td>Atlantic Christian College</td>
</tr>
<tr>
<td>N. Dak.</td>
<td>Bismarck</td>
<td>State Historical Library of North Dakota</td>
</tr>
<tr>
<td></td>
<td>Fargo</td>
<td>North Dakota Agricultural College and Experiment Station</td>
</tr>
<tr>
<td></td>
<td>Grand Forks</td>
<td>University of North Dakota Teachers College</td>
</tr>
<tr>
<td></td>
<td>Minot</td>
<td>State Teachers College</td>
</tr>
<tr>
<td></td>
<td>Valley City</td>
<td>Alliance</td>
</tr>
<tr>
<td>Ohio</td>
<td>Athens</td>
<td>Ohio University, Ed Wilcom Watts Library</td>
</tr>
<tr>
<td></td>
<td>Bowling Green</td>
<td>Bowling Green State College</td>
</tr>
<tr>
<td></td>
<td>Bucyrus</td>
<td>Public Library</td>
</tr>
<tr>
<td></td>
<td>Chillicothe</td>
<td>Public Library</td>
</tr>
<tr>
<td></td>
<td>Cincinnati</td>
<td>Do</td>
</tr>
<tr>
<td></td>
<td>Cleveland</td>
<td>Adelbert College Library of Western Reserve University</td>
</tr>
<tr>
<td></td>
<td>Columbus</td>
<td>Ohio State University, Phippines Library</td>
</tr>
<tr>
<td></td>
<td>Dayton</td>
<td>Ohio State University, Phippines Library</td>
</tr>
<tr>
<td></td>
<td>Delaware</td>
<td>Charles Slocomb Library of Ohio Wesleyan University</td>
</tr>
<tr>
<td></td>
<td>Gambier</td>
<td>Kenyon College</td>
</tr>
<tr>
<td></td>
<td>Granville</td>
<td>Denison University</td>
</tr>
<tr>
<td></td>
<td>Hirani</td>
<td>Hiram College</td>
</tr>
<tr>
<td></td>
<td>Marietta</td>
<td>Marietta College</td>
</tr>
<tr>
<td></td>
<td>Oberlin</td>
<td>Oberlin College</td>
</tr>
<tr>
<td></td>
<td>Oxford</td>
<td>Marietta College</td>
</tr>
<tr>
<td></td>
<td>Portsmouth</td>
<td>Public Library</td>
</tr>
<tr>
<td></td>
<td>Sidney</td>
<td>Do</td>
</tr>
<tr>
<td></td>
<td>Springfield</td>
<td>Landlord Library</td>
</tr>
<tr>
<td></td>
<td>Toledo</td>
<td>Public Library</td>
</tr>
<tr>
<td></td>
<td>Van Wert</td>
<td>Brumback Library of Van Wert County Library</td>
</tr>
<tr>
<td></td>
<td>Youngstown</td>
<td>Public Library</td>
</tr>
<tr>
<td>Okla.</td>
<td>Ada</td>
<td>East Central State Teachers</td>
</tr>
<tr>
<td></td>
<td>Alva</td>
<td>Northwestern State Teachers College</td>
</tr>
<tr>
<td></td>
<td>Durant</td>
<td>Southeastern Teachers College</td>
</tr>
<tr>
<td></td>
<td>Enid</td>
<td>Carnegie Public</td>
</tr>
<tr>
<td></td>
<td>Oklahoma City</td>
<td>Oklahoma State</td>
</tr>
<tr>
<td></td>
<td>Shawnee</td>
<td>Oklahoma Baptist University</td>
</tr>
<tr>
<td></td>
<td>Stillwater</td>
<td>Agriculture and Mechanical College</td>
</tr>
<tr>
<td></td>
<td>Tahlequah</td>
<td>Northeastern State Teachers College</td>
</tr>
<tr>
<td></td>
<td>Tulsa</td>
<td>University of Tulsa</td>
</tr>
<tr>
<td></td>
<td>Corvallis</td>
<td>Oregon Agricultural College</td>
</tr>
<tr>
<td></td>
<td>Eugene</td>
<td>University of Oregon</td>
</tr>
<tr>
<td></td>
<td>Forest Grove</td>
<td>Pacific University</td>
</tr>
<tr>
<td></td>
<td>Portland</td>
<td>Library Association of Portland</td>
</tr>
<tr>
<td></td>
<td>Salem</td>
<td>Oregon State</td>
</tr>
<tr>
<td></td>
<td>Bethlehem</td>
<td>Lehigh University</td>
</tr>
<tr>
<td></td>
<td>Bradford</td>
<td>Carnegie Public</td>
</tr>
<tr>
<td></td>
<td>Carlisle</td>
<td>J. Herman Bosler Memorial Library</td>
</tr>
<tr>
<td></td>
<td>Erie</td>
<td>Public Library</td>
</tr>
<tr>
<td></td>
<td>Gettysburg</td>
<td>Gettysburg College</td>
</tr>
<tr>
<td></td>
<td>Harrisburg</td>
<td>Pennsylvania State</td>
</tr>
<tr>
<td></td>
<td>Haverford</td>
<td>Haverford College</td>
</tr>
<tr>
<td></td>
<td>Huntington</td>
<td>Juniusa College</td>
</tr>
<tr>
<td></td>
<td>Lancaster</td>
<td>Watts De Peyster Library of Franklin &amp; Marshall College</td>
</tr>
<tr>
<td></td>
<td>Medford</td>
<td>Allegheny College</td>
</tr>
<tr>
<td></td>
<td>Philadelphia</td>
<td>Free Public Library</td>
</tr>
<tr>
<td></td>
<td>Pittsburgh</td>
<td>Carnegie Library of Allegheny</td>
</tr>
<tr>
<td></td>
<td>Reading</td>
<td>University of Pittsburgh, Public Library</td>
</tr>
<tr>
<td></td>
<td>Scranton</td>
<td>Do</td>
</tr>
<tr>
<td></td>
<td>State College</td>
<td>Carnegie Public Library</td>
</tr>
<tr>
<td></td>
<td>Swarthmore</td>
<td>Swarthmore College</td>
</tr>
<tr>
<td></td>
<td>Warren</td>
<td>Carnegie Library of Allegheny</td>
</tr>
<tr>
<td></td>
<td>Washington</td>
<td>Carnegie Library of Washington and Jefferson College</td>
</tr>
<tr>
<td></td>
<td>Williamsport</td>
<td>National Library</td>
</tr>
<tr>
<td></td>
<td>Manila</td>
<td>University of the Philippines</td>
</tr>
<tr>
<td></td>
<td>Rio Piedras</td>
<td>University of Puerto Rico</td>
</tr>
<tr>
<td></td>
<td>Kingston</td>
<td>University of Puerto Rico College</td>
</tr>
<tr>
<td></td>
<td>Providence</td>
<td>Brown University</td>
</tr>
<tr>
<td></td>
<td>Westerly</td>
<td>Public Library</td>
</tr>
<tr>
<td></td>
<td>Charleston</td>
<td>Charleston College</td>
</tr>
<tr>
<td></td>
<td>Clemson College</td>
<td>Clemson College</td>
</tr>
<tr>
<td></td>
<td>Clinton</td>
<td>Presbyterian College</td>
</tr>
<tr>
<td></td>
<td>Columbia</td>
<td>South Carolina State University</td>
</tr>
<tr>
<td></td>
<td>Greenwood</td>
<td>University of South Carolina State Library</td>
</tr>
<tr>
<td></td>
<td>Rock Hill</td>
<td>Public Library</td>
</tr>
<tr>
<td></td>
<td>Brookings</td>
<td>Carnegie Library of Winthrop College</td>
</tr>
<tr>
<td></td>
<td>Huron</td>
<td>Huron College</td>
</tr>
<tr>
<td></td>
<td>Mitchell</td>
<td>Dakota Wesleyan University</td>
</tr>
<tr>
<td></td>
<td>Pierre</td>
<td>South Dakota State University</td>
</tr>
<tr>
<td></td>
<td>Sioux Falls</td>
<td>Carnegie Free Public Library</td>
</tr>
<tr>
<td></td>
<td>Yankton</td>
<td>University of South Dakota</td>
</tr>
<tr>
<td></td>
<td>Vermilion</td>
<td>University of South Dakota</td>
</tr>
<tr>
<td>Tenn.</td>
<td>Chattanooga</td>
<td>Carnegie Public</td>
</tr>
<tr>
<td></td>
<td>Knoxville</td>
<td>University of Tennessee</td>
</tr>
<tr>
<td></td>
<td>Memphis</td>
<td>Mississippi College of Agriculture and Mechanic Arts</td>
</tr>
<tr>
<td></td>
<td>Murfreesboro</td>
<td>State Teachers College</td>
</tr>
<tr>
<td></td>
<td>Nashville</td>
<td>Carnegie</td>
</tr>
<tr>
<td></td>
<td>Tennessee</td>
<td>Vanderbilt University</td>
</tr>
<tr>
<td>State or Territory</td>
<td>Place</td>
<td>Name of library</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>Tenn.</td>
<td>Sewanee</td>
<td>University of the South</td>
</tr>
<tr>
<td>Tex.</td>
<td>Austin</td>
<td>Texas State</td>
</tr>
<tr>
<td></td>
<td>Brownwood</td>
<td>Texas State Teachers College</td>
</tr>
<tr>
<td></td>
<td>Canyon</td>
<td>Howard Payne College</td>
</tr>
<tr>
<td></td>
<td>College Station</td>
<td>Agricultural and Mechanical College of Texas</td>
</tr>
<tr>
<td></td>
<td>Corsicana</td>
<td>Public</td>
</tr>
<tr>
<td></td>
<td>Dallas</td>
<td>Law Library, Southern Methodist University</td>
</tr>
<tr>
<td></td>
<td>Denton</td>
<td>Public</td>
</tr>
<tr>
<td></td>
<td>El Paso</td>
<td>Texas State College for Women, College of Industrial Arts</td>
</tr>
<tr>
<td></td>
<td>Fort Worth</td>
<td>Carnegie Public, Texas Christian University</td>
</tr>
<tr>
<td></td>
<td>Galveston</td>
<td>Rosenberg</td>
</tr>
<tr>
<td></td>
<td>Georgetown</td>
<td>Southwestern University</td>
</tr>
<tr>
<td></td>
<td>Houston</td>
<td>Public</td>
</tr>
<tr>
<td></td>
<td>Port Arthur</td>
<td>Gates Memorial</td>
</tr>
<tr>
<td></td>
<td>San Antonio</td>
<td>Carnegie</td>
</tr>
<tr>
<td></td>
<td>Waco</td>
<td>Baylor University</td>
</tr>
<tr>
<td></td>
<td>Etna</td>
<td>Snow College</td>
</tr>
<tr>
<td></td>
<td>Logan</td>
<td>Utah State Agricultural College</td>
</tr>
<tr>
<td></td>
<td>Ogden</td>
<td>Carnegie Free</td>
</tr>
<tr>
<td></td>
<td>Provo</td>
<td>Brigham Young University</td>
</tr>
<tr>
<td></td>
<td>Salt Lake City</td>
<td>University of Utah, Utah State</td>
</tr>
<tr>
<td></td>
<td>Burlington</td>
<td>Fletcher Free, University of Vermont, Billings</td>
</tr>
<tr>
<td></td>
<td>Middlebury</td>
<td>Middlebury College</td>
</tr>
<tr>
<td></td>
<td>Montpelier</td>
<td>Vermont State</td>
</tr>
<tr>
<td></td>
<td>Northfield</td>
<td>Norwich University</td>
</tr>
<tr>
<td></td>
<td>Blacksburg</td>
<td>Virginia Polytechnic Institute</td>
</tr>
<tr>
<td></td>
<td>Bridgewater</td>
<td>Bridgewater College</td>
</tr>
<tr>
<td></td>
<td>Emory</td>
<td>Emory and Henry College</td>
</tr>
<tr>
<td></td>
<td>Hampden Sidney</td>
<td>Hampden Sidney College</td>
</tr>
<tr>
<td></td>
<td>Lexington</td>
<td>Virginia Military Institute, Washington and Lee University</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>State or Territory</th>
<th>Place</th>
<th>Name of library</th>
</tr>
</thead>
<tbody>
<tr>
<td>Va.</td>
<td>Norfolk</td>
<td>Public</td>
</tr>
<tr>
<td></td>
<td>Richmond</td>
<td>Virginia State</td>
</tr>
<tr>
<td></td>
<td>Salem</td>
<td>Roanoke College</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>University of Virginia</td>
</tr>
<tr>
<td></td>
<td>University of Richmond</td>
<td>University of Richmond</td>
</tr>
<tr>
<td></td>
<td>Everett</td>
<td>Public</td>
</tr>
<tr>
<td></td>
<td>Olympia</td>
<td>Washington State</td>
</tr>
<tr>
<td></td>
<td>Pullman</td>
<td>State College of Washington</td>
</tr>
<tr>
<td></td>
<td>Seattle</td>
<td>Public</td>
</tr>
<tr>
<td></td>
<td>Tacoma</td>
<td>Whitman College</td>
</tr>
<tr>
<td></td>
<td>Walla Walla</td>
<td>Do</td>
</tr>
<tr>
<td></td>
<td>W. Va.</td>
<td>Concord State Normal</td>
</tr>
<tr>
<td></td>
<td>Charleston</td>
<td>Department of Archives and History, State</td>
</tr>
<tr>
<td></td>
<td>Elkins</td>
<td>Davis and Elkins College</td>
</tr>
<tr>
<td></td>
<td>Fairmont</td>
<td>Fairmont State Teachers College</td>
</tr>
<tr>
<td></td>
<td>Harpers Ferry</td>
<td>Roger Williams Library of Storer College</td>
</tr>
<tr>
<td></td>
<td>Huntington</td>
<td>James E. Morrow Library of Marshall College</td>
</tr>
<tr>
<td></td>
<td>Institute</td>
<td>West Virginia State</td>
</tr>
<tr>
<td></td>
<td>Montgomery</td>
<td>New River State College</td>
</tr>
<tr>
<td></td>
<td>Morgantown</td>
<td>West Virginia University</td>
</tr>
<tr>
<td></td>
<td>Salem</td>
<td>Salem College</td>
</tr>
<tr>
<td></td>
<td>Appleton</td>
<td>Lawrence College</td>
</tr>
<tr>
<td></td>
<td>Beloit</td>
<td>Beloit College</td>
</tr>
<tr>
<td></td>
<td>Eau Claire</td>
<td>Public</td>
</tr>
<tr>
<td></td>
<td>Fond du Lac</td>
<td>Do</td>
</tr>
<tr>
<td></td>
<td>La Crosse</td>
<td>Do</td>
</tr>
<tr>
<td></td>
<td>Madison</td>
<td>State Historical Society, Wisconsin State</td>
</tr>
<tr>
<td></td>
<td>Milwaukee</td>
<td>Do</td>
</tr>
<tr>
<td></td>
<td>Racine</td>
<td>Do</td>
</tr>
<tr>
<td></td>
<td>Superior</td>
<td>Do</td>
</tr>
<tr>
<td></td>
<td>Casper</td>
<td>Natrona County Public</td>
</tr>
<tr>
<td></td>
<td>Cheyenne</td>
<td>Wyoming State</td>
</tr>
<tr>
<td></td>
<td>Laramie</td>
<td>University of Wyoming</td>
</tr>
<tr>
<td>Item</td>
<td>Item</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>Abbasi variety, notes on</td>
<td>316</td>
<td></td>
</tr>
<tr>
<td>Absorption from potassium chloride solutions</td>
<td>364</td>
<td></td>
</tr>
<tr>
<td>Acala variety:</td>
<td>368</td>
<td></td>
</tr>
<tr>
<td>breeding experiments</td>
<td>476</td>
<td></td>
</tr>
<tr>
<td>community production</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>comparison with Pima</td>
<td>297</td>
<td></td>
</tr>
<tr>
<td>cultivation and marketing advantages</td>
<td>692</td>
<td></td>
</tr>
<tr>
<td>fiber development</td>
<td>712</td>
<td></td>
</tr>
<tr>
<td>history</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>improvement through type selection</td>
<td>712</td>
<td></td>
</tr>
<tr>
<td>inheritance of off-type characters</td>
<td>290</td>
<td></td>
</tr>
<tr>
<td>production in San Joaquin Valley</td>
<td>294</td>
<td></td>
</tr>
<tr>
<td>spacing experiments</td>
<td>722</td>
<td></td>
</tr>
<tr>
<td>spinning tests</td>
<td>286</td>
<td></td>
</tr>
<tr>
<td>Accounting system:</td>
<td>286</td>
<td></td>
</tr>
<tr>
<td>for gins</td>
<td>493</td>
<td></td>
</tr>
<tr>
<td>for warehouses</td>
<td>667</td>
<td></td>
</tr>
<tr>
<td>Acreage:</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>1866-95</td>
<td>575</td>
<td></td>
</tr>
<tr>
<td>1866-1931, revised estimates</td>
<td>437</td>
<td></td>
</tr>
<tr>
<td>1870</td>
<td>596</td>
<td></td>
</tr>
<tr>
<td>1890-1930/31</td>
<td>572</td>
<td></td>
</tr>
<tr>
<td>1924</td>
<td>594</td>
<td></td>
</tr>
<tr>
<td>1926-31</td>
<td>433</td>
<td></td>
</tr>
<tr>
<td>charts and tables</td>
<td>436</td>
<td></td>
</tr>
<tr>
<td>effect of price on</td>
<td>621</td>
<td></td>
</tr>
<tr>
<td>estimates, revised</td>
<td>575</td>
<td></td>
</tr>
<tr>
<td>influenced by farmer opinions methods of determining advantages</td>
<td>433</td>
<td></td>
</tr>
<tr>
<td>See also Crop reports</td>
<td>386</td>
<td></td>
</tr>
<tr>
<td>percent of total crop area, 1909 and 1924</td>
<td>566</td>
<td></td>
</tr>
<tr>
<td>percent, changes, estimated and actual</td>
<td>638</td>
<td></td>
</tr>
<tr>
<td>reduction campaigns in 1909, 1915, 1921 and 1927</td>
<td>875</td>
<td></td>
</tr>
<tr>
<td>shifts:</td>
<td>547</td>
<td></td>
</tr>
<tr>
<td>1910-24</td>
<td>547</td>
<td></td>
</tr>
<tr>
<td>1919-29</td>
<td>534</td>
<td></td>
</tr>
<tr>
<td>effect on Southern agriculture</td>
<td>566</td>
<td></td>
</tr>
<tr>
<td>maps</td>
<td>535</td>
<td></td>
</tr>
<tr>
<td>Acromania or &quot;crazy-top&quot;:</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>and other growth disorders:</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Act authorizing the Secretary of Agriculture to collect and publish statistics of the grade and staple length of cotton</td>
<td>859</td>
<td></td>
</tr>
<tr>
<td>Africa as competitive source of supply</td>
<td>525</td>
<td></td>
</tr>
<tr>
<td>Agelas, A. M.:</td>
<td>811</td>
<td></td>
</tr>
<tr>
<td>Linters</td>
<td>533</td>
<td></td>
</tr>
<tr>
<td>Some Phases of the Long-staple Cotton Situation in the United States</td>
<td>592</td>
<td></td>
</tr>
<tr>
<td>The Cotton Situation. With others</td>
<td>879</td>
<td></td>
</tr>
<tr>
<td>Agricultural Adjustment Act applied to cotton</td>
<td>402</td>
<td></td>
</tr>
<tr>
<td>Agricultural Economics Bureau:</td>
<td>904</td>
<td></td>
</tr>
<tr>
<td>Cotton Marketing Division. See Cotton Marketing Division, Bureau of Agricultural Economics</td>
<td>912</td>
<td></td>
</tr>
<tr>
<td>Machine Tabulation and Computing Section. See Machine Tabulation and Computing Section of Bureau of Agricultural Economics</td>
<td>914</td>
<td></td>
</tr>
<tr>
<td>Research in progress July 1, 1932</td>
<td>288-387</td>
<td></td>
</tr>
<tr>
<td>Agriculture, Department of:</td>
<td>691</td>
<td></td>
</tr>
<tr>
<td>museum of cotton samples</td>
<td>912</td>
<td></td>
</tr>
<tr>
<td>Agriculture in the United States, history</td>
<td>914</td>
<td></td>
</tr>
<tr>
<td>Agronomy:</td>
<td>288-387</td>
<td></td>
</tr>
<tr>
<td>current literature</td>
<td>379</td>
<td></td>
</tr>
<tr>
<td>section on</td>
<td>288-387</td>
<td></td>
</tr>
<tr>
<td>Airplane(s):</td>
<td>713</td>
<td></td>
</tr>
<tr>
<td>fabric:</td>
<td>713</td>
<td></td>
</tr>
<tr>
<td>manufacturing and laboratory tests</td>
<td>148, 204, 206</td>
<td></td>
</tr>
<tr>
<td>signal corps specifications</td>
<td>164</td>
<td></td>
</tr>
<tr>
<td>use in insect control</td>
<td>164</td>
<td></td>
</tr>
<tr>
<td>bibliography</td>
<td>164</td>
<td></td>
</tr>
<tr>
<td>Alabama:</td>
<td>613</td>
<td></td>
</tr>
<tr>
<td>consumption, 1860-1903</td>
<td>419, 435</td>
<td></td>
</tr>
<tr>
<td>diversified farming</td>
<td>558</td>
<td></td>
</tr>
<tr>
<td>grade and staple length, 1928-29</td>
<td>418</td>
<td></td>
</tr>
<tr>
<td>intensive farming</td>
<td>389</td>
<td></td>
</tr>
<tr>
<td>nitrate plants</td>
<td>613</td>
<td></td>
</tr>
<tr>
<td>production</td>
<td>445</td>
<td></td>
</tr>
<tr>
<td>1850-1903</td>
<td>444</td>
<td></td>
</tr>
<tr>
<td>costs:</td>
<td>419</td>
<td></td>
</tr>
<tr>
<td>1918</td>
<td>329</td>
<td></td>
</tr>
<tr>
<td>1923</td>
<td>144</td>
<td></td>
</tr>
<tr>
<td>successful diversified farming</td>
<td>333</td>
<td></td>
</tr>
<tr>
<td>Alahama argillacea Hbn. See Cotton leaf worm</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Albert, W. B.: A Study of the Cotton Plant with Special Reference to its Nitrogen Content. With G. M. Armstrong</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Alfalfa in rotation with Egyptian cotton</td>
<td>329</td>
<td></td>
</tr>
<tr>
<td>&quot;Alkali&quot;, root-rot known as</td>
<td>144</td>
<td></td>
</tr>
<tr>
<td>Alkali lands, reclamation in Egypt, use of cotton in</td>
<td>333</td>
<td></td>
</tr>
<tr>
<td>Allard, H. A.:</td>
<td>866</td>
<td></td>
</tr>
<tr>
<td>The Fibers of Long-staple Upland Cottons</td>
<td>788</td>
<td></td>
</tr>
<tr>
<td>Oil Content of Seeds as Affected by the Nutrition of the Plant. With others</td>
<td>302</td>
<td></td>
</tr>
<tr>
<td>Allen variety, comparison with Durango</td>
<td>388</td>
<td></td>
</tr>
<tr>
<td>Allison, P. E.:</td>
<td>388</td>
<td></td>
</tr>
<tr>
<td>Cyanamid, its Uses as a Fertilizer Material</td>
<td>788</td>
<td></td>
</tr>
<tr>
<td>Field Experiments with Atmospheric-nitrogen Fertilizers. With others</td>
<td>389</td>
<td></td>
</tr>
<tr>
<td>Influence of Fertilizers Containing Borax on the Growth and Fruiting of Cotton. With J. J. Skinner</td>
<td>402</td>
<td></td>
</tr>
<tr>
<td>105</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
INDEX

BECKETT, R. E.—Continued.
The Shedding of 4-Lock and 5-Lock Bolls. With J. W. Hub-
ber and R. Doyle.----------------------------- 809

Beds See Mattresses, cotton. 849

Beltm, marketing practices. 641

BELL, C. R.: Cottonseed Meal for Horses. With J. O. Williams... 834

BENNETT, C. A.: Seed Cotton Drying Proves Profit-
able; Two Types of Driers Used... 480

The Optical Seed Cotton Drier. 481

BENTON, M. C.: Cotton News Summary. 506

Cotton Surplus Relief Plans. 873

Some references. 735

Uses for Cotton. Selected Ref-
ences----------------------------------------- 874

BERCOW, L. O.: Bibliography on the Marketing of Commercial Products. With E. M. Colvin... 498

Labor Requirements of Farm Products in the United States. A list of references... 410

The Domestic Allotment Plans for the Relief of Agriculture. Some references. 874

Beiberi and cottonseed poisoning... 849

BESSER, E. A.: Root-knot and its Control. The Control of Root-knot. With L. P. Byars... 93

BETHKE, R. M.: The Comparative Nutritive Value of the Proteins of Linseed Meal and Cottonseed Meal for Different Animals. With others... 835

BEETES, R. E.: Grade and Staple of Mississippi Cotton—Crops of 1928 and 1929. With W. B. Lanham... 556

Grade and Staple of South Carolina Cotton—Crops of 1928 and 1929. With W. B. Lanham... 557

Quality of Cotton Produced in North Carolina Crops of 1928 and 1929. With W. B. Lanham... 560

BEVERIDGE, E. A.: Investigations of American Cotton Tare... 642

BEWEL, J. A.: A System of Accounting for Cotton Ginners. With A. V. Swarthout... 493

Bibliographies:

agronomy... 379

airplanes in insect control... 164

bollweevil... 166

botany... 41

chemistry of plant and products... 15

cotton and cottonseed... 592

storage... 671

domestic allotment plans... 874

farmers' response to price... 641

government publications on textiles and clothing... 778

In Atlas of American Agriculture... 508

In Experiment Stations Bull. 33 377

influence of weather on crops... 77

labor requirements of farm products... 410
INDEX

<table>
<thead>
<tr>
<th>Item</th>
<th>Boll (s):</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>at different heights of plant, across lengths</td>
</tr>
<tr>
<td>498</td>
<td>carpels, supernumerary</td>
</tr>
<tr>
<td>870</td>
<td>characters, relation of fruitfulness to</td>
</tr>
<tr>
<td>606</td>
<td>decay</td>
</tr>
<tr>
<td>769</td>
<td>development as affected by removal of involucrume</td>
</tr>
<tr>
<td>606</td>
<td>chemical study</td>
</tr>
<tr>
<td>671</td>
<td>relation to branching</td>
</tr>
<tr>
<td>755</td>
<td>4- and 5-lock, shedding</td>
</tr>
<tr>
<td>787</td>
<td>gossypol content, changes</td>
</tr>
<tr>
<td>166</td>
<td>oil content, changes</td>
</tr>
<tr>
<td>143</td>
<td>plant bugs injurious to</td>
</tr>
<tr>
<td>125</td>
<td>rot. See Anthracnose.</td>
</tr>
<tr>
<td>230</td>
<td>shedding and water relations</td>
</tr>
<tr>
<td>220</td>
<td>control</td>
</tr>
<tr>
<td>231</td>
<td>4- and 5-lock bolls</td>
</tr>
<tr>
<td>225</td>
<td>spot</td>
</tr>
<tr>
<td>835</td>
<td>sugar, oil and gossypol content, changes</td>
</tr>
<tr>
<td>836</td>
<td>toughness in relation to age and nutrient supply</td>
</tr>
</tbody>
</table>

Bollweevil: and related and associated insects | 183 |

Arizona and Mexico: differences | 106 |
rel. See also Thurberia weevil. | 188 |

biography, by F. C. Bishop. | 166 |

Bollweevil: at Florence, S.C. | 189 |
on upland and sea-island cottons. | 197 |
studies in Mississippi Delta | 192 |
section on | 187-197 |

capacity at night | 203 |
by airplane | 148 |

cause of "boll- weevil" cotton | 167 |
condensed information on | 153 |

conditions: cultivation under | 184, 349 |

improvement | 298 |
methods | 347, 351 |
recommendations | 151 |

uniformity of action on seed | 180 |

varieties grown under, spinning tests | 708 |
control | 202 |
at gins | 201 |
by breeding early cotton, collecting weevils and infested squares | 215, 216 |

destroying old plants in field | 218 |
insect enemies | 175 |
planting at different dates | 213 |
poisoning | 186 |

See also Bollweevil, dusting, square picking and weevil picking | 216 |
in cottonseed | 201 |
methods: brief outline | 199 |
cultural | 174, 175 |
effect on control of other insects | 171 |
experiments | 202 |
in farm scheme | 145 |
summary | 171, 199 |
section on | 188, 234 |
Bollweevil—Continued.
damage:
1910-28. .................................................. 178
1916-28 .................................................. 217
relation of drought ........................................ 175
relation of precipitation ................................... 217
destruction:
by birds ...................................................... 220
importance .................................................... 226
in winter .................................................... 230
legislation needed .......................................... 231
species listed ................................................ 231
summary of information .................................... 229
by Guatemalan ant or kelep. .............................. 222
by insect enemies ........................................... 233
development and activity, relation of
temperature and humidity ............................... 195
dispersal ........................................................ 190
dusting .......................................................... 182
community action in ....................................... 209
experiments, 1916-17 .................................... 210
from airplanes .............................................. 204, 206
machinery ...................................................... 207
flight activities ............................................. 212
effect upon production in United States ................ 165
enemies:
ants ........................................................... 182
Guatemalan ant or kelep .................................. 222-225
predatory bug ................................................. 183
studied ......................................................... 175
feeding habits on plants other than cotton ............. 187
hibernation and development ............................ 171
host plants .................................................... 183, 187
in—
Cuba .......................................................... 185
Louisiana ...................................................... 184
Mississippi Delta ............................................ 192
Texas ............................................................ 167
Introduction into United States, 1894 .................. 174
Investigations:
1894-1913 .................................................. 170
laboratory methods ........................................ 184
plan of work ................................................ 172
report summarizing ....................................... 172
life history ..................................................... 171, 194
changes since entrance into United States .............. 188
observations ................................................ 185
odors attracting .......................................... 42
origin, life history, hibernation, control ................. 171
parasites as insecticide .................................... 211
problem ........................................................ 171
quarantines ................................................... 200
ravages, work of Bureau of Plant Industry .......... 168
relation of drought to ..................................... 217
remedial work against ................................... 198
section on ..................................................... 234
senses .......................................................... 193
status—
in 1901 ...................................................... 174
in 1903 ...................................................... 177
in 1904 ...................................................... 173
in 1909 ...................................................... 178
temperature—
and humidity relations ................................... 195
factor in control ........................................... 228
wild cotton. See Thurberia weevi! ........................ 167
“Boll-weevil cotton” ....................................... 167
Bollworm: and cotton worm, section on .................. 225-246
bibliography ................................................ 42
condensed information on ................................ 153
control ........................................................... 145, 239

INDEX

Item

Bollworm—Continued.
damage:
average annual ............................................. 235
estimate ....................................................... 178
life history and habits ..................................... 241
pink. See Pink bollworm.
poisoning by machines ..................................... 310
remedies ...................................................... 237, 240
Bolly cotton, marketing ..................................... 658
Bominator method for detecting cotton seed oil in lard . 828
Bondy, F. F.: Calcium Arsenate Dusting as a Cause of Aphid Infestation. With J. W. Folsom ..... 270
Borax in fertilizer, influence on growth and fruiting .... 402
Botany:
current literature .......................................... 41
odds of cotton, by W. H. Evans ........................... 377
Boykin, E. B.: Comparative Value of Whole Cotton Seed and Cotton-seed Meal in Fertilizing Cotton .... 812
The Advantage of Planting Heavy Cotton Seed. With H. J. Webber .............................................. 385
Brachymor, or clustering: distinguished from acromania .. 95
hereditary deformity ........................................ 10
Bract .......................................................... 142
Branches: dimorphic .......................................... 11
fruited: abortion ............................................. 8
competition with vegetative ................................ 8
development of axillary buds on ................................ 32
height on plant, relation to seed fuzziness .......... 31
morphology .................................................... 12
vegetative: control ........................................... 306
by closer spacing of plants ................................ 309
See also Single-stalk culture.
Branching: development of bolls and flowers in relation to .............................................................. 33
habits of Egyptian cotton .................................. 35
Brand, C. J.: Behavior of Seed Cotton in Farm Storage. With W. A. Sherman ................................... 665
Crop Plants for Paper Making .............................. 736
Improved Methods of Handling and Marketing Cotton. 643
member of Committee on Southwestern Cotton Culture .......................................................... 380, 577
Studies of Primary Cotton Market Conditions in Oklahoma. With others ........................................... 658
The Utilization of Crop Plants in Paper Making ............. 737
Branner, J. C.: Cotton in the Empire of Brazil .......... 535
Brazil:
competitive source of supply ................................ 525
consumption ................................................... 535
cultivation—antiquity, methods and extent ............... 535
exports ......................................................... 535
industry ......................................................... 612
insects ........................................................ 162
Breeding: bibliography ...................................... 916
disease-resistant seed ...................................... 127

Item
Breeding—Continued, experiments:

at San Antonio, Tex.----------------------------------------------Kochi, Acala and Lone Star.

Industrial progress in---------------------------------------------Kochi, Acala and Lone Star.

Breeding and genetics, section on----------------------------------43-75


Brodell, A. P.: Cotton Harvesting by Newer Methods saves much Labor. Labor Requirements Measured for Principal Crops.-------------------------------412

Browne, D. R.: Fattening Steers Burlap, comparison with new cotton-----------------------------506

Burgess, J. S., Jr.: International Cotton Conference------------------------505

Budding and grafting trials---------------------------------------------511

Bud(s): abortion, noninheritance in Elma-------------------------------32

Budding and grafting trials---------------------------------------------3

Buell, W. L., representative at International Cotton Conference-----------------------------505

Burgess, J. S., Jr.: Farm Prices of Cotton in Relation to its Grade and Staple Length in Local Markets in the United States Season 1928-29, 1929-30, and 1930-31. With L. D. Howell------------------------------628

Burk, J. L.: Cambium curculio, attack on bolls-----------------------------------------------265

Buchanan, H. F.: The Development of Cooperative Cotton Gins in Georgia. A preliminary report.-------------------------------483

Brown, H. H.: Cotton Gin Fires Caused by Static Electricity-----------------------------491

Brown, M. E.: Spinning Test of Picked and Snapped Cotton (Texas Crop of 1926) With H. H. Willis-----------------------------703

Brown, R. E.: A Study of Cotton Market Conditions in North Carolina with a View to their Improvement. With O. J. McConnel.-------------------------------653

Campbell, M. E.: Cotton Culture in the San Joaquin Valley in California-------------------------------289

Campbell, M. E.: Spinning Tests of Selected Samples of Sea Island, American-Egyptian, and Egyptian-Sakelardis Cotton-------------------------------702

Canvas: used in power laundries---------------------------------------------738

Campbell, W. B.: Diversified Farming in the Cotton Belt. With others-----------------------------435

Carruth, F. E.: Comparative Toxicity of Cottonseed Oils. With W. A. Withers--------------------854

Carruth, F. E.: Comparative Toxicity of Cottonseed Oils. With W. A. Withers--------------------854

Carruth, F. E.: Comparative Toxicity of Cottonseed Oils. With W. A. Withers--------------------854

Carpenter, C. W.: Wilt Diseases of Okra and the Verticillium wilt Problem-------------------------------94

Carvalho, W. A. evolving Steers on Dry-land Cotton in Mississippi Season 1928-29. With others-----------------------------629

Carver, A.: The Pink Bollworm, Pectinophora gossypiella-------------------------------------------836

Carver, A.: The Pink Bollworm, Pectinophora gossypiella-------------------------------------------836

Carver, A.: The Pink Bollworm, Pectinophora gossypiella-------------------------------------------836

Cary, L. P.: The Control of Root-knot. With E. A. Besey.-------------------------------105

Caffey, F. G.: The United States Cotton Futures Act-----------------------------864

Carr, M. W.: Diversified Farming under the Plantation System. With C. K. McClelland-----------------------------414

Carr, M. W.: Diversified Farming in the Cotton Belt. With others-----------------------------435

Budding and grafting trials---------------------------------------------3

Buell, W. L., representative at International Cotton Conference-----------------------------505

Burgess, J. S., Jr.: Farm Prices of Cotton in Relation to its Grade and Staple Length in Local Markets in the United States Season 1928-29, 1929-30, and 1930-31. With L. D. Howell------------------------------628

Burk, J. L.: Cambium curculio, attack on bolls-----------------------------------------------265

Buchanan, H. F.: The Development of Cooperative Cotton Gins in Georgia. A preliminary report.-------------------------------483

Brown, H. H.: Cotton Gin Fires Caused by Static Electricity-----------------------------491

Brown, M. E.: Spinning Test of Picked and Snapped Cotton (Texas Crop of 1926) With H. H. Willis-----------------------------703

Brown, R. E.: A Study of Cotton Market Conditions in North Carolina with a View to their Improvement. With O. J. McConnel.-------------------------------653

Campbell, M. E.: Cotton Culture in the San Joaquin Valley in California-------------------------------289

Campbell, M. E.: Spinning Tests of Selected Samples of Sea Island, American-Egyptian, and Egyptian-Sakelardis Cotton-------------------------------702

Canvas: used in power laundries---------------------------------------------738

Campbell, W. B.: Diversified Farming in the Cotton Belt. With others-----------------------------435

Carruth, F. E.: Comparative Toxicity of Cottonseed Oils. With W. A. Withers--------------------854

Carruth, F. E.: Comparative Toxicity of Cottonseed Oils. With W. A. Withers--------------------854

Carpenter, C. W.: Wilt Diseases of Okra and the Verticillium wilt Problem-------------------------------94

Carvalho, W. A. evolving Steers on Dry-land Cotton in Mississippi Season 1928-29. With others-----------------------------629

Carver, A.: The Pink Bollworm, Pectinophora gossypiella-------------------------------------------836

Carver, A.: The Pink Bollworm, Pectinophora gossypiella-------------------------------------------836

Cary, L. P.: The Control of Root-knot. With E. A. Besey.-------------------------------105

Caffey, F. G.: The United States Cotton Futures Act-----------------------------864

Index

<table>
<thead>
<tr>
<th>Item</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cake, cottonseed. See Cottonseed, cake</td>
<td>326</td>
</tr>
<tr>
<td>California: cultivation in San Joaquin valley</td>
<td>289, 328</td>
</tr>
<tr>
<td>Cotton Gins. See Cotton, gins.</td>
<td>478</td>
</tr>
<tr>
<td>extension of production</td>
<td>540</td>
</tr>
<tr>
<td>handling and marketing Durango cotton</td>
<td>655</td>
</tr>
<tr>
<td>Irrigation survey</td>
<td>482</td>
</tr>
<tr>
<td>one-variety communities</td>
<td>476, 478</td>
</tr>
<tr>
<td>variety tests</td>
<td>300</td>
</tr>
<tr>
<td>Carrall, W. P.</td>
<td>409</td>
</tr>
<tr>
<td>methods used by Crop Reporting Board in Estimating the Cotton Crop. With V. C. Childs</td>
<td>586</td>
</tr>
<tr>
<td>Recent Developments in Cotton Crop Estimating</td>
<td>587</td>
</tr>
<tr>
<td>Review of the 1928 Cotton Crop</td>
<td>536</td>
</tr>
<tr>
<td>Cambium curculio, attack on bolls</td>
<td>265</td>
</tr>
<tr>
<td>Campbell, M.: Dresses for the Little Girl</td>
<td>761</td>
</tr>
<tr>
<td>Campbell, M. E.</td>
<td>745</td>
</tr>
<tr>
<td>Spinning Test of Picked and Snapped Cotton (Texas Crop of 1926) With H. H. Willis</td>
<td>703</td>
</tr>
<tr>
<td>Spinning Tests of Select Cottons: sea Island, American-Egyptian, and Egyptian-Sakelardis Cotton</td>
<td>702</td>
</tr>
<tr>
<td>Canvas: used in power laundries</td>
<td>738</td>
</tr>
<tr>
<td>waterproofing and mildewproofing: investigations</td>
<td>745</td>
</tr>
<tr>
<td>on the farm</td>
<td>744</td>
</tr>
<tr>
<td>Capron, H.: Agriculture in Japan</td>
<td>291</td>
</tr>
<tr>
<td>Carbon disulfide, as insecticide</td>
<td>154</td>
</tr>
<tr>
<td>Carver, A.: The Pink Bollworm, Pectinophora gossypiella</td>
<td>836</td>
</tr>
<tr>
<td>Carver, A.: The Pink Bollworm, Pectinophora gossypiella</td>
<td>836</td>
</tr>
<tr>
<td>Cary, L. P.: The Control of Root-knot. With E. A. Besey</td>
<td>105</td>
</tr>
<tr>
<td>Caffey, F. G.: The United States Cotton Futures Act</td>
<td>864</td>
</tr>
</tbody>
</table>
INDEX

Casken, C., Jr.: Changes in the Sugar, Oil, and Gossypol Content of the Developing Cotton Boll. With W. D. Gallup. 7

Cassidy, T. P.: Cotton Boll Weevil Control by the use of Poison. With B. R. Coad 205


Cates, H. R.: Farm Practice in the Cultivation of Cotton. 207

Chen, use in gossypol tests. 850

Cell-sap properties. 340

Chambers, C. L.: Hairy Vetch Turned Under Greatly Increases South's Cotton and Corn Yields. 294

Chandler, E. E.: A New Mechanical Method for Determining the Strength of Cotton. 687

A New Method for Determining the Strength of Cotton. 688

Characters: boll correlation in upland-Egyptian hybrid. 55

practical application. 65

definitions. 75

fiber of several varieties, description of superior variety. 55

off-type, inheritance. 314

plant and upland, comparison. 337

relation to fruitfulness. 341

seed, fiber, and boll segregation and correlation in upland-Egyptian hybrid. 17

weevil-resistant. See Varieties, weevil-resistant. 55

Cheatham, R. J.: American Cotton-Tare Practices. With J. W. Wright. 860

Comparative Advantages of Jute and Cotton Baggings for American Bales. With J. W. Wright. 526

Cotton Baggings for Cotton. 756

Cotton Bags and other Containers in the Wholesale Grocery Trade. With W. W. Fretzison. 750

Cotton Bags in the Fertilizer Industry. 751

Cotton Baggings in the Wholesale Grocery Trade. With others. 753

Cotton Consumption in Power Laundries of the United States. 1928. With others. 738


Farm Uses for Cotton and its Products. With others. 740

New Uses for Cotton. 741

Some Uses of the Products of the Cotton-Boll Weevil. With others. 742

Use of Cotton Bags and other Containers in Flour Mills of the United States—1931. With J. T. Wixington. 752

Chemical research, chart, and bibliography. 822

Chemistry of cotton plant, and history of glands and products: Discussion and charts. 15

66278—34—8

Chemistry of cotton plant—Contd. with special reference to upland cotton. 42

Chernoff, L. H.: Chemistry of the Cotton Plant, with Special Reference to Upland Cotton. With others. 42


China, demand for American cotton. 520

Chisholm, E. C.: 521


Christensen, C. L.: Business Seta-up of a Cooperative Marketing enterprise project; Staple(s). Chromosomes in Gossypium and related genera. 70

Clark, E. L.: Cotton Boll in Farm Women's Garb Partly Replaced by Silk and Rayon. 763

The Changing Uses of Textile Fibers in Clothing and Household Articles. 762

Classification: American upland cotton. 661

commercial, with reference to standards for grade, color and style. 663

government activity in handbook for classifiers. 648

official service, maintained by Cotton Marketing Division. 648, 662, 664

See also Grade(s); Grade and staple official

Cleaves, F.: Farm Uses for Cotton and its Products. With others. 740

Cleveland variety, spinning tests. 722

Climate: In: cotton districts of the globe. 91

Egypt and United States, 312, 335

Europe and United States, effect on spinning. 78

Southern States. 84

north of accustomed limits of cotton growing. 375

See also Climatology, section on: Rainfall; Temperature; Weather. 78

Climatology: and soil. 377

report, by P. H. Mell. 84

section on. 76-32

Cloth, retail price and price of cotton products. 620

See also Fabric(s); Textile(s).

Clothing, R. W.: Farm Organization in the Irrigated Valleys of Southern Arizona. 416

Clothing: changing uses of textile fibers. 762

children's: comparison of fabrics for. 765

resistance to weather. 765

dresses for little girls. 761, 774, 775

farm women's. 773

government publications on. 778

773
CLOTHING—Continued.

COADE, B. R.: Clustering:

CLODIN, N. B.: Cotton Culture in 1866.

CLUB-leaf

COBB, N. A.: 1866

COCOX, J. S.: Subsoiling, Deep Tilling,

And Soil Dynamiting in the Great

CoNORAD, A. F.: A Consideration of

the Cultural System for the Boll

Weevil in the Light of Recent

Observations. 184

COMMISSION ON SOUTHWESTERN COTTON CULTURE:

COTTON AS A CROP FOR THE YUMA RECLAMATION PROJECT.

CONCHEME, E. M.: Bibliography on the

Cotton Boll Weevil Control by the Use of Poison. With T. P. Cassidy.

COTTON BOLL-WEEVIL CONTROL IN COTTON BOLL WEEVIL CONTROL BY

COLLECTION OF WEEVILS AND INSECTS. COTTON INSECT CONTROL

COTTON-DUSTING MACHINERY. WITH H. C. FELLOWS.

COTTON-Inl-louse Control. With others.

DUSTING COTTON FROM AIRPLANES.

DUSTING COTTON FROM PLANTS OTHER THAN COTTON

Floods Disturb the Balance of Nature in World of Insects.

INSECT INJURY TO COTTON SEEDINGS. WITH R. W. HOWE.

INSECTS CAPTURED BY AIRPLANE ARE FOUND AT SURPRISING HEIGHTS

KILLING BOLL WEEVILS WITH POISON

POISONING THE COTTON BOLL WEEVIL. WITH R. C. GAINES.

PRESENT EXPERIMENTAL WORK ON POISONING COTTON-BOLL WEEVILS.

RECENT STUDIES OF THE MEXICAN COTTON BOLL WEEVIL.

RELATION OF THE ARIZONA WILD COTTON WEEVIL TO COTTON PLANTING IN THE ARID WEST.

SOME RULES FOR POISONING THE COTTON-BOLL WEEVIL. WITH T. W. WEDDY.

STUDIES ON THE BIOLOGY OF THE ARIZONA WILD COTTON WEEVIL.

THE BOLL-WEEVIL PROBLEM. WITH W. D. HUNTER.

COBB, N. A.: A New Parasitic Nema found Infesting and Controling Cotton.

Memorandum of Information Concerning Official Cotton Grades.

Tests of the Waste, Tensile Strength, and Bleaching Qualities of the Different Grades of Cotton as Standardized by the United States Government.


COLOR: conversion tables.

COOPER, W. W.: Report upon Cotton Insects. 237

CONCHEME, E. M.: Bibliography on the

Cotton Boll Weevil Control by the Use of Poison. With T. P. Cassidy.

COTTON BOLL-WEEVIL CONTROL IN COTTON BOLL WEEVIL CONTROL BY

COLLECTION OF WEEVILS AND INSECTS. COTTON INSECT CONTROL

COTTON-DUSTING MACHINERY. WITH H. C. FELLOWS.

COTTON-Inl-louse Control. With others.

DUSTING COTTON FROM AIRPLANES.

DUSTING COTTON FROM PLANTS OTHER THAN COTTON

Floods Disturb the Balance of Nature in World of Insects.

INSECT INJURY TO COTTON SEEDINGS. WITH R. W. HOWE.

INSECTS CAPTURED BY AIRPLANE ARE FOUND AT SURPRISING HEIGHTS

KILLING BOLL WEEVILS WITH POISON

POISONING THE COTTON BOLL WEEVIL. WITH R. C. GAINES.

PRESENT EXPERIMENTAL WORK ON POISONING COTTON-BOLL WEEVILS.

RECENT STUDIES OF THE MEXICAN COTTON BOLL WEEVIL.

RELATION OF THE ARIZONA WILD COTTON WEEVIL TO COTTON PLANTING IN THE ARID WEST.

SOME RULES FOR POISONING THE COTTON-BOLL WEEVIL. WITH T. W. WEDDY.

STUDIES ON THE BIOLOGY OF THE ARIZONA WILD COTTON WEEVIL.

THE BOLL-WEEVIL PROBLEM. WITH W. D. HUNTER.

COBB, N. A.: A New Parasitic Nema found Infesting and Controling Cotton.

Memorandum of Information Concerning Official Cotton Grades.

Tests of the Waste, Tensile Strength, and Bleaching Qualities of the Different Grades of Cotton as Standardized by the United States Government.
INDEX

COOK, O. F.——Continued.

A New System of Cotton Culture and its Application—— 306
A Study of Diversity in Egyptian Cotton—With others—— 13
Acala Cotton, a Superior Upland Variety from Southern Mexico—With C. B. Doyle—— 297
Acrornia, or "Crazy-Top", a Growth Disorder of Cotton—— 95
An Enemy of the Cotton Boll Weevil—— 222
Arrangement of Parts in the Cotton Plant—With R. M. Meade—— 9
Bollweevil Cotton in Texas—— 167
Brachymy, a Hereditary Deformity—— 10
Common Errors in Cotton Production—— 467
Community Cotton Production—— 468
Cotton Communities Growing One Variety only are Increasing—— 469
Cotton Culture in Guatemala—— 221
Cotton Farming in the Southwest—— 537
Cotton Fiber Improvement Necessitates Community Action to keep Seed Pure—— 470
Cotton Improvement on a Community Basis—— 471
Cotton Improvement through Type Selection, with Special Reference to the Acala Variety—— 43
Cotton Improvement under Weevil Conditions—— 298
Cotton More Productive When Thick Spaced for Small Upright Plants—— 290
Cotton of Long Staple could be Produced in much Greater Quantity—— 538
Cotton Problems in Louisiana—— 539
Cotton Progress in Irrigated Valleys a Community Problem—— 472
Cotton Selection on the Farm by the Characters of the Stalks, Leaves, and Bolls—— 44
Cotton Varieties in California—— 300
Cultural of Pima and Upland Cotton in Arizona—With R. D. Martin—— 301
Danger in Judging Cotton Varieties by Percentages—— 45
Dimorphic Branches in the Tropical Crop Plants—— 11
Dimorphic Leaves of Cotton and Other Plant-sucking Insects in Relation to Heredity—— 46
Durango Cotton in the Imperial Valley—— 302

COOPER, M. R.——Notes on Cuban Insects——

COOK, M. T.——Notes on Cuban Insects——

COOK, W. S.——Feeding Punctures of the Sea-island and Meade Cotton in the Southwest——

INDEX

Item

Consumption—Continued.
in Europe, 1851—— 512
in power, 1857—— 738
in United States, 1857—— 511
influence of style changes on locomotion in cotton—— 743
pre-war and post-war relation to prices and business conditions—— 621
relative proportions represented in supply and price—— 623
relative proportions represented in different market studies by Cotton Marketing Division—— 746
word 1860–1900—— 95
attempt to determine future supply and price—— 118

Item

Cook, O. F.——Continued.

Extension of Cotton Production in California—— 540
Factors Affecting the Production of Long-staple Cotton—— 541
Habit on the Cotton Root Rot Fungus—— 303
Heredity and Cotton Breeding—— 47
Hindi Cotton in Egypt—— 222
Improvement in Cotton Production—— 223
Leaf-cut, or Tomosis, a Disorder of the Keel, or Guatemalan Cotton boll-weevil Ant—— 97
Local Adjustment of Cotton Varieties—— 305
member of Committee on South-western Cotton Culture—— 537
Morphology of Cotton Branches—— 12
Mutative Revisions in Cotton—— 309
One-variety Community Plan Shows Numerous Practical Advantages—With C. B. Doyle—— 473
One-variety cotton communities—— 474
Origin of the Hindi Cotton—— 307
Reappearance of a Primitive Character in Cotton Hybrids—— 49
Relation of Drought to Weevil Resistance in Cotton—— 217
Replication of the Habits of the Keel, or Guatemalan Cotton boll-weevil Ant—— 223
Result of Cotton Experiments in 1911—— 308
Sea-island and Meade Cotton in the Southeastern States—— 542
Single-stalk Cotton Culture—— 309
Suppressed and Intensified Characters in Cotton Hybrids—— 51
The Art of Feeding Punctures of Weevil Branches in Cotton—— 8
The Relation of Cotton Buying to Cotton Growing—— 644
The Social Organization and Breeding Habits of the Cotton-protecting Keel of Guatemala—— 224
The Superiority of Line Breeding over Narrow Breeding—— 50
Weevil-resistant Adaptations of the Cotton Plant—— 225
Cook, W. S.——Feeding Punctures of the Sea-island and other Plant-sucking Insects and their Effect on Cottons With W. V. King—— 278
Cooper, J. H.——Cotton-seed Oil, etc—— 814
Cooper, M. R.——Cost of Producing Field Crops, 1923—— 441
Cotton Statistics and Related Data for Agricultural Workers—— 440
Requirements and Costs for Picking, Snapping and Sled-ding Cotton in Western Texas and Oklahoma—— 590
The Cost of Producing Cotton (842 records—1918) With L. A. Moorhouse—— 445
Cooperation in production—— 467–479
section on—— 467–479
See also One-variety communities.
Cooperating Gin(s).—— 470
Cooperative marketing and purchasing—— 675
background of the movement—— 678
methods—— 678
organizations. See Cooperative organizations.
recent changes—— 680
section on—— 673–685
selected reading list—— 677

Item
Cottonseed—Continued.

Item | Item
--- | ---
dry matter content | 786
fertilizer value, compared with cottonseed meal | 812
fertilizer, comparison with toxicity of other products | 854, 855
flour | 827
food for human beings | 827
for planting purposes: delinting | 809, 810
marketing | 810
recleaning | 809
seeding on | 808-810
separating | 835
fumigation | 154
fuzz | 792
percentage variation in Pima | ^ ^ ^ ^
germination at low temperatures | 708
effect of: burying | 793
store | 793
storing | 665
treatment with carbon bisulphide | 794
selection and distribution section on 793-807 | ^ ^ ^ ^
tests | 803
gossypol content and chemical composition during certain periods of development | 847
rate of formation | 846
grades: kernel content and components as basis | 790
standards | 858
to be issued | 759
heat treatment for control of pink bollworm | 254
hull(s): ashes | 829
bran, definition | 842
definition | 842
feed | 829
food constituents uses: | 742
chart | 736, 737
in paper-making | 736, 737
yield per ton of seed | 842
improvement: by selection | 807
industry: 1826-1925 | 823
history | 815, 817
in United States and Europe | 816
infected, carriers of disease | 98
inheriting of smooth | 61
intrinsin value based on dry-matter content | 786
kernel content and oil content as basis for grading | 790
lint index | 45, 73
marketing: bibliography | 502
for planting purposes | 810
meal: consumption, 1926-28 | 839
definition | 842
digestibility | 838
feed: comparison with linseed meal | 835, 840
other products | 836, 844
energy values | 833
for horses | 834, 840
grades and classes | 842
fertilizer, comparison with cottonseed | 812
gossypol content | 853
metaphosphoric and pyrophosphoric acids | 852
production cost | 830
cottonseed—Continued.
toxicity | 848, 850, 855, 856
comparison with toxicity of other products | 854, 855
effect of autoclaving: relation to gossypol content | 852
uses | 742, 829
yield per ton of seed | 787
meats, percentage | 842
moisture percentage | 792
mixing, increased by gin equipment | 808
nurse planting | 293
oil: content: affected by nutrition of plant | 788
determining by Wesson optical method | 813
influence of fertilizers | 788
relation of gossypol content | 851
variational differences | 788, 792
consumption: 1872-1901 | 815
1921-25 | 816
in United States and Europe | 816
detection in lard | 828
disdigestibility | 820
exports: 1872-1901 | 815
1910-20 | 619
first practical extraction | 516
formation of rancid fat | 823
grades | 819
in lard, detection | 828
industry, 1895 | 829
manufacture: 1872-1901 | 816
experimental, 1826-817
suggested: in 1844 | 814
in 1855 | 818
mills: 1826-1925 | 823
first | 817, 823
preparation | 810
pressing | 819
production, United States and Europe | 816
refining | 819
settling | 819
statistics, 1921-25 | 819
tariff rates | 902
uses | 742, 819
wintering | 819
yield: by counties | 787
per ton of seed | 842
outlook, 1920-31 and 1931-32 | 571
pink bollworm, detecting by use of X-ray | 248
place of origin: effect on yield | 318
studied | 792
poisoning in pigs, beriberi theory | 849, 855
prices: analysis | 653
index numbers | 629
statistics | 619
production: income | 603
prices | 792
products: as feed, section on | 833-844
cholephosphoric acid | 878, 892
composition, table | 842
composition, table | 842
composition, table | 842
composition, table | 842
composition, table | 842

Cottonseed—Continued. Products—Continued.

<table>
<thead>
<tr>
<th>Item</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seed: for livestock</td>
<td>842</td>
</tr>
<tr>
<td>value</td>
<td>377</td>
</tr>
<tr>
<td>from 1 ton of cottonseed, quantities</td>
<td>842</td>
</tr>
<tr>
<td>grades and classes</td>
<td>842</td>
</tr>
<tr>
<td>industries, study of cottonseed</td>
<td>792</td>
</tr>
<tr>
<td>manufacturing methods</td>
<td>829</td>
</tr>
<tr>
<td>section on</td>
<td>811-836</td>
</tr>
<tr>
<td>uses, chart</td>
<td>578</td>
</tr>
<tr>
<td>See also Cottonseed, cake; Cottonseed, flour; Cottonseed, meal; Cottonseed, oil.</td>
<td></td>
</tr>
<tr>
<td>pure of supply</td>
<td>479</td>
</tr>
<tr>
<td>community production</td>
<td>796</td>
</tr>
<tr>
<td>maintaining by rotating fields</td>
<td>65</td>
</tr>
<tr>
<td>recompense for planting purposes</td>
<td>807</td>
</tr>
<tr>
<td>relative quantities of crude oil, cake, etc. from</td>
<td>831</td>
</tr>
<tr>
<td>selection: effect on fiber, photographs of five plants to be noted, for southern farms</td>
<td>857</td>
</tr>
<tr>
<td>methods</td>
<td>792</td>
</tr>
<tr>
<td>sources of production</td>
<td>858</td>
</tr>
<tr>
<td>standards for grading, sampling and analyzing statistics published by Crop Estimates Bureau</td>
<td>606</td>
</tr>
<tr>
<td>storage (bibliography)</td>
<td>671</td>
</tr>
<tr>
<td>storage and transportation (bibliography)</td>
<td>502</td>
</tr>
<tr>
<td>tariff rates</td>
<td>902</td>
</tr>
<tr>
<td>uses: chart</td>
<td>742</td>
</tr>
<tr>
<td>suggested in 1855</td>
<td>818</td>
</tr>
<tr>
<td>varietal characteristics</td>
<td>792</td>
</tr>
<tr>
<td>vitality: on, buried</td>
<td>793</td>
</tr>
<tr>
<td>treated with carbon bisulphide</td>
<td>794</td>
</tr>
<tr>
<td>weight, method of determining</td>
<td>73</td>
</tr>
<tr>
<td>Covert, J. R.: Seedtime and Harvest</td>
<td>417</td>
</tr>
<tr>
<td>Seedtime and Harvest With Others</td>
<td>409</td>
</tr>
<tr>
<td>Cox, A. B.: Cotton Prices and Markets</td>
<td>624</td>
</tr>
<tr>
<td>Evolution of Cotton Marketing. Local Cotton Marketing in Texas</td>
<td>645</td>
</tr>
<tr>
<td>Marketing American Cotton in England</td>
<td>459</td>
</tr>
<tr>
<td>Marketing American Cotton on the Continent of Europe</td>
<td>647</td>
</tr>
<tr>
<td>Services in Cotton Marketing</td>
<td>648</td>
</tr>
<tr>
<td>Crawford, G. L.: Point Buying of Cotton Versus Buying on Quality Basis</td>
<td>649</td>
</tr>
<tr>
<td>Crawford, J. C.: Method of Estimating the Yield of Cotton in the Field</td>
<td>588</td>
</tr>
<tr>
<td>Crawford, H. A.: Phosphoric acid hypothesis, criticism</td>
<td>856</td>
</tr>
<tr>
<td>Crazy-top. See Acronaemia.</td>
<td></td>
</tr>
<tr>
<td>Credit: bibliography</td>
<td>677</td>
</tr>
<tr>
<td>in marketing</td>
<td>648</td>
</tr>
<tr>
<td>See also Production, credit.</td>
<td></td>
</tr>
<tr>
<td>Creswell, C. F.: Composition of Cotton Seed</td>
<td>787</td>
</tr>
<tr>
<td>With G. L. Bidwell</td>
<td>650</td>
</tr>
<tr>
<td>Disadvantages of Selling Cotton in the Seed</td>
<td>854</td>
</tr>
</tbody>
</table>

CROSBY, M. A.: A Successful Alabama Diversification Farm. With others | 419 |
| An Example of Intensive Farming in the Cotton Belt | 418 |
| Diversification Farming in the Cotton Belt, With others | 435 |
| Farm Practices that Increase Crop Yields in the Gulf Coast Region | 311 |
| Cuba, insects | 185 |
| Cultivation in England 1845 | 579 |
| 1866 | 296 |
| 1867 | 353, 435 |
| distribution, period | 352 |
| effect of environmental conditions | 357 |
| experiments by experimental stations | 377 |
| familiar talks on | 348 |
| in Indiana, 1845 | 379 |
| in Missouri, 1861 | 327 |
| in San Joaquin valley, Calif. 1867 | 328 |
| in Western States | 322 |
| in United States | 377 |
| in various countries | 690 |
| in Egypt | 315, 316 |
| recommended for South | 313, 345 |
| new system | 306 |
| north of climatic limits | 375 |
| on fallow land | 350 |
| preparation of land and planting | 366 |
| rotation and tillage experiments | 307 |
| soil work, charts | 409, 417 |
| survey of farm practice | 415 |
| under boll weevil conditions. See Boll weevil conditions. |

<p>| Factors Affecting the Mechanical Application of Fertilizers to the Soil. With A. L. Mehring | 463 |
| Mechanical Application of Fertilizers to Cotton in South Carolina, 1931. With others | 455 |
| Progress Report on Mechanical Application of Fertilizers to Cotton in South Carolina, 1930. With others | 456 |
| CUMMINGS, E. S.: Results of Spinning Tests of South Carolina Cotton (cotton of 1925). With H. H. Willis | 719 |
| Current literature on cotton | 913 |
| CURNHAN, A.: The Insect Enemies of the Cotton Boll Weevil. With others | 253 |
| Cutworm injury to seedlings | 365 |</p>
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cyanamid as fertilizer</strong></td>
<td>388, 389</td>
</tr>
<tr>
<td><strong>Cyrtois or club-leaf</strong></td>
<td>95</td>
</tr>
<tr>
<td><strong>DABNEY, C. W.</strong></td>
<td>Introduction to Cyanamid as fertilizer 388, 389</td>
</tr>
<tr>
<td><strong>DAINGERFIELD, L. H.</strong></td>
<td>Weather and Cotton Yield in Texas, 1890-1929, Inclusive. 76</td>
</tr>
<tr>
<td><strong>DANTZIG, T.</strong></td>
<td>Fabrics' Stiffness is Measurable by a Device Made for the Purpose. With E. C. Peterson. 784</td>
</tr>
<tr>
<td><strong>DAUGHERTY, C. M.</strong></td>
<td>Children's Rompers 764</td>
</tr>
<tr>
<td><strong>DAVIS, R. O. E.</strong></td>
<td>Deltatype Variety Spinning Value 723</td>
</tr>
<tr>
<td><strong>DAVIS, M. A.</strong></td>
<td>Different Grades of Arizona-Egyptian with Sea Island and Sak Hair Island Cotton. With Fred Taylor. 712</td>
</tr>
<tr>
<td><strong>DAY, E. L.</strong></td>
<td>Bibliography on the Marketing of Agricultural Products. With others. 500</td>
</tr>
<tr>
<td><strong>DEAN, W. S.</strong></td>
<td>Cotton Literature; Selected References. 913</td>
</tr>
<tr>
<td><strong>Price Fixing by Governments</strong></td>
<td>424 B.C.-1926 A.D. A Selected Bibliography. With others. 870</td>
</tr>
<tr>
<td><strong>“Dead spots.” See Root-rot.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>DEAN, W. S.</strong></td>
<td>Comparative Spinning Tests of the Different Grades of Arizona-Egyptian with Sea Island and Sak Hair Island Cotton. With Fred Taylor. 712</td>
</tr>
<tr>
<td><strong>Manufacturing Tests of Cotton Fumigated with Hydrocyanic Acid. With Fred Taylor.</strong> 705</td>
<td></td>
</tr>
<tr>
<td><strong>Manufacturing Tests of the Official Cotton Standards for Grade. With Fred Taylor.</strong> 706</td>
<td></td>
</tr>
<tr>
<td><strong>The Classification and Grading of Cotton. With D. E. Earle.</strong> 661</td>
<td></td>
</tr>
<tr>
<td><strong>Delinting for planting purposes.</strong> 809</td>
<td></td>
</tr>
<tr>
<td><strong>Demand and competition, section on.</strong> 723</td>
<td></td>
</tr>
<tr>
<td><strong>Department of Agriculture. See Farm Legislation.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Depression in business, effect on price.</strong> 635</td>
<td></td>
</tr>
<tr>
<td><strong>Dewey, L. H.</strong></td>
<td>Egyptian Cotton in the United States 312</td>
</tr>
<tr>
<td><strong>English Artificial Cotton</strong></td>
<td>513</td>
</tr>
<tr>
<td><strong>Hemp Fiber Losing Ground, Despite its Valuable Qualities.</strong> 514</td>
<td></td>
</tr>
<tr>
<td><strong>Principal Commercial Plant Fibers.</strong> 14</td>
<td></td>
</tr>
<tr>
<td><strong>The Strength of Textile Plant Fibers. With Marie Goodloe.</strong> 689</td>
<td></td>
</tr>
<tr>
<td><strong>Disease(s):</strong></td>
<td></td>
</tr>
<tr>
<td><strong>annual damage to crop.</strong> 123</td>
<td></td>
</tr>
<tr>
<td><strong>description and damage.</strong> 592</td>
<td></td>
</tr>
<tr>
<td><strong>dissemination.</strong> 99, 100</td>
<td></td>
</tr>
<tr>
<td><strong>habits and control.</strong> 102, 123</td>
<td></td>
</tr>
<tr>
<td><strong>importance, order of.</strong> 123</td>
<td></td>
</tr>
<tr>
<td><strong>in United States, summary of investigation and results.</strong> 377</td>
<td></td>
</tr>
<tr>
<td><strong>investigations.</strong> 317</td>
<td></td>
</tr>
<tr>
<td><strong>publications on.</strong> 41</td>
<td></td>
</tr>
<tr>
<td><strong>resistant crops.</strong> 129</td>
<td></td>
</tr>
<tr>
<td><strong>See also Varieties, wilt-resistant.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>distribution—</strong> and marketing. 508, 648</td>
<td></td>
</tr>
<tr>
<td><strong>Distribution—Continued.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>cottonseed, circulars.</strong> 805, 806</td>
<td></td>
</tr>
<tr>
<td><strong>staple lengths of American upland cotton.</strong> 552</td>
<td></td>
</tr>
<tr>
<td><strong>Diploidia injury.</strong> 122</td>
<td></td>
</tr>
<tr>
<td><strong>Diversification—</strong></td>
<td></td>
</tr>
<tr>
<td><strong>1864.</strong> 437</td>
<td></td>
</tr>
<tr>
<td><strong>In the Cotton Belt.</strong> 435</td>
<td></td>
</tr>
<tr>
<td><strong>in Georgia.</strong> 427</td>
<td></td>
</tr>
<tr>
<td><strong>on Alabama farm.</strong> 419</td>
<td></td>
</tr>
<tr>
<td><strong>recommends:</strong> 1874. 428</td>
<td></td>
</tr>
<tr>
<td><strong>1881.</strong> 310</td>
<td></td>
</tr>
<tr>
<td><strong>by A. A. Knapp.</strong> 431</td>
<td></td>
</tr>
<tr>
<td><strong>under the plantation system.</strong> 414</td>
<td></td>
</tr>
<tr>
<td><strong>Diversity in Egyptian cotton.</strong> 13</td>
<td></td>
</tr>
<tr>
<td><strong>Division of Cotton Marketing.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Cotton Marketing Division, Bureau of Agricultural Economics.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Dixie Triumph variety, spinning value.</strong> 723</td>
<td></td>
</tr>
<tr>
<td><strong>DIXON, H. M.</strong></td>
<td>An Economic Study of Farming in Sumter County, Ga. With W. W. Hawthorne. 420</td>
</tr>
<tr>
<td><strong>DODGE, C. R.</strong></td>
<td>A Descriptive Catalogue of Useful Fiber Plants of the World. 690</td>
</tr>
<tr>
<td><strong>Vegetable Fibers.</strong> 691</td>
<td></td>
</tr>
<tr>
<td><strong>DODGE, J. R.</strong></td>
<td>Agricultural Graphics.</td>
</tr>
<tr>
<td><strong>DIXON, H. M.</strong></td>
<td>A Report of Exhibits Illustrating Agricultural Statistics at the World's Industrial and Cotton Exhibition at New Orleans, La. 596</td>
</tr>
<tr>
<td><strong>Domestic allotment plans.</strong> 874</td>
<td></td>
</tr>
<tr>
<td><strong>Dowelaw's cotton planter.</strong> 465</td>
<td></td>
</tr>
<tr>
<td><strong>DOWELL, C. F.</strong></td>
<td>Effect of Auto-claving upon the Toxicity of Cottonseed Meal. With Paul Menaul. 845</td>
</tr>
<tr>
<td><strong>DOWNEY, K. M.</strong></td>
<td>Fabrics for Children's Play Suits Tested for Resistance to Weather. 765</td>
</tr>
<tr>
<td><strong>Laundry Tests under Scientific Control Show how to Prevent Damage.</strong> 780</td>
<td></td>
</tr>
<tr>
<td><strong>DOYLE, C. B.</strong></td>
<td>Acala Cotton, a Superior Upland Variety from Southern Mexico. With O. P. Cook. 297</td>
</tr>
<tr>
<td><strong>Cotton Growers Advised not to Try Large-scale Planting of Sea Island.</strong> 543</td>
<td></td>
</tr>
<tr>
<td><strong>Cotton Growing in One-variety Communities.</strong> 475</td>
<td></td>
</tr>
<tr>
<td><strong>Cottonseed Mixing Increases Modern Gin Equipment. With W. W. Ballard.</strong> 808</td>
<td></td>
</tr>
<tr>
<td><strong>Live-at-home Plans and Soil Building Aid Cotton Growers.</strong> 313</td>
<td></td>
</tr>
<tr>
<td><strong>Meade Cotton, an Upland Long-staple Variety Replacing Sea Island. With G. S. Molay.</strong> 359</td>
<td></td>
</tr>
<tr>
<td><strong>Multiplicity of Varieties Hanclcaps Improvement in the American Cotton Crop.</strong> 314</td>
<td></td>
</tr>
<tr>
<td><strong>One-variety Community Plan Shows Numerous Practical Advantages. With O. F. Cook.</strong> 473</td>
<td></td>
</tr>
<tr>
<td><strong>Sea-Island and Meade Cotton in the Southeastern States. With O. F. Cook.</strong> 542</td>
<td></td>
</tr>
<tr>
<td><strong>The Cotton Situation. With others.</strong> 592</td>
<td></td>
</tr>
<tr>
<td><strong>Dresses. See Clothing.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Driers.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Drought, relation to weevil resistance.</strong> 217</td>
<td></td>
</tr>
<tr>
<td><strong>DUMMION, P. L.</strong></td>
<td>The Germination of Cottonseed. With E. H. Toole. 803</td>
</tr>
<tr>
<td><strong>DUCK. See Canvas.</strong></td>
<td></td>
</tr>
</tbody>
</table>
DUGGAN, J. F.: A Successful Alabama Diversification Farm. With others. 419


Dispersal of the Cotton-Boll Weevil. With F. A. Fenton. 190

DURANGO variety: community production 478

comparison with other varieties 392

handing and marketing 655

history 302, 355

dusted in Imperial valley, Calif. 302, 355

DUSTING: as cause of aphid infestation 270

from airplanes 164, 204, 206

machinery 207, 212

See also Boll weevil, dusting

DUVAL, L.: References for the Study of the Chemistry of the Cotton Plant and its Products 15

DUVEL, J. W. T.: The Vitality of Buried Seeds 793

DYE—Earliness in cotton 777

Dysdercus suturellus H.-Schiff. See Cotton stainer.

Dysdercus obscursatus Distant. See Cotton stainer.

EARLY DEFLORATION as a Method of Increasing Cotton Yields 17

EDGINGTON, B. H.: The Comparative Nutritive Value of the Proteins of Linseed Meal and Cottonseed Meal for Different Animals. With others. 835

EDMINSTER, L. R.: Agricultural Price-supporting Measures in Foreign Countries. With others. 869

EDWARDS, E. E.: A Bibliography of the History of Agriculture in the United States 914

Historical Background of the Present Situation in Southern Agriculture 501

Memorandum Concerning the Campaigns in 1905, 1915, 1921, and 1927 to Decrease the Cotton Acreage 875

EGYPT: climate, comparison with United States 312, 335

competition 525

INDEX

Egypt—Continued.

cultivation 312, 335

cotton 312, 335

extermination 346

Hindi cotton 303

marketing methods 316, 652

tariffto 312, 652

use of cotton in reclaiming alkali lands 333

Egyptian cotton affected by soil variations 334

branching habits 35

breeding 365

seed extension work 365

new types 54

report by T. H. Kearney 342

characteristics, descriptions, and pictures 14

comparison with Durango 302

cultivation in Egypt 312, 316, 335

diversity of 4 different kinds 13

effect of soil variations 334

experimantal growing in Southwest 371

experiments 1908 336

in Arizona 335

with imported seed 312

fiber from different pickings, quality 694

genetics 339

Hindi variations 48

history 56, 62, 785

imports into United States, 1908 336

in Arizona 795

in Salt River valley 301

in southwestern United States 332, 333, 371, 372

in United States 312

introduction into United States 317

land preparation 329

leaf tissue fluids 20-25

mutation 62

origin and history 62

prices, 1909-11, at Boston 372

recommended for Yuma reclamation project 380

resistance to alkali soil 333

seed selection 595

seedling stand 319, 323

spinning tests 336

statistical situation in United States 533

suggestions for growing in Southwest 371, 372

variety 1908, 1920-30, 1925, 1927, 1932, 316

See also American-Egyptian cotton; Arizona-Egyptian cotton; Pima cotton; Sakellariid-Egyptian cotton; Yuma cotton.

Elasticity curves 713

Electricity static, cause of gin fires 482

ELLIOTT, J. A.: Cotton-wilt, a Seed-borne Disease 98

ELLISON, T.: estimate of world crop 610

ELSWORTH, R. H.: Agricultural Cooperative Associations, Marketing and Purchasing, 1925 674

Cooperative Marketing and Purchasing, 1920-30 675

Development and Present Status of Farmers' Cooperative Business Organizations 676

England, marketing American cotton in 646

English artificial cotton 513

Entomology Bureau, report of work on boll weevil 179

Entomology, economic, exhibit 161
Environment:  
accommodation of different plants to _______  13  
effect on dimorphism of leaves ________  46  
effect on growth and development ________  357  

Europe:  
consumption, 1705-1895 ________  618  
marketing American cotton in ________  647  
EVANS, W. H.: Botany of Cotton ________  377  
Exchanges:  
city and State, 1899-1902 ________  504  
region in South Carolina ________  505  
Exhibition of the Works of Industry of all Nations, London, 1851 ________  701  
Exhibits:  
agricultural and industrial uses of cotton ________  749  
cotton in the home ________  758  
cotton samples ________  601  
economic entomology ________  161  
Experiment stations:  
experiments in cotton culture ________  377  
fertilizer tests, 1888-93 ________  408  
Experiment Stations Office Bulletin 53 ________  377  
Exports:  
1841-84, diagram ________  596  
1560 ________  375  
1900-20 ________  619  
1910-20 ________  593  
distribution ________  604  
from Egypt ________  546  
from North Atlantic ports, decline ________  530  
percentage distribution ________  515  
station ________  510, 609  
to China ________  520, 521  
to Japan ________  521  
to principal countries, 1900-13 ________  522  
1925-29, 1928-29 ________  524  
to Russia, decline ________  515  
to specified countries ________  515  
Exports:  See Weather.  
EZEKIEL, M.: Kinds of Agricultural Surpluses ________  876  

Fabric(s):  
airplane:  
manufacturing and laboratory tests ________  713  
signal corps specifications ________  713  
classified according to suitability for various uses ________  747  
construction:  
details ________  747  
effect of laundering ________  785  
effect of washing ________  783  
experimental ________  790  
finishing and laundering ________  780-785  
for summer garments ________  770  
glossary ________  747  
laundering:  
studies ________  780-785  
tests ________  780  
manufacture, grades and staples required ________  746  
physical testing ________  790  
protective value ________  768  
against sunburn ________  768  
children's play suits ________  765  
in still and moving air ________  767  
resistance to weather ________  767  
selection ________  747  
stiffness ________  781, 784, 785  
suitability for children's wear ________  765  
s tensive strength ________  765  
weight ________  765  

Fall army worm, effect of floods on Inestation ________  146  
Farm(s):  
budget ________  436  
customs and conditions surveyed ________  415  
engineering, section on ________  453-455  

Farm(s)—Continued,  
management:  
plan, cost, investigations in Anderson county, S.C. ________  443  
section on ________  409-439  
successful on South Carolina farm ________  425  
survey and study ________  416  
in Arizona ________  427  
in Georgia ________  420  
in Brooks county ________  427  
in Sumter county ________  420  
in South Carolina ________  443  
in Texas, Ellis county ________  439  
model plan ________  438  
organization:  
economic significance ________  420  
in irrigated valleys of Ariz. ________  416  
situation, 1933 ________  503  
social problems ________  466  
uses for cotton ________  739, 740  

Farmers:  
classified by various factors ________  433  
condition in piedmont ________  466  
cooperative associations. See Cooperative organizations.  
cooperative demonstration work:  
field instructions ________  345  
results ________  346, 381  
experiences and opinions influencing marketing methods ________  683  
in piedmont ________  408  
number growing cotton, 1924 ________  595  
opinions, influencing production and acreage adjustments ________  433  
response to price (bibliography) ________  641  
tenure status, financial progress, etc ________  466  

Farming:  
economic survey in Georgia, Sumter county ________  420  
intensive, system followed by Alabama farmer ________  418  
"mixed system" ________  422  
types, changes 1919-24 ________  567  

FARRINGTON, C. C.:  
Cotton Consumption in Power Laundries of the United States—1928. With others ________  738  
Some Phases of the Long-staple Cotton Situation in the United States. With others ________  533  
Fashion changes in clothing, effect on cotton consumption ________  771  

FAULWETTER, R. C.:  
Dissemination of the angular leaf spot of cotton ________  99  
Wind-blown rain, a factor in disease dissemination ________  100  
The Federal Horticultural Board:  
compensation on account of non-cotton zones ________  900  
Service and Regulatory Announcements ________  901  

FELDKAMP, C. L.:  
Selected List of References on the Cost of Cotton Production ________  442  

FELLOWS, H. C.:  
A Simple Method for Determining the Oil Content of Seeds and other Oil-bearing Materials. With D. A. Coleman ________  813  

Fenton, F. A.:  
Biology of the Cotton Boll Weevil. With E. W. Dunnam ________  189  

Detecting Pink Ballworms in Cottonseeds by the X-ray. With W. W. Waite ________  248  
Dispersal of the Cotton-boll Weevil. With E. W. Dunnam ________  190  

INDEX  

119
INDEX

**Fertilization:**
- cross: ??
- in Pima and upland, comparison: 67
- selection: ??
- self: ?? 67, 74

**Fertilizer(s):**
- analysis and sale, state laws: 407
- application: effect on maturation periods: 352
- mechanical: 455, 456, 463
- placement experiments in South Carolina: 400
- quantity per acre: 390
- atmospheric-nitrogen: 389
- commercial: 405
- composition and placement: 398
- concentrated air-derived: 403
- consumption: effect of cotton prices: 632
- effect of fertilizer prices: 632
- effect of yield and acreage: 632
- containing borax, influence on growth: 402
- cost, relation to:
  - cost of production: 392, 407
  - credit: 452
  - gross income, 1913–28: 638
  - yield: 441
- cottonseed meal:
  - comparison with cottonseed: 812
  - formula: 826
- distribution, irregular, effects: 397
- experiments:
  - at experiment stations, 1888–93: 408
  - at South Carolina station, on Norfolk fine sandy loam: 404
- industry:
  - bags used: 751
  - production and consumption statistics: 407
  - prices at planting time, effect on consumption: 632
  - relation to soil types: 399
  - section on: 388–408
  - use: effect on:
    - oil content of seed: 788
    - prices: 625
- farm practice in South Atlantic states: 390

See also Green manures; Manuring.

**Fertilizing constituents contained in a crop yielding—**
- 100 pounds of lint per acre: 394
- 300 pounds of lint per acre: 395

Fess, S. D. (Senator), letter from Secretary of Agriculture to, 1826.

**Fettow, W. W.:**
- Cotton Bags and other Containers in the Wholesale Grocery Trade, With R. J. Cheatham: 750
- Cotton Consumption in Power Laundries of the United States—1926. With others: 738
- Cotton Exports of U. S. Reflect Continuously Shifting World Market: 515
- Cotton Research Program of the United States Department of Agriculture as an Aid to Cotton Cooperatives: Some Phases of the Long-staple Cotton Situation in the United States and Others: 903
- Staple Lengths of World Cotton Crops: 544

**Fiber(s):**
- "artificial knots" in Fiji Island cotton: 700

**Fiber(s)—Continued:**
- bast and hard: strength: 689
- use: 690
- characters in relation to fruitfulness: 17
- classification, structural and economic: 690
- color. See Color. competition. See Competition, between fibers. development:
  - in Acapulco: 692
  - in Pima: 692
- diameter by varieties: 689
determination of sample size: 698
- from different pickings of Egyptian cotton: 694
- fungous staining: 121
- illustrations: 523
- laboratory in Agricultural Economics Bureau: 716
- length:
  - determining by new mechanical method: 687
  - from bolls at different heights of plant: 695
  - uniformity within the boll: 701
- maturity:
  - from different pickings: 694
  - methods of estimating: 693
  - microscopic investigation: 700
  - of the Pacific States: 545
  - protection against sunburn: 768
- quality:
  - color studies, section on: 729–734
  - section on: 680–734
  - spinning and manufacturing tests, section on: 702–728
  - research in Cotton Marketing Division: 697, 716
  - salt content: 696
  - spinning tests. See Spinning tests.
- strength:
  - by varieties: 689
  - tester used in Office of Fiber Investigations: 689
  - tests. See Spinning tests.
  - uniformity in long-staple upland: 686
  - within the boll: 701
- Fiji island cotton, "artificial knots": 700

**Finch, C. L.:**
- Cotton Classification Service is Maintained under Standards Act: 662
- Standards for Cotton Classification in the United States and Abroad: 886

**Flax:**
- spinning industry, decline in France: 519
- substitutes for cotton: 523

**FAX and Hemo Commission: Report.**
- Flea hopper. See Cotton, flea hopper.
- Fletcher, J. C., farm at McColl, S.C.; cottonseed meal: experiments conducted: 812

**Flint, W.:**
- Textile Fibres of the Pacific States: 545

**Fitchen: Market Statistics. With C. J. West: 619

**Floods:**
- cotton as crop for damaged lands: 344
- effect on insect problems: 146

**Fires in gins:** 482, 491

**Flax:**
- spinning industry, decline in France: 519
- substitutes for cotton: 523

**FAX and Hemo Commission: Report.**
- Flea hopper. See Cotton, flea hopper.
- Fletcher, J. C., farm at McColl, S.C.; cottonseed meal: experiments conducted: 812

**Flint, W.:**
- Textile Fibres of the Pacific States: 545

**Fitchen: Market Statistics. With C. J. West: 619

**Floods:**
- cotton as crop for damaged lands: 344
- effect on insect problems: 146
Florida—
insects ___________ 152
livestock enterprise as substitute for cotton production—
production of Sea Island and Meade ___________ 154

Fainting—
from cottonseed ___________ 827
mills, bags used ___________ 752

Flowering—
date, relation of soil ___________ 320
salinity to ___________ 14
Flowers, pictures of ___________ 14

Floyd, E. ___________ 767
Forecasting—
Cotton-caterpillar, Rust ___________ 270

Ford, E. ___________ 266
Furry, M. S. ___________ 315

Futures Act ___________ 14
Furrier, M. S. ___________ 316

Futurity—
Method of Ground to the Laboring Man ___________ 421

INDEX

<table>
<thead>
<tr>
<th>Item</th>
<th>121</th>
</tr>
</thead>
<tbody>
<tr>
<td>Futures trading — legislation and regulations, section on ————</td>
<td>859–868</td>
</tr>
<tr>
<td>Gaines, R. C. : Cotton-louse Control. With others ————</td>
<td>266</td>
</tr>
<tr>
<td>Poisoning the Cotton Boll Weevil. With B. R. Cord ————</td>
<td>299</td>
</tr>
<tr>
<td>A Preliminary Study of the Determination of the Apparent Digestibility of Protein by Modified Procedures With A. H. Kuhlman ————</td>
<td>838</td>
</tr>
<tr>
<td>Changes in the Sugar, Oil, and Gossypol Content of the Developing Cotton Boll. With Charles Caskey, Jr. ————</td>
<td>7</td>
</tr>
<tr>
<td>The Gossypol Content and Chemical Composition of Cottonseeds During Certain Periods of Development ————</td>
<td>847</td>
</tr>
<tr>
<td>Gardner, C. : Agricultural Cooperation, A Selected and Annotated List ————</td>
<td>677</td>
</tr>
<tr>
<td>Cooperation in Agriculture, A Selected and Annotated Reading List ————</td>
<td>767</td>
</tr>
<tr>
<td>Garner, W. W. : Oil Content of Seeds as Affected by the Nutrition of the Plant. With others ————</td>
<td>788</td>
</tr>
<tr>
<td>Garo Hill (Gossypium cernuum), growth of fruiting parts ————</td>
<td>4</td>
</tr>
<tr>
<td>Gathered &quot;cotton, marketing ————</td>
<td>658</td>
</tr>
<tr>
<td>Gatlin, G. O. : Cooperative Marketing of Cotton ————</td>
<td>678</td>
</tr>
<tr>
<td>and breeding, section on ————</td>
<td>43–75</td>
</tr>
<tr>
<td>bibliography ————</td>
<td>916</td>
</tr>
<tr>
<td>experiments ————</td>
<td>340</td>
</tr>
<tr>
<td>Geographic distribution of staple lengths of American upland cotton ————</td>
<td>552</td>
</tr>
<tr>
<td>Geography of production ————</td>
<td>508</td>
</tr>
<tr>
<td>Georgia : acreage decrease ————</td>
<td>8</td>
</tr>
<tr>
<td>1890–1930 ————</td>
<td>547</td>
</tr>
<tr>
<td>1919–29 ————</td>
<td>534</td>
</tr>
<tr>
<td>Brooks county, farm-management survey ————</td>
<td>427</td>
</tr>
<tr>
<td>climatic and yield, 1892–1916 ————</td>
<td>48</td>
</tr>
<tr>
<td>consumption, 1850–1903 ————</td>
<td>613</td>
</tr>
<tr>
<td>farm-management surveys ————</td>
<td>420, 427</td>
</tr>
<tr>
<td>Gins, cooperative ————</td>
<td>483</td>
</tr>
<tr>
<td>Gwinnett county, condition of farmers ————</td>
<td>466</td>
</tr>
<tr>
<td>livestock enterprise as substitute for cotton production ————</td>
<td>566</td>
</tr>
<tr>
<td>production ————</td>
<td>566</td>
</tr>
<tr>
<td>1850–1903 ————</td>
<td>613</td>
</tr>
<tr>
<td>costs ————</td>
<td>444, 445</td>
</tr>
<tr>
<td>Sea Island and Meade ————</td>
<td>542</td>
</tr>
<tr>
<td>staple length and mill consumption ————</td>
<td>581, 582</td>
</tr>
<tr>
<td>warehouse survey ————</td>
<td>669</td>
</tr>
<tr>
<td>Gerdes, F. L. : Cotton Quality Affected in Ginning by Process by Seed Moisture in Seed Cotton ————</td>
<td>454</td>
</tr>
<tr>
<td>Germany, marketing practices ————</td>
<td>647</td>
</tr>
<tr>
<td>Germination. See Cottoneed ————</td>
<td>454</td>
</tr>
<tr>
<td>Grinnon, F. H. : The Corn and Cotton Wireworm in its Relation to Cereal and Forage Crops, with Control Measures ————</td>
<td>272</td>
</tr>
<tr>
<td>Item</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>GOODRICH, C. L.—Continued.</td>
<td></td>
</tr>
<tr>
<td>Cotton Grower Often Finds Larger Outlay Pays for Bigger Yield</td>
<td>423</td>
</tr>
<tr>
<td>Factors that Make for Success saw in price fixing</td>
<td>424</td>
</tr>
<tr>
<td>Testing Farms in the South for Efficiency in Management</td>
<td>426</td>
</tr>
<tr>
<td>Gossypol in cottonseed—during certain periods of development</td>
<td>847</td>
</tr>
<tr>
<td>rate of formation</td>
<td>846</td>
</tr>
<tr>
<td>relation to oil content</td>
<td>851</td>
</tr>
<tr>
<td>Toxicity</td>
<td>852</td>
</tr>
<tr>
<td>In cottonseed meal:</td>
<td></td>
</tr>
<tr>
<td>in North Carolina</td>
<td>853</td>
</tr>
<tr>
<td>studies</td>
<td>856</td>
</tr>
<tr>
<td>in cottonseed products, comparative amounts</td>
<td>854, 855</td>
</tr>
<tr>
<td>pharmacology</td>
<td>850</td>
</tr>
<tr>
<td>physiological effect</td>
<td>848</td>
</tr>
<tr>
<td><strong>Gossypium cernuum. See Garo Hill.</strong></td>
<td></td>
</tr>
<tr>
<td>GOCTO, B. R.: The Movement of the 1924-25 Cotton Crop and Changes in Freight Rates on Cotton</td>
<td>532</td>
</tr>
<tr>
<td>1913-27. With J. C. White</td>
<td></td>
</tr>
<tr>
<td>Government intervention—</td>
<td></td>
</tr>
<tr>
<td>in price fixing</td>
<td>870</td>
</tr>
<tr>
<td>in price-supporting measures, foreign countries</td>
<td>869</td>
</tr>
<tr>
<td>Grade(s):</td>
<td></td>
</tr>
<tr>
<td>1928-29 crop in:</td>
<td></td>
</tr>
<tr>
<td>Alabama</td>
<td>553</td>
</tr>
<tr>
<td>Arkansas</td>
<td>554</td>
</tr>
<tr>
<td>Louisiana</td>
<td>555</td>
</tr>
<tr>
<td>Mississippi</td>
<td>556</td>
</tr>
<tr>
<td>North Carolina</td>
<td>559</td>
</tr>
<tr>
<td>South Carolina</td>
<td>557</td>
</tr>
<tr>
<td>Tennessee</td>
<td>558</td>
</tr>
<tr>
<td>United States</td>
<td></td>
</tr>
<tr>
<td>act authorizing the Secretary of Agriculture to collect and publish statistics of</td>
<td>859</td>
</tr>
<tr>
<td>and staple estimates project:</td>
<td></td>
</tr>
<tr>
<td>act authorizing</td>
<td>859</td>
</tr>
<tr>
<td>cooperating gins</td>
<td>551</td>
</tr>
<tr>
<td>description of work</td>
<td>551</td>
</tr>
<tr>
<td>progress and practical use reports issued. See Statistics (section)</td>
<td></td>
</tr>
<tr>
<td>linters</td>
<td>824</td>
</tr>
<tr>
<td>official reports</td>
<td></td>
</tr>
<tr>
<td>commercial classification</td>
<td>663</td>
</tr>
<tr>
<td>with reference to</td>
<td>382</td>
</tr>
<tr>
<td>history</td>
<td></td>
</tr>
<tr>
<td>manufacturing tests</td>
<td>704, 706, 718</td>
</tr>
<tr>
<td>memorandum of information</td>
<td>880</td>
</tr>
<tr>
<td>relation to price:</td>
<td></td>
</tr>
<tr>
<td>in Arkansas</td>
<td>630</td>
</tr>
<tr>
<td>in Mississippi</td>
<td>629</td>
</tr>
<tr>
<td>in North Carolina</td>
<td>653</td>
</tr>
<tr>
<td>in Oklahoma</td>
<td>651, 637, 658</td>
</tr>
<tr>
<td>in United States</td>
<td>627, 637</td>
</tr>
<tr>
<td>point buying vs. buying on quality basis</td>
<td>649</td>
</tr>
<tr>
<td>required in manufacture of different fabrics</td>
<td>746</td>
</tr>
<tr>
<td>standards</td>
<td>505</td>
</tr>
<tr>
<td>commercial classification</td>
<td>663</td>
</tr>
<tr>
<td>with reference to</td>
<td></td>
</tr>
<tr>
<td>comparison of United States and Liverpool</td>
<td>888</td>
</tr>
<tr>
<td>establishment and promulgation</td>
<td>894</td>
</tr>
<tr>
<td>variations, 1928-31</td>
<td>550</td>
</tr>
<tr>
<td>Grading:</td>
<td></td>
</tr>
<tr>
<td>color factor in.</td>
<td>729, 731, 732</td>
</tr>
<tr>
<td>deductions to farmers</td>
<td>596</td>
</tr>
<tr>
<td>Grafting trials</td>
<td>8</td>
</tr>
<tr>
<td>Grain bug</td>
<td>157</td>
</tr>
<tr>
<td><strong>GIFT, G. W.: Cotton Under High Culture.</strong></td>
<td>422</td>
</tr>
<tr>
<td><strong>GILBERT, J. C.:</strong></td>
<td>748</td>
</tr>
<tr>
<td>Agricultural and Industrial Uses for Cotton</td>
<td></td>
</tr>
<tr>
<td>Cotton in the Home</td>
<td></td>
</tr>
<tr>
<td><strong>GILBERT, W. W.:</strong></td>
<td>101</td>
</tr>
<tr>
<td>Cotton Anthracnose and How to Control it</td>
<td></td>
</tr>
<tr>
<td>Cotton Diseases and Their Control</td>
<td>102</td>
</tr>
<tr>
<td>Cotton Wilt and Root-knot</td>
<td>103</td>
</tr>
<tr>
<td>The Control of Cotton Wilt and Root-knot With W. A. Otton</td>
<td>127</td>
</tr>
<tr>
<td><strong>Gin(s):</strong></td>
<td></td>
</tr>
<tr>
<td>accounting systems</td>
<td>493</td>
</tr>
<tr>
<td>and ginning, section on</td>
<td>480-497</td>
</tr>
<tr>
<td>controlling bollweevil in</td>
<td>291</td>
</tr>
<tr>
<td>cooperating in grade and staple estimates project</td>
<td>551</td>
</tr>
<tr>
<td>cooperative and local units of marketing associations</td>
<td>485</td>
</tr>
<tr>
<td>in Georgia</td>
<td>483</td>
</tr>
<tr>
<td>in Texas services</td>
<td>486</td>
</tr>
<tr>
<td>fires</td>
<td>487</td>
</tr>
<tr>
<td>ginning system</td>
<td>492</td>
</tr>
<tr>
<td>patents, 1869</td>
<td>496</td>
</tr>
<tr>
<td>types:</td>
<td></td>
</tr>
<tr>
<td>roller</td>
<td>494</td>
</tr>
<tr>
<td>saw</td>
<td></td>
</tr>
<tr>
<td>Whitney's saw gin:</td>
<td>618</td>
</tr>
<tr>
<td>effect upon production</td>
<td>618</td>
</tr>
<tr>
<td>invention</td>
<td></td>
</tr>
<tr>
<td><strong>Ginning:</strong></td>
<td></td>
</tr>
<tr>
<td>1866</td>
<td>353</td>
</tr>
<tr>
<td>cause of cotton seed mixing</td>
<td>508</td>
</tr>
<tr>
<td>effect upon fiber quality</td>
<td>701</td>
</tr>
<tr>
<td>Fiji Island cotton</td>
<td>700</td>
</tr>
<tr>
<td>factor in cottonseed deterioration</td>
<td>492</td>
</tr>
<tr>
<td>Information for farmers</td>
<td>490, 494</td>
</tr>
<tr>
<td>Pima cotton in Arizona</td>
<td>495</td>
</tr>
<tr>
<td>practices and costs in North Carolina</td>
<td>488</td>
</tr>
<tr>
<td>in Texas reports, computing crop from</td>
<td>489</td>
</tr>
<tr>
<td>research, problems and methods</td>
<td>80</td>
</tr>
<tr>
<td>roller</td>
<td>497</td>
</tr>
<tr>
<td>saw</td>
<td></td>
</tr>
<tr>
<td><strong>GIRALD, A. A.: Bibliography of Bollworm.</strong></td>
<td>242</td>
</tr>
<tr>
<td><strong>GIST, W. W.: Prevailing Prices Paid to Farmers for Cotton Each Saturday, Beginning with September 19th, and Continuing Through December 12th [1925] 9 O'clock as Reported by County Agents, With J. D. Pope</strong></td>
<td>625</td>
</tr>
<tr>
<td><strong>Glades of cotton plant</strong></td>
<td>39</td>
</tr>
<tr>
<td><strong>GLOVAE, T.:</strong></td>
<td></td>
</tr>
<tr>
<td>Accidents and Diseases of the Cotton Plant</td>
<td>104</td>
</tr>
<tr>
<td>Insects Frequenting the Cotton Plant</td>
<td></td>
</tr>
<tr>
<td><strong>GODFREY, G. H.:</strong></td>
<td>151</td>
</tr>
<tr>
<td>Bacterial Wilt of Castor Bean</td>
<td></td>
</tr>
<tr>
<td>With E. F. Smith</td>
<td>139</td>
</tr>
<tr>
<td><strong>GOBREY, W. K.: Its Cause and Control</strong></td>
<td>152</td>
</tr>
<tr>
<td><strong>GOODRICH, C. L.:</strong></td>
<td>425</td>
</tr>
<tr>
<td>A Profitable Cotton Farm</td>
<td></td>
</tr>
</tbody>
</table>
HARRISON, G. J.—Continued.
Illustrations of the Application of a Criterion of the Deviation of an Observed from a Random Distribution to the Problem of Seeding Stand in Sea-island, Egyptian, and Upland Cotton. With others. 669
Inheritance of Smooth Seeds in Cotton. With T. H. Kearney 661
Length of Cotton Fibers from Bolls at Different Places of the Plant. With T. H. Kearney 665
Maxima in Cotton. With T. H. Kearney 62
Pollen Antagonism in Cotton. With T. H. Kearney 64
Seed Set in Cotton. With T. H. Kearney 66
Variation in Seed Fuzziness on Individual Plants of Pima Cotton. With T. H. Kearney 31
HARTLEY, C. P.: Injurious Effects of Premature Pollination. 53
Hartsville variety, spinning value 723
124
Harvesting—

INDEX

HAWKINS, R. S.: Development of Cotton Fibers in the Pima and Acala Varieties. With G. H. Serviss 692
Methods of Estimating Cotton Fiber Maturity 693
HAWKS, E. B.: Cotton Partial List of Publications in English Exclusive of Publications on Diseases and Pests and Publications of the State Experiment Stations. 915
List of Manuscript Bibliographies and Indexes in the U.S. Department of Agriculture Including Serial Mimeographed Lists of Current Literature 916
HAWKLEY, C. R.: Cost of Producing Field Crops, 1923. With M. R. Cooper 441
Hay color conversion tables 733
HEMPHILL, R. G.: A Farm-management Survey in Brooks County, Georgia 427
A Survey of the Pink Bollworm Situation in the Llcana District, Mexico. With H. H. Schutz 256
HASTINGS, S. H.: A Listor Attachment for a Cotton Planter 458
Experiments in Subsoiling at San Antonio. With C. R. Letter 325
Irrigation and Related Cultural Practices with Cotton in the Salt River Valley of Arizona. The Calvin W. Hubbard Experiment Farm in 1915 457
326
HATHCOCK, J. S.: Cooperative Cotton Gins as Local Units of Marketing Associations 485
Cotton Cooperatives Liberalize Contracts and Extend Services 679
Development of Cooperative Cotton Gins in Northwest Texas. A preliminary report. 486
Possible Services of Cooperative Cotton Gins 487
Practices and Costs of Cotton Gin Operation in a Selected Section of North Carolina, 1924–25 488
Practices and Costs of Cotton Gin Operation in North-central Texas, 1924–25 489
Significance of Recent Changes in the Cooperative Marketing of Cotton 680
Hawaii—

Hindu Cotton—characteristics 303
in Egypt 303
origin 48, 307
HINS, W. F.: An Ant Enemy of the Cotton Boll Weevil 183
<table>
<thead>
<tr>
<th>Item</th>
<th>INDEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUNTER, W. D.:</td>
<td>HUSTR, W. M.:</td>
</tr>
<tr>
<td>H u m i d i t y —</td>
<td>Some Types of Harvesting Machinery Reach High State of Development.</td>
</tr>
<tr>
<td>relation to insect development.</td>
<td>450</td>
</tr>
<tr>
<td>native, in southern New England, and other localities, effect on spinning.</td>
<td>460</td>
</tr>
<tr>
<td>Hull(s).</td>
<td>Hybrids, cotton.</td>
</tr>
<tr>
<td>See Cottonseed, hull(s).</td>
<td>Hybrids caused by cross-fertilizing insects.</td>
</tr>
<tr>
<td>Humidity—</td>
<td>Hybrids:</td>
</tr>
<tr>
<td>Cottonseed, hull(s).</td>
<td>characters:</td>
</tr>
<tr>
<td>See also Weather.</td>
<td>inherited</td>
</tr>
<tr>
<td>With R. L. Newton</td>
<td>segregation and correlation</td>
</tr>
<tr>
<td>Hunt, M. G.: Index to Publications of the United States Department of Agriculture, 1901-1925, With M. A. Bradley.</td>
<td>suppressed and intensified</td>
</tr>
<tr>
<td>HUDSON, E. W.—Continued.</td>
<td>rate of shedding</td>
</tr>
<tr>
<td>of Agriculture, 1901-1925. With R. L. Newton</td>
<td>study</td>
</tr>
<tr>
<td>M. A. Bradley</td>
<td>HUDS E, J.: The cotton crop of 1896-97.</td>
</tr>
<tr>
<td>HUDSON, E. W.—Continued.</td>
<td>912</td>
</tr>
<tr>
<td>Present Status of the Cotton Boll Weevil in the United States</td>
<td>178</td>
</tr>
<tr>
<td>Relation between Rotation Systems and Insect Injury in the South.</td>
<td>156</td>
</tr>
<tr>
<td>Some Recent Studies of the Mexican Cotton Boll Weevil. With B. R. Coad.</td>
<td>175</td>
</tr>
<tr>
<td>The Boll Weevil Problem. With B. R. Coad</td>
<td>171</td>
</tr>
<tr>
<td>The Control of the Boll Weevil.</td>
<td>199</td>
</tr>
<tr>
<td>The Control of the Boll Weevil, Including Results of Recent Investigations</td>
<td>200</td>
</tr>
<tr>
<td>The Cotton Stainer.</td>
<td>275</td>
</tr>
<tr>
<td>The Cotton Worm or Cotton Caterpillar</td>
<td>238</td>
</tr>
<tr>
<td>The Fight Against the Pink Bollworm in the United States</td>
<td>250</td>
</tr>
<tr>
<td>The Insect Enemies of the Cotton Boll Weevil. With others.</td>
<td>233</td>
</tr>
<tr>
<td>The Most Important Step in the Control of the Boll Weevil</td>
<td>218</td>
</tr>
<tr>
<td>Pink Bollworm.</td>
<td>251</td>
</tr>
<tr>
<td>The Pink Bollworm, with Special Reference to Steps Taken by the Department of Agriculture to Prevent Its Establishment in the United States.</td>
<td>252</td>
</tr>
<tr>
<td>The Present Status of the Mexican Cotton-Boll Weevil in the United States</td>
<td>174</td>
</tr>
<tr>
<td>The Status of the Cotton Boll Weevil in 1909.</td>
<td>176</td>
</tr>
<tr>
<td>The Status of the Mexican Cotton-Boll Weevil in the United States in 1908.</td>
<td>177</td>
</tr>
<tr>
<td>The Tic to Destructive Texas Ants.</td>
<td>276</td>
</tr>
<tr>
<td>The Use of Paris Green in Controlling the Cotton Boll Weevil</td>
<td>211</td>
</tr>
<tr>
<td>What Can Be Done in Destroying the Cotton Boll Weevil During the Winter</td>
<td>219</td>
</tr>
<tr>
<td>Insect(s)—Continued.</td>
<td>Item</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>described, development in relation to temperature and humidity</td>
<td>377</td>
</tr>
<tr>
<td>effective methods, habits, life history, etc.</td>
<td>155</td>
</tr>
<tr>
<td>Brazil</td>
<td>162</td>
</tr>
<tr>
<td>Cuba</td>
<td>185</td>
</tr>
<tr>
<td>Florida</td>
<td>152</td>
</tr>
<tr>
<td>Hawaii</td>
<td>130</td>
</tr>
<tr>
<td>St. Croix</td>
<td>163</td>
</tr>
<tr>
<td>Texas</td>
<td>150</td>
</tr>
<tr>
<td>injurious—to bolls, to seedlings, names, common and scientific, odors attracting</td>
<td>154</td>
</tr>
<tr>
<td>plant-sucking</td>
<td>278</td>
</tr>
<tr>
<td>relation of rotation systems</td>
<td>156</td>
</tr>
<tr>
<td>section on</td>
<td>145-257</td>
</tr>
<tr>
<td>See also under names of insects.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inspection service, functions.</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurance rates, warehouses, International Universal Cotton Standards Conference:</td>
<td></td>
</tr>
<tr>
<td>1929</td>
<td>882</td>
</tr>
<tr>
<td>1929, 1931, 1933, agreement of exchanges, history</td>
<td>886</td>
</tr>
<tr>
<td>Interstate Cotton Crushers’ Association, grades of cottonseed oil</td>
<td>819</td>
</tr>
<tr>
<td>Inventions:</td>
<td></td>
</tr>
<tr>
<td>effect on prices for obtaining and preparing fibrous substances other than cotton and wool</td>
<td>691</td>
</tr>
<tr>
<td>Involucre removal, effect on boll development</td>
<td>30</td>
</tr>
<tr>
<td>Irrigation and related cultural practices in Arizona</td>
<td>457</td>
</tr>
<tr>
<td>experiments</td>
<td>339</td>
</tr>
<tr>
<td>methods</td>
<td>343</td>
</tr>
<tr>
<td>on Yuma reclamation project</td>
<td>258</td>
</tr>
<tr>
<td>Pima cotton</td>
<td>462</td>
</tr>
<tr>
<td>summer</td>
<td>462</td>
</tr>
<tr>
<td>survey of investigations in the Southwest</td>
<td>461</td>
</tr>
<tr>
<td>Italy, marketing practices</td>
<td>647</td>
</tr>
</tbody>
</table>

| JACKSON, C.: member of Flax and Hemp Commission                                       | 523  |
| JACKSON, C. T.:                                                                         |      |
| Chemical Analyses of Cotton Soil—Analyses of the Ash of the Cotton Plant             | 339  |
| Chemical Researches on the Seed of the Cotton-plant                                   | 818  |
| Researches on the Cotton-stainer, or Red Bug                                          | 277  |
| Jackson wilt-resistant variety                                                        | 800  |

| Jackson, K.: Bibliography on the Marketing of Agricultural Products                  |      |
|                                                                                      |      |
| Jacques, K.:                                                                         |      |
| Jameson, G. S.: Production and Utilization of Fats, Fatty Oils, and Waxes in the United States | 819  |
| Janney, S. M.: Virginia, Her Past, Present, and Future                               | 517  |
| Jannovitch                                                                           | 316  |
| Jannovitch, C.:                                                                       |      |
| Jannovitch, G.: The Influence of the Potash Concentration in the Culture Medium on the Products of Carbohydrates in Plants | 331  |
| Japan                                                                                 |      |
| consumption of American cotton                                                       | 521  |
| cultivation                                                                          | 291  |

| Item                                                                                  | 127  |
| JARRELL, T. D.: Waterproofing and Mildewproofing of Cotton Duck.                     | 744  |
| Waterproofing of Canvas. Review of Investigations. With H. P. Holman.                | 745  |
| JERNAN, S.: A Comparison of Concentrates for Fattening Steers in the South. With others | 844  |
| JESSNESE, O. B.: Cooperative Purchasing and Marketing Organizations among Farmers in the United States. With W. H. Kahler | 42   |
| JOHN, C. O.: Chemistry of the Cotton Plant, with Special Reference to Upland Cotton. With others | 212  |
| JOHN, E.: Cotton-dusting Machinery.                                                   | 212  |
| Dusting cotton from Airplanes.                                                        | 206  |
| JOHN, J.: Host Plants of Tribolium castaneum.                                         | 107  |
| JOHN, L.: Report upon the Cotton Worm, Boll Worm, and Other Insects.                  | 244  |
| JOHN, O. M.: The Old Plantation Piedmont Cotton Belt. With H. A. Turner.              | 429  |
| JONES, C. R.: The Cotton Bollworm: a Summary of its Life History and Habits.          | 837  |
| With F. C. Bishop.                                                                   | 236  |
| JONES, J. M.: Sorgo Silage, Cottonsseed Hulls as Roughages in Rations for Fattening Calves in the Southwest. With others. | 837  |
| JONES, J. W.: Membership Relations of Cooperative Associations (Cotton and Tobacco)    | 682  |
| With O. B. J. W.                                                                     | 244  |
| JONES, R. W.: Protection Afforded the Skin Against Sunburn by Textile Fibers. With others. | 708  |
| The Jute bagging compared with cotton.                                                | 526  |
| Juvenile leaf-curl                                                                    | 308  |

| Item                                                                 | 127  |
| KEARNEY, T. H.: Breeding New Types of Egyptian Cotton.                  | 54   |
| Breeding Work with Egyptian Cotton                                         | 342  |
| Correlations of Seed, Fiber, and Boll Characters                           | 55   |
| Cotton Breeding and Genetics (Bibliography)                               | 916  |
| Cotton Breeding To-day Works with Main Types Known in Remote Past          | 56   |
| Cotton Culture in the South-Western United States                         | 332  |
| Cotton of American-Egypt Variety in U.S.                                  | 548  |
| Crops Used in the Reclamation of Allahad Lands in Egypt. With T. H. Means. | 333  |
| Development of the Cotton Boll                                             | 30   |
| Egyptian Cotton as Affected by Soil Variations                            | 334  |
KEATING, F. E. — Continued.

Egyptian Cotton in the Southwestern United States. With W. A. Peterson ———- 335
Experiments with Egyptian Cotton in 1908. With W. A. Peterson ———- 336
Fiber from Different Pickings from Egyptian Cottons in the United States. With R. H. Peebles ———- 694
Genetics: Cotton of the Egyptian Type ———- 339
Heritability of Different Rates of Shedding in Cotton. With R. H. Peebles ———- 57
Heritable Variations in an Apparently Uniform Variety of Cotton ———- 58
Inheritance of Petal Spot in Pima Cotton ———- 59
Inheritance of Rate of Shedding in a Cotton Hybrid. With R. H. Peebles ———- 60
Inheritance of Smooth Seeds in Cotton. With G. J. Harrison ———- 61
Length of Cotton Fibers from Rolls at Different Heights of the Plant. With G. J. Harrison ———- 695
Member of Committee on Southwestern Cotton Culture ———- 380
Mutation in Egyptian Cotton ———- 62
Non-inheritance of Terminal Bud Abortion in Pima Cotton ———- 63
Pollen Antagonism in Cotton. With G. J. Harrison ———- 64
Seed Selection of Egyptian Cotton ———- 795
Segregation and Correlation of Characters in an Upland-Egyptian Cotton Hybrid ———- 65
Selective Fertilization in Cotton. With G. J. Harrison ———- 66
Self-fertilization and Cross-fertilization in Pima Cotton ———- 67
Short Branch. Another Character of Cotton showing Monohybrid Inheritance ———- 68
studies of hybrids, pollination, and cell-sap properties ———- 340
Tests of Pima Egyptian Cotton in the Salt River Valley, Arizona ———- 337
The Comparative Tolerance of Various Plants for the Salts Common in Alkali Soils. With L. L. Harter ———- 29
The Salt Content of Cotton Fiber. With C. S. Scofield ———- 696
The Uniformity of Pima Cotton ———- 69
Variation in Seed Fuzziness on Individual Plants of Pima Cotton. With G. J. Harrison ———- 31
KEATING, F. E. — Continued.

Agronomic Work of the Big Spring, Texas Field Station ———- 1915-29 ———- 338
Sorgo Slugs. Sorgo Fodder, and Cottonseed Hulls as Roughages in Rations for Fattening Calves in the Southwest. With others ———- 837
Keckhi variety: bionomic study ———- 225
breeding experiments ———- 368
hybrids ———- 51
Kelep, weevil-eating ant; importation into United States in Guatemala ———- 223
social organization and breeding habits ———- 224

KENNARD, D. C. — The Comparative Nutritive Value of the Proteins of Linseed Meal and Cottonseed Meal for Different Animals. With others ———- 835
Kerosene, use in insect control ———- 244
Kidney cotton, characteristics ———- 14
Kingsbury, B. W. — The Feeding Value of Cotton Seed Products ———- 377
KILLOGH, H. B. — A Partial List of Uses of American Raw Cotton ———- 746
Cotton Bags in the Wholesale Grocery Trade. With others ———- 753
Domestic Mill Consumption of American Cotton by Grades and Staples. With others ———- 528
KINCE, J. B. — A Correlation of Weather Conditions and Production of Cotton in Texas ———- 81
Computing the Cotton Crop from Weather Records. With H. F. Loomis ———- 82
Relation of Weather to the Amount of Cotton Ginned during Certain Periods ———- 79
Weather and Agriculture. With others ———- 340
Agricultural Investigations at the United States Field Station, Sacaton, Arizona, 1925-1930. With H. F. Loomis ———- 339
Comparison of Pima Cotton with Upland Varieties in Arizona. With others ———- 341
Cotton Root Rot Causes Loss in Southwest; Control Problem Unsolved. ———- 108
Cotton Rootrot in Arizona ———- 109
Cotton Rootrot Investigations in Arizona. With H. F. Loomis ———- 110
Cotton Tests at the Cooperative Testing Station, Sacaton, Arizona ———- 342
Development of Auxiliary Buds on Fruiting Branches of Pima and Upland Cotton ———- 32
Distribution of the Cotton Rootrot Fungi in Soil and in Plant Tissues in Relation to Control by Disinfectants. With Claude Hope ———- 111
Experiments on the Control of Cotton Root Rot in Arizona. With H. F. Loomis ———- 112
Factors Inducing the Severity of the Crazy-top Disorder of Cotton. With H. F. Loomis ———- 113
Further Studies of Cotton Root Rot in Arizona, with a Description of a Sclerotium Stage of the Fungus. With H. F. Loomis ———- 114
Habits of the Cotton Rootrot Fungi ———- 115
Ozonium Root Rot. With others ———- 131
Studies on Sclerotia and Mycelial Strands Of the Cotton Rootrot Fungi. With others ———- 116
Water-stress Behavior of Pima Cotton in Arizona ———- 343
### Lessons on cotton:
- for elementary schools
- for rural common schools

### LETTERS
- C. R.: Experiments in Crop Production on Fallow Land at San Antonio.
- The work of the San Antonio (Texas) Experiment Farm in 1918.

### LEVINE, B. E.: Waterproofing and Mildewproofing of Cotton Duck.
With others

### LIDGREN from cotton stalks.

### LINDSEY, J. B.: The Digestibility and Energy Values of Feeds for Horses.
With others

### Lint:
- importation regulations
- method of determining
- percentage:

### Linters:
- A. M. Agelasto
- color analyzed and color standards
- commercial values
- grades, standard
- establishment
- public notice
- handling
- legislation and regulation, section on production
- standards, official
- Service and Regulatory Announcement 94

### Lorth, A. E.: Chromosome Investigations of Cotton, 1923-1926. With C. R. Swinson

### Louisiana:
- diversified farming
- grade and staple length, 1928-1929
- long staple as substitute for gun cotton

### Lyon, G. B., address at cotton convention, Atlanta, Ga

### Long-staple cotton—Continued,
production:
- factors affecting
- increasing
- relation to price

### Long-staple cotton in the South. With others

### Long-staple cotton—Continued,
- outlook, 1932
- some phases of
- spinning tests
- supply, maintaining

### LONGLEY, A. E.; Chromosomes in Gossypium and Related Genera

### Loomis:
- Agricultural Investigations at the United States Field Station, Sacaton, Arizona, 1925-1930. With C. J. King.

### Loring, G. B., address at cotton convention, Arizona

### Louisiana:
- diversified farming
- grade and staple length, 1928-1929
- long staple as substitute for gun cotton

### Ludwig, C. A.:
- Some Factors Concerning Earliness in Cotton
- The Germination of Cottonseed at Low Temperatures

### Lygus citatus, in Arizona and California

### Lynx, J. B.: Cotton Planting

### Lynsky, M.:
- Agricultural Price-supporting Measures in Foreign Countries
- At the United States Field Station, Sacaton, Arizona, 1925-1930. With C. J. King.

### Machine Tabulation and Computing
- Section, Bureau of Agricultural Economics, Averate Precipitation in Texas by Crop Estimate Districts and Ten-Day Periods and Average Yield of Lint Cotton
- Machinery: dusting
- for destruction of cotton worm
- harvesting
- in agriculture
- patents for fiber
<table>
<thead>
<tr>
<th>Item</th>
<th>Marketing—Continued.</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>and distribution</td>
<td>508</td>
</tr>
<tr>
<td></td>
<td>bale of cotton, cost</td>
<td>626</td>
</tr>
<tr>
<td></td>
<td>in 1840</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and 1850</td>
<td>508</td>
</tr>
<tr>
<td></td>
<td>bibliographies</td>
<td>498</td>
</tr>
<tr>
<td></td>
<td>498, 500, 502, 506</td>
<td></td>
</tr>
<tr>
<td></td>
<td>cooperative. See Cooperative</td>
<td></td>
</tr>
<tr>
<td></td>
<td>marketing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>cost, effect on prices</td>
<td>626</td>
</tr>
<tr>
<td></td>
<td>description</td>
<td>510</td>
</tr>
<tr>
<td></td>
<td>510, 502</td>
<td></td>
</tr>
<tr>
<td></td>
<td>evolution</td>
<td>430</td>
</tr>
<tr>
<td></td>
<td>finance. See</td>
<td>648</td>
</tr>
<tr>
<td></td>
<td>information, sources</td>
<td>604</td>
</tr>
<tr>
<td></td>
<td>local. See Market(s),</td>
<td></td>
</tr>
<tr>
<td></td>
<td>local. See Market(s),</td>
<td></td>
</tr>
<tr>
<td></td>
<td>long-staple cotton</td>
<td>578</td>
</tr>
<tr>
<td></td>
<td>methods—</td>
<td></td>
</tr>
<tr>
<td></td>
<td>among farmers</td>
<td>683</td>
</tr>
<tr>
<td></td>
<td>and practices, section</td>
<td></td>
</tr>
<tr>
<td></td>
<td>on.</td>
<td>642–660</td>
</tr>
<tr>
<td></td>
<td>improved</td>
<td>643</td>
</tr>
<tr>
<td></td>
<td>in Europe.</td>
<td>646</td>
</tr>
<tr>
<td></td>
<td>in Europe.</td>
<td>647</td>
</tr>
<tr>
<td></td>
<td>program of Cotton</td>
<td>505</td>
</tr>
<tr>
<td></td>
<td>Marketing Division</td>
<td>507</td>
</tr>
<tr>
<td></td>
<td>study of Cotton</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marketing Division,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bureau of Agricultural</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Economics.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Martin, J. G.</td>
<td>461</td>
</tr>
<tr>
<td></td>
<td>Handling and Marketing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Durango Cotton in the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Imperial Valley. With G.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>White.</td>
<td>655</td>
</tr>
<tr>
<td></td>
<td>The Handling and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marketing of the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Arizona–Egyptian Cotton</td>
<td></td>
</tr>
<tr>
<td></td>
<td>of the Salt River</td>
<td>656</td>
</tr>
<tr>
<td></td>
<td>Region.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Martin, R. D.</td>
<td>468</td>
</tr>
<tr>
<td></td>
<td>Community Cotton</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Production. With O. F.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cook.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cultured of Pima and</td>
<td>301</td>
</tr>
<tr>
<td></td>
<td>Upland Cotton in</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Arizona. With O. E.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cook.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Study of Off-type Plants</td>
<td></td>
</tr>
<tr>
<td></td>
<td>of Acala Cotton</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>Summer Irrigation of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pima Cotton. With H. F.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Loomis.</td>
<td>462</td>
</tr>
<tr>
<td></td>
<td>Mattresses, cotton:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>advantages</td>
<td>759</td>
</tr>
<tr>
<td></td>
<td>cost.</td>
<td>759</td>
</tr>
<tr>
<td></td>
<td>Maturation period,</td>
<td>352</td>
</tr>
<tr>
<td></td>
<td>factors influencing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>McBath, W. E.: A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bibliography on the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Use of Airplanes in</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Insect Control to March</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1, 1928. With Carlo</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Zelmet.</td>
<td>164</td>
</tr>
<tr>
<td></td>
<td>McBryde, J. B.:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chemistry of Cotton.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>With W. H. Beal.</td>
<td>377</td>
</tr>
<tr>
<td></td>
<td>Fertilizing Constituents</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contained in a Crop of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cotton Yielding 100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>pounds of Lint per</td>
<td>394</td>
</tr>
<tr>
<td></td>
<td>Acre.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fertilizing Constituents</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contained in a Crop of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cotton Yielding 300</td>
<td></td>
</tr>
<tr>
<td></td>
<td>pounds of Lint per</td>
<td>395</td>
</tr>
<tr>
<td></td>
<td>Acre.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>McBryde, J. M.:</td>
<td>396</td>
</tr>
<tr>
<td></td>
<td>Fertilizers for</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cotton.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>McClelland, C. K.:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cultural Methods for</td>
<td>239</td>
</tr>
<tr>
<td></td>
<td>Controlling the Cotton</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bolworm. With C. A.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sahr.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diversified Farming</td>
<td>414</td>
</tr>
<tr>
<td></td>
<td>under the Plantation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>System With D. A.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brodie.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The Order, Rate, and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regularity of Blooming</td>
<td></td>
</tr>
<tr>
<td></td>
<td>in the Cotton Plant.</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>With J. W. Neeley.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Manufacture</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1845, in Austria and India</td>
<td>579</td>
</tr>
<tr>
<td></td>
<td>1855, in various countries</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td>1857, in United States</td>
<td>511</td>
</tr>
<tr>
<td></td>
<td>1860, in Virginia</td>
<td>517</td>
</tr>
<tr>
<td></td>
<td>climatic influences affecting, Europe and United States</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>description</td>
<td>829</td>
</tr>
<tr>
<td></td>
<td>various classes, relative proportion of total consumption</td>
<td>746</td>
</tr>
<tr>
<td></td>
<td>various fabrics, grades and staples required</td>
<td>746</td>
</tr>
<tr>
<td></td>
<td>Manure: answers to questionnaire, 1853</td>
<td>701</td>
</tr>
<tr>
<td></td>
<td>objections to Pima cotton</td>
<td>728</td>
</tr>
<tr>
<td></td>
<td>Manufacturing: history: 1793–1893</td>
<td>618</td>
</tr>
<tr>
<td></td>
<td>in southern states</td>
<td>613</td>
</tr>
<tr>
<td></td>
<td>test See Spinning tests.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Manuring: bibliography</td>
<td>377</td>
</tr>
<tr>
<td></td>
<td>experiments and methods</td>
<td>377, 496</td>
</tr>
<tr>
<td></td>
<td>See also Fertilizer(s); Green manures.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Manuscript bibliographies and indexes</td>
<td>916</td>
</tr>
<tr>
<td></td>
<td>Maccary, J. B.: Relation of Weather Conditions to Growth and Development of Cotton</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>Market(s): A. B. Cox.</td>
<td>624</td>
</tr>
<tr>
<td></td>
<td>description</td>
<td>624</td>
</tr>
<tr>
<td></td>
<td>England</td>
<td>646</td>
</tr>
<tr>
<td></td>
<td>Europe</td>
<td>647</td>
</tr>
<tr>
<td></td>
<td>information, sources</td>
<td>648</td>
</tr>
<tr>
<td></td>
<td>local: North Carolina:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>improvements</td>
<td>654</td>
</tr>
<tr>
<td></td>
<td>prices</td>
<td>653</td>
</tr>
<tr>
<td></td>
<td>Oklahoma</td>
<td>658</td>
</tr>
<tr>
<td></td>
<td>Texas</td>
<td>645</td>
</tr>
<tr>
<td></td>
<td>prices in relation to quality: 1912–14</td>
<td>637</td>
</tr>
<tr>
<td></td>
<td>Arkansas</td>
<td>632</td>
</tr>
<tr>
<td></td>
<td>Mississippi</td>
<td>633</td>
</tr>
<tr>
<td></td>
<td>Oklahoma</td>
<td>631</td>
</tr>
<tr>
<td></td>
<td>United States</td>
<td>628</td>
</tr>
<tr>
<td></td>
<td>summary of findings</td>
<td>627</td>
</tr>
<tr>
<td></td>
<td>organization</td>
<td>503</td>
</tr>
<tr>
<td></td>
<td>studies, Cotton Marketing Division</td>
<td>909</td>
</tr>
<tr>
<td></td>
<td>types, definitions</td>
<td>592</td>
</tr>
<tr>
<td></td>
<td>world, for American products</td>
<td>608</td>
</tr>
<tr>
<td></td>
<td>Marketing: 1866</td>
<td>353</td>
</tr>
<tr>
<td></td>
<td>American cotton in England</td>
<td>646</td>
</tr>
<tr>
<td></td>
<td>in Europe</td>
<td>647</td>
</tr>
</tbody>
</table>
INDEX

<table>
<thead>
<tr>
<th>Item</th>
<th>Meunaba, H. C.:</th>
</tr>
</thead>
</table>
|      | Behavior of Cotton Root Rot at Greenville, Tex., Including an Experiment with Clean Fal-
|      | lon Bushes. With others-------------------------- 117 |
|      | Cotton-spacing Experiments at Greenville, Texas-------------------------- 358 |
|      | Gypsy Moth's Growth in Cotton Root Rot at Greenville, Tex. | |
|      | With others-------------------------- 118 |
|      | Growth and Development of Cotton Snails at Greenville, Texas. With others-------------------------- 357 |
|      | Spinning Tests of some Texas-grown Varieties of Cotton (crops of 1923, 1924, and 1925) With H. H. Wil-
|      | liers----------- 727 |
|      | Studies of Sea Island Cotton Root Rot at Greenville, Tex. With D. R. Hooton-------------------------- 120 |
|      | McNeil, G. L.: Dusting Cotton with Airplanes. With others-------------------------- 206 |
|      | Arrangement of Parts in the Cotton Plant. With O. F. Cook. With E. A. McGregor----------- 9 |
|      | Methods of Securing Self-pollination in Cotton-------------------------- 72 |
|      | Single Cotton Cultures at San Antonio-------------------- 358 |
|      | Supernumerary Carpels in Cotton Bolls-------------------------- 37 |
|      | Meade variety: cultivation-------------------------- 359 |
|      | in Florida, Georgia, South Carolina-------------------------- 542 |
|      | origin and history-------------------------- 339 |
|      | replacing Sea Island-------------------------- 339 |
|      | Spinning Tests of Cotton Com-
|      | pressed to Different Densities. With W. G. Blair-------------------------- 709 |
|      | Weevil-affected Squares as a Means of Control of the Cotton Boll Weevil in the Mississippi Delta
|      | With B. R. Camp-------------------------- 215 |
|      | The Weevil—A Serious Pest of Cotton in California-------------------------- 354 |
|      | Measurement of Winter Wheat as an Attempt to Ex-
|      | plain how Plants Attract In-
|      | sects by Smell-------------------------- 193 |
|      | The Cotton Trade, from 1825 to 1850-------------------------- 518 |
|      | Community Production of Acala Cotton in the Imperial Valley of California-------------------------- 476 |
|      | Cotton Communities Showing more Interest in One-Variety Plan
|      |-------------------------- 477 |
|      | Spacing Experiments with Acala Cotton in Southern California
|      |-------------------------- 354 |
|      | McIvorian, A.: A Study of Diversity in Egyptian Cotton. With others-------------------------- 13 |
|      | Community Production of Durango Cotton in the Imperial Valley-------------------------- 478 |
|      | The Branching Habits of Egyptian Cotton-------------------------- 35 |
|      | The Culture of Durango Cotton in the Imperial Valley-------------------------- 355 |
|      | McMurtry, J. E., Jr.: Field Experiments with Atmospheric-nitrogen Fertilizers. With others-------------------------- 389 |
Mechanical Application of Fertilizers to Cotton in South Carolina, 1931. With others. 455
Progress Report on Mechanical Application of Fertilizers to Cotton in South Carolina, 1950. With others. 456
MEIER, F. C.: Watermelon Stem-end Rot— 122
MELL, P. H.: Report on the Climatology of the Cotton Plant— 84
MELOY, G. S.: Mexican variety, spinning test— 722
A Study of the Variable Composition of Cotton Seed— 701
American Cotton Linters— 857
Cotoneest Linters Analyzed and Color Standards Established— 821
Cotton Ginning— 490
Crop, F. Wastes are Turned by Chemists into Profit Sources— 822
Cottonseed Crushing Industry Grows— 823
Cottonseed’s Kernel Content and Composition are Basis of Grading— 789
Lint Percentage and Lint Index of Cotton and Methods of Determination— 790
Losses from Selling Cotton in the Seed— 651
Mead Cotten in an Upland Long-staple Variety Replacing Sea Island. With C. B. Doyle— 359
Parasite in a Plant to Community Production of Cotton. Some uses of the Products of the Cotton Plant. With others— 479
The Cotton Situation. With others— 742
The Establishment of Standard Grades for American Cotton Linters— 824
MENA, E.: Effect of Autoclaving upon the Toxicity of Cottonseed Meal. With C. T. Dowell— 845
The Physiological Effect of Gossypol— 848
MERRILL, F. A.: Cotton or Weevils. With J. L. Webb— 186
Lessons on Cotton for Elementary Schools— 911
MEUR, B. R.: Fertilizer Concentration Need not Increase the Risk of Burning Plants. With W. H. Johnson— 826
Metaxenia effect— 52
Mexican cotton boll weevil. See Bolleweel— 722
Mexican variety, spinning test— 722
Mexico, pink bollworm: U. C. Coffin and others— 253
W. Ohlendorf— 254
survey of situation— 256
MICHAEL, L. G.: Agricultural Surveys of the Cotton Region. With R. S. Conchuela— 519
Microbracon mellitor Say, parasite of pink bollworm— 261
The Control of Texas Root-rot of Cotton. With C. L. Shear— 137
Mill(s): Cottonseed oil— 823
earliest— 817
823
earliest— 817
village, description— 421
MILLER, H. A.: A Simple Way to Increase Crop Yields. Methods Followed by Farmers of the Coastal Plain Section in Building up Soil Fertility— 380
Mississippi Delta: acreage— 1919-29— 534
shifts, 1919-24— 547
farmer opinion as influence on production— 433
tenant system on plantations— 411
Mississippi Valley: bollworm studies— 192
overfowed lands, emergency crops— 344
Missouri, cultivation, 1861— 327
Mit Affirmative— 318
MITCHELL, H. H.: The Nutritive Value for Growing Swine of the Proteins of Linseed Meal and Cottonseed Meal. Both Alone and in Combination with the Proteins of Corn. With T. S. Hamilton— 841
MITCHELL, J. D.: Experiment on Capturing Insects at Night— 203
Moisture. See Humidity; Rainfall— 448
MOORE, A. N.: Credit Problem in Cotton States has Several Aspects— 448
MOOREHEAD, J. K.: member of Flax and Hemp Commission— 523
MORGAN, A. C.: A Predatory Bug Reported as an Enemy of the Cotton Boll Weevil— 183
The Cotton stalk-borer— 183
MORRILL, A. W.: Plant-bugs injurious to Cotton Bolls— 157
Report on a Mexican Cotton Pest, the "Conchuela"— 236
The Mexican Conchuela in Western Texas in 1909— 287
MOVEMENT: 1924-25 crop— 532
North Atlantic and Gulf ports— 530
section on— 530
532
MUNNS, E. N.: Weather and Agriculture. With others— 79
Muscle Shoals, Ala., nitration-fixation plant— 539
Museum of Department of Agriculture, cotton samples— 691
Mutability in Egyptian cotton— 62
Mutative reversions, study— 48
MYERS, L.: American Cotton Holds Ground Despite Growth of Foreign Competition. With others— 503
Cotton Statistics and Related Data for Agricultural Workers. With M. R. Cooper— 599
Fertilizer Consumption in Cotton Area Varies with Return from Crop— 632
<table>
<thead>
<tr>
<th>Item</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEAL, D. C.: Cotton Diseases take a Million Bales of U.S. Crop annually</td>
<td>123</td>
</tr>
<tr>
<td>Infection Experiments with the Cotton Root-rot Fungus, Phytophthora parasitica, with G. T. Ratcliffe</td>
<td>124</td>
</tr>
<tr>
<td>Viability of Strand Hyphae of the Cotton Root-rot Fungus. With L. G. McLean</td>
<td>125</td>
</tr>
<tr>
<td>Nectaries, description by species.</td>
<td>237</td>
</tr>
<tr>
<td>Nectaries; The Order, Rate, and Regularity of Blooming in the Cotton Plant. With C. K. McClendon.</td>
<td>34</td>
</tr>
<tr>
<td>Nebraska, planting done by. 1867</td>
<td>437</td>
</tr>
<tr>
<td>Nema, infesting cotton and potatoes.</td>
<td>269</td>
</tr>
<tr>
<td>Nestor: China's Demand Large</td>
<td>232</td>
</tr>
<tr>
<td>New, grading and staple length, 1928-1930</td>
<td>560</td>
</tr>
<tr>
<td>New Uses for Cotton Committee, Exhibit 749</td>
<td></td>
</tr>
<tr>
<td>NEWELL, W.: Notes upon a Little-known Insect, Enemy of Cotton and Corn</td>
<td>184</td>
</tr>
<tr>
<td>The Argumentant. With T. C. Barber</td>
<td>232</td>
</tr>
<tr>
<td>Cotton Warehousing — Benefits of an Adequate System; with a Discussion of the Receipt under the United States Warehouse Act. With J. M. Workman</td>
<td>666</td>
</tr>
<tr>
<td>NICKERSON, D.: A Method for Determining the Color of Agricultural Products</td>
<td>733</td>
</tr>
<tr>
<td>Application of Color Measurement in the Grading of Agricultural Products</td>
<td>729</td>
</tr>
<tr>
<td>Color Conversion Tables. With C. F. Welsh</td>
<td>730</td>
</tr>
<tr>
<td>Color Measurement of Farm Products is a Factor in Grading</td>
<td>731</td>
</tr>
<tr>
<td>Cotton Progressively Lowered in Grade by Exposure, Tests and Show</td>
<td>732</td>
</tr>
<tr>
<td>Studies of Stability of Color in Raw Cotton. With L. D. Milled</td>
<td>734</td>
</tr>
<tr>
<td>Nitrogen content of plant</td>
<td>1</td>
</tr>
<tr>
<td>NIXON, R. L.: Cotton Bagging for Cotton</td>
<td>756</td>
</tr>
<tr>
<td>Cotton Warehouse Construction</td>
<td>668</td>
</tr>
<tr>
<td>Cotton Warehouse: Storage Facilities now Available in the South</td>
<td>669</td>
</tr>
<tr>
<td>Weather Damage to Cotton</td>
<td>670</td>
</tr>
<tr>
<td>O'BRIEN, R.: Bibliography on the Relation of Clothing to Health. With others</td>
<td>769</td>
</tr>
<tr>
<td>Cotton Related to the Interests again in Fashion's Favor for Women's Summer Wear</td>
<td>770</td>
</tr>
<tr>
<td>Cotton Trade Feels Changes of Styles in Women's Clothing</td>
<td>771</td>
</tr>
<tr>
<td>Selection of Cotton Fabrics</td>
<td>747</td>
</tr>
<tr>
<td>Selection for Children's Wear</td>
<td>772</td>
</tr>
<tr>
<td>Textile Buying for the Home would be Aided by System of Labeling</td>
<td>757</td>
</tr>
<tr>
<td>OLHENDORF, W.: Studies of the Pink Bollworm in Mexico</td>
<td>254</td>
</tr>
<tr>
<td>Oil: attracting boll weevil to cotton plant</td>
<td>42</td>
</tr>
<tr>
<td>content of seed</td>
<td>788, 792, 813, 831</td>
</tr>
<tr>
<td>cottonseed, See Cottonseed, oil. mills. See Mill(s)</td>
<td></td>
</tr>
<tr>
<td>Oklahoma: acreage increase, 1919-29</td>
<td>534</td>
</tr>
<tr>
<td>grade in relation to price</td>
<td>658</td>
</tr>
<tr>
<td>harvesting methods</td>
<td>717</td>
</tr>
<tr>
<td>labor requirements for producing a pound of lint cotton</td>
<td>412</td>
</tr>
<tr>
<td>Lawrence field station, rotation and tillage experiments</td>
<td>630</td>
</tr>
<tr>
<td>local markets</td>
<td>658</td>
</tr>
<tr>
<td>picked and snapped cottons, spinning tests</td>
<td>726</td>
</tr>
<tr>
<td>prices in relation to quality</td>
<td>631, 666</td>
</tr>
<tr>
<td>production costs</td>
<td>637, 658</td>
</tr>
<tr>
<td>staple length: 410</td>
<td>562</td>
</tr>
<tr>
<td>relation to mill consumption</td>
<td>581, 582</td>
</tr>
<tr>
<td>price</td>
<td>658</td>
</tr>
<tr>
<td>OLCCOTT, M. T.: Bibliography on the Marketing of Agricultural Products. With others</td>
<td>500</td>
</tr>
<tr>
<td>One-variety communities: advantages</td>
<td>473</td>
</tr>
<tr>
<td>development of an actual commodity</td>
<td>476</td>
</tr>
<tr>
<td>in—California</td>
<td>472, 476, 478</td>
</tr>
<tr>
<td>Southern States</td>
<td>542</td>
</tr>
<tr>
<td>organization</td>
<td>477</td>
</tr>
<tr>
<td>See also Cooperation in production</td>
<td></td>
</tr>
</tbody>
</table>
INDEX

OCTON, W. A.: Circular of Information to Accompany Seed of Will-resistant Upland Cotton---------- 799
Cotton and climate---------- 128
Rivera Sea Island Cotton---------- 805
Sea Island Cotton---------- 362
Sea Island Cotton: Its Culture, Improvement, and Diseases---------- 362
Sea Island Cotton no. 224---------- 805
The Control of Cotton Wilts and Root-knot---------- 126
The Control of Cotton Wilts and Root-knot. With W. W. Gilbert---------- 127
The Development of Farm Crops Resistant to Disease---------- 129
The Wilts Disease of Cotton and its Control---------- 130
Will-resistant Jackson Cotton---------- 800
OSBORNE, W. M.: Rotation and Tillage Experiments at the Lawton (Okla.) Field Station---------- 363
Outlook:
1921---------- 592
1924-33---------- 570
1930---------- 605
1931-32---------- 573
1932---------- 572
information:
use by farmers---------- 436
extent---------- 433
in farm-business planning---------- 436
Southern States:
1930/31-1931/32---------- 571
1931-32---------- 573
Ozonium root rot. See Root-rot.
Pacific States, meteorological causes and production, 1865---------- 545
Padding used in power laundries---------- 738
PAINTER, R. H.: A Study of the Cotton Flea Hopper, Psallus seriatus ton, and its Effect on Cotton Plant Tissues---------- 283
The Commercial Classification of American Cotton, with Reference to the Standards for Grade, Color, and Staple---------- 663
Paper, manufacture:
from hulls:
and stalks---------- 736, 737
and leaves---------- 818
from linters---------- 811
Paris green, insecticide for boll-weevils---------- 211
PARK, J.: The Use of Cotton Bags as Consumer Packages for Potatoes---------- 754
Patents:
for fiber machinery and processes---------- 691
for gins, 1869---------- 496
PATTEN, H. E.: Absorption by Soils. With W. H. Wagaman---------- 364
Pearson's correlation method---------- 319, 321, 322
Phyllonorycter gossypiella Saund. See Pink bollworm.
PEARLES, R. H.: Heritability of Different Rates of Shedding in Cotton. With T. H. Kearney---------- 57
PEARL, R. H.:—Continued.
Inheritance of Rate of Shedding in a Cotton Hybrid. With T. H. Kearney---------- 60
PELTIER, G. L.: Ozonium Root Rot. With others---------- 131
Pentatomidae Say. See Con-chinlus.
Pentatomids---------- 157
Periplaneta americana, parasite of pink bollworm---------- 261
Peru, cotton, weevils reared from---------- 158
Peruvian cotton:
consumption in United States, statistics---------- 533
plant characteristics---------- 14
Peets. See Insects.
PETTIT, E. C.: Bibliography on the Relation of Clothing to Health. With others---------- 769
Cotton farmers' finish may be Restored by Right Laundering---------- 783
Fabric Stiffness is Measurable by Device made for the Purpose. With T. Dantzig---------- 784
Stiffness in Fabrics Produced by Different Starches and Starch Mixtures, and a Quantitative Method for Evaluating Stiffness. With T. Dantzig---------- 785
PETTISON, W. A.: Egyptian Cotton in the Southwestern United States. With T. H. Kearney---------- 335
Experiments with Egyptian Cotton in 1908. With T. H. Kearney---------- 336
The Work of the Yuma Experiment Farm in 1912---------- 365
PHILIPS, M. W.: Remarks on the Cultivation of Cotton---------- 366
PHILLIPS, M. L. G.: In Farm By-product, now Wasted, may Supply Cheap Organic Chemicals---------- 748
Physmatotrichum omnivorum (Shear). See Penotrichum omnivorum
Physiology. See Plants, characteristics and development, section on
Picked and snapped cotton, spinning test---------- 703, 715
Picking cotton:
1866---------- 353
cost---------- 440, 461
effect on spinning quality---------- 70, 715, 717
in 1855---------- 400, 404
sacks and sheets, amount of cotton used---------- 739
See also Harvesting.
Piedmont:
conditions:
and changes---------- 429
Cotton Belt---------- 466
production, influence of farmer opinion---------- 433
Piedmont-Cleveland variety, spinning value---------- 723
PIMBER, L. N.: The Water Requirement of Plants at Akron, Colo. With H. L. Shantz---------- 38
Pierce, W. D.: A New Interpretation of the Relationships of Temperature and Humidity to Insect Development---------- 195
Descriptions of some Weevils Reared from Cotton in Peru---------- 158
How Insects Affect the Cotton Plant and Means of Combating Them---------- 149
PIERCE, W. D.—Continued.

Mexican Cotton-boll Weevil. Message from the President of the United States Transmitting a Communication from the Secretary of Agriculture Submitting a Report on the Mexican Cotton-boll Weevil. With W. D. Hunter. 172

Notes on the Biology of Certain Weevils Related to the Cotton Boll Weevil. 183

Studies of Parasites of the Cotton Boll Weevil. 234

The Insect Enemies of the Cotton Boll Weevil. With others. 233

The Occurrence of a Cotton Boll Weevil in Arizona. 193

PIETERS, A. J.; Agricultural Seeds—Where The Occurrence of a Cotton Boll Weevil—damage 251, 254

water-stress behavior 343

ginning 495

description 251, 254

control measures, study 254, 255

conference, Dallas, Tex., 1921—257-260

69

Valley.

uniformity in Salt River summer irrigation 462

and manufacturing spinning seed fuzziness, variation 31

petal spot, inheritance 59

fiber development 692

heritable variations 38

history: early 58

short account 378

petal spot, inheritance 59

production, 1912-25 548

seed fuzziness, variation 31

self-fertilization and cross-fertilization 67

Spinning and manufacturing tests—

1915-18 378

California crop, 1924 720

comparative 728

fertilization and fabric 713

selected bales 702

statistics 553

summer irrigation 462

terminal bud abortion, nonheritable 63

uniformity in Salt River Valley utilization 728

value to growers, 1912-25 548

variations, inheritance 58

water-stress behavior 343

Pink bollworm—condensed information 133

conference, Dallas, Tex., 1921—257-260

control measures, study 254

damage 251

description 251, 254

distribution and spread 251

food plants 251

fumigation: effect on fiber properties 705

measures 254, 275

habits, damage, control, etc 254

In cotton seeds: detecting by use of X-ray 248

heat treatment 254

In—Hawaii 247

Mexico 253, 254, 256

United States 250

Insects confused with 247, 249

Introduction into United States, precautions 252

INDEX

Pink Bollworm—Continued.

life history 251, 254

measures to exclude 255

moths captured by airplane 148

parasites in Hawaii 201

quarantine and control regulations 901

section, 1921 258, 260

situation, 1921 258, 260

Texas law 250

Plant(s): arrangement of parts 9

characteristics and development, section on 1-42

chemistry: bibliography 15

with special reference to upland cotton 42

farm and home study 26

glands, chemistry and histology 39

nitrogen content 1

water requirements at Akron, Colo. 38

weevil-resisting adaptations 225

Plant Industry Bureau:

boll weevil control work:

1904 168

1904-13 179

cottonseed introduction and distribution:

1903-23 806

methods 802

Plant Quarantine and Control Administration, Service and Regulatory Announcements 1-105 901

Plantations:

1867 437

building up run-down 413

diversity 414

in Piedmont Cotton Belt 429

Yazoo-Mississippi Delta, tenantry 411

Planter(s):

Dowlaw's 405

picker attachment 458

uniform-depth press-wheel attachment 454

Planting—dates:

east of meridians 102-104 417

in weevil-control experiments 213

heavy-fertilized, advantage 385

recommendations in 1849 366

1851-54 353

Point buying versus buying on quality basis 649

Polk, William, plantation of 414

Pollination:

artificial 53

premature, injurious effects 53

self, methods of securing 72

studies at Sacaton, Ariz 340

Port, J. D.: Prevailing Prices Paid to Farmers for Cotton each Saturday, Beginning with September 19th, and Continuing through December 19th [1925], 9 to 12 O'Clock, as Reported by County Agents. With F. W. Gist 625

Porter, O. A.: The Determination of Sample Size for Diameter Measurements in Cotton Fiber Studies 698


Ports:

comparison, 1905 530

in England 646

in Pacific coast states 647

on Atlantic and Gulf coasts, 1905 530
INDEX

<table>
<thead>
<tr>
<th>Item</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Production—Continued.</td>
<td>508</td>
</tr>
<tr>
<td>methods</td>
<td>503</td>
</tr>
<tr>
<td>pre-war and post-war</td>
<td>506</td>
</tr>
<tr>
<td>progress</td>
<td>596</td>
</tr>
<tr>
<td>shifts</td>
<td></td>
</tr>
<tr>
<td>charts</td>
<td>595</td>
</tr>
<tr>
<td>induced by changes in farm prices and farm technique</td>
<td>547</td>
</tr>
<tr>
<td>southern agriculture, problems</td>
<td>506</td>
</tr>
<tr>
<td>summary</td>
<td>592</td>
</tr>
<tr>
<td>sources of facts about</td>
<td>604</td>
</tr>
<tr>
<td>study and teaching</td>
<td>910-911</td>
</tr>
<tr>
<td>under bollweevil conditions</td>
<td>549</td>
</tr>
<tr>
<td>outlook, 1910</td>
<td>181</td>
</tr>
<tr>
<td>recommendations</td>
<td>180</td>
</tr>
<tr>
<td>world</td>
<td>610</td>
</tr>
<tr>
<td>Proliferation, factor in bollweevil control</td>
<td>227</td>
</tr>
<tr>
<td>Psallus seriatus</td>
<td></td>
</tr>
<tr>
<td>Reuterg</td>
<td></td>
</tr>
<tr>
<td>Quarantine:</td>
<td></td>
</tr>
<tr>
<td>Quotation service. Agricultural Economics Bureau</td>
<td>503</td>
</tr>
<tr>
<td>Rain, wind-blown, factor in disease dissemination</td>
<td>80, 100</td>
</tr>
<tr>
<td>Rainfall—</td>
<td>90</td>
</tr>
<tr>
<td>influence on production, 1900-1915</td>
<td>734</td>
</tr>
<tr>
<td>relation to—</td>
<td>701</td>
</tr>
<tr>
<td>color in cotton</td>
<td>83, 92</td>
</tr>
<tr>
<td>composition of cottonseed, growth and development of plant</td>
<td></td>
</tr>
<tr>
<td>Rainfall—Continued.</td>
<td></td>
</tr>
<tr>
<td>See also Climate; Climatology; Precipitation; Weather</td>
<td></td>
</tr>
<tr>
<td>RATLIFF, G. T.:</td>
<td>132</td>
</tr>
<tr>
<td>A Prolonged Saprophytic Stage of the Cotton Root-rot Fungus</td>
<td></td>
</tr>
<tr>
<td>Crop Rotation and Tillage Experiments at the San Antonio (Texas) Field Station.</td>
<td></td>
</tr>
<tr>
<td>With I. M. Atkins</td>
<td>367</td>
</tr>
<tr>
<td>Infection Experiments with the Cotton Root-rot Fungus, Phymatotrichum omnivorum.</td>
<td>124</td>
</tr>
<tr>
<td>With D. C. Neal</td>
<td></td>
</tr>
<tr>
<td>The Work of the San Antonio Experiment Farm in 1919 and 1920</td>
<td></td>
</tr>
<tr>
<td>Reclaiming methods for planting purposes—</td>
<td></td>
</tr>
<tr>
<td>Red Spider. See Cotton, red spider.</td>
<td></td>
</tr>
<tr>
<td>REDDING, R. J.: Essential Steps in the Current Early Crop of Cotton.</td>
<td></td>
</tr>
<tr>
<td>Regained and cleaned cotton, spinning tests</td>
<td></td>
</tr>
<tr>
<td>Regulation—marketing</td>
<td>648</td>
</tr>
<tr>
<td>See also Legislation and regulation of cotton</td>
<td>873</td>
</tr>
<tr>
<td>Relief plans (bibliography)</td>
<td></td>
</tr>
<tr>
<td>Research—Agricultural Economics Bureau, in progress</td>
<td>904</td>
</tr>
<tr>
<td>aid to cooperatives</td>
<td>908</td>
</tr>
<tr>
<td>coordination committee</td>
<td>905</td>
</tr>
<tr>
<td>list of projects</td>
<td>906</td>
</tr>
<tr>
<td>minutes of third meeting</td>
<td></td>
</tr>
<tr>
<td>correction—</td>
<td>907</td>
</tr>
<tr>
<td>in marketing</td>
<td>908</td>
</tr>
<tr>
<td>with reference to growing</td>
<td>909</td>
</tr>
<tr>
<td>Cotton Marketing Division—on fibers and standards</td>
<td>609</td>
</tr>
<tr>
<td>program described</td>
<td>907</td>
</tr>
<tr>
<td>ginning programs, section on</td>
<td>909</td>
</tr>
<tr>
<td>projects, listed</td>
<td>909-909</td>
</tr>
<tr>
<td>projects</td>
<td>905</td>
</tr>
<tr>
<td>Rheumatism, &quot;medicinal value of cotton&quot; for</td>
<td>759</td>
</tr>
<tr>
<td>RILEY, PROFESSOR: address at cotton convention, Atlanta, Ga.</td>
<td>310</td>
</tr>
<tr>
<td>Rivers Sea Island cotton, information</td>
<td>805</td>
</tr>
<tr>
<td>ROBINSON, H. A.:</td>
<td></td>
</tr>
<tr>
<td>Acreage, Production, and Value of Principal Farm Crops in the United States. 1866 to 1905, with other Data to the Cotton and Wool</td>
<td>600</td>
</tr>
<tr>
<td>The Cotton Crop of 1896</td>
<td>601</td>
</tr>
<tr>
<td>ROETHE, H. E.:</td>
<td></td>
</tr>
<tr>
<td>Cotton Fire Fires Frequent; Chief Cause is Static Electricity. With H. H. Brown</td>
<td>482</td>
</tr>
<tr>
<td>Fires in Cotton Gins and How to Prevent Them</td>
<td>491</td>
</tr>
<tr>
<td>Grounding Cotton Gins to Prevent Fires</td>
<td>491</td>
</tr>
<tr>
<td>ROMMEL, G. M.: Beriberi and Cottonseed Poisoning in Pigs (Preliminary note) With E. B. Vedder</td>
<td>849</td>
</tr>
<tr>
<td>Root(s)—</td>
<td></td>
</tr>
<tr>
<td>constriction in San Joaquin Valley</td>
<td>27</td>
</tr>
<tr>
<td>development—</td>
<td></td>
</tr>
<tr>
<td>in San Joaquin Valley</td>
<td>28</td>
</tr>
<tr>
<td>relation to character of growth and fruitfulness</td>
<td>19</td>
</tr>
<tr>
<td>Root-knot</td>
<td>Item</td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
</tr>
<tr>
<td>cause and control</td>
<td>105</td>
</tr>
<tr>
<td>control</td>
<td>126</td>
</tr>
<tr>
<td>damage and control</td>
<td>123</td>
</tr>
<tr>
<td>disease and control</td>
<td>93</td>
</tr>
<tr>
<td>habits and control</td>
<td>103</td>
</tr>
</tbody>
</table>

Root-rot behavior at Greenville, Tex. | 117

cycles of growth at Greenville, Tex | 118
damage and control | 123
control | 102
experiment with clean fallows, Greenville, Tex | 117
fungus distribution in relation to control by disinfectants | 111
habitats | 96
infection experiments | 124
life history | 108
suprophytic stage, propagation | 132
sclerotial and mycelial strands | 116
habits in alfalfa fields | 115
pathological anatomy | 131
sclerotial-forming habits in Texas black-land soils | 119
sclerotium stage, study in Arizona | 114
spots, variations | 135
strand hyphae, viability | 125
studies—
at Greenville, Tex | 120
in Arizona | 110
in Arizona and Texas | 131
in Texas, field experiments, 1907 | 138

Sachs, W. H.: Mechanical Application of Fertilizers to Cotton in South Carolina, 1931. With others. | 455
Progress Report on Mechanical Application of Fertilizers to Cotton in South Carolina, Texas. With others. | 456

Sahm, C. A.: Cultural Methods for Controlling the Cotton Bollworm. With Report by McClelland. | 239
Salt River Valley Egyptian Cotton Growers’ Association, tests of Pima cotton | 337
Salt River Valley Egyptian Cotton Growers’ Association, tests of Pima cotton | 337
Sample size for diameter measurements in fiber studies | 698

Sanborn, R. W.: Ozonium Root Rot. With others. | 131

Sanderson, E. D.: Hibernation and Development of the Pink Bollworm. With others. | 183
Miscellaneous Cotton Insects in Texas | 159
Report on Miscellaneous Cotton Insects in Texas | 160
Some Observations on the Cotton Boll Weevil | 185

Sarle, C. F.: Adequacy and Reliability of Crop-yield Estimates | 559
Reliability and Adequacy of Farm-price Data. | 633

Sassaman, H. L.: The Comparative Nutritive Value of the Proteins of Linseed Meal and Cottonseed Meal for Different Animals. With others. | 835

Sasscer, E. R.: Pink Bollworm and Measures to Exclude It | 255

Saunders, D. A.: Custom Ginning as a Factor in Cottonseed Deterioration. With P. V. Cardon. | 492
Scavenger bollworm, confused with pink bollworm | 247

Schaben, L. J.: Agricultural Price-supporting Measures in Foreign Countries. With others. | 869

Schutz, H. H.: A Survey of the Pink Bollworm Situation in the Laguna District, Mexico. With E. S. Haskell. | 256

Quantitative Variation of Gossypol and its Relation to the Content of Cottonseed. With C. L. Alsberg. | 851
Relation Between Toxicity of Cottonseed and its Gossypol Content. With C. L. Alsberg. | 852

Schwarz, E. W.: Mechanical Application of Fertilizers to Cotton in South Carolina, 1931. With others. | 455
Progress Report on Mechanical Application of Fertilizers to Cotton in South Carolina, Texas. With others. | 456

INDEX

<table>
<thead>
<tr>
<th>Root-knot</th>
<th>Item</th>
<th>Root-rot</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>cause and control</td>
<td>105</td>
<td>circular of inquiry sent farmers, 1889</td>
<td>144</td>
</tr>
<tr>
<td>control</td>
<td>126</td>
<td>control by rotation of crops</td>
<td>311</td>
</tr>
<tr>
<td>damage and control</td>
<td>123</td>
<td>by formaldehyde</td>
<td>109</td>
</tr>
<tr>
<td>disease and control</td>
<td>93</td>
<td>by rotations and deep fall plowing</td>
<td>137</td>
</tr>
<tr>
<td>habits and control</td>
<td>103</td>
<td>experiments Arizona and Texas</td>
<td>112</td>
</tr>
</tbody>
</table>

Root-rot behavior at Greenville, Tex. | 117

cycles of growth at Greenville, Tex | 118
damage and control | 123
control | 102
experiment with clean fallows, Greenville, Tex | 117
fungus distribution in relation to control by disinfectants | 111
habitats | 96
infection experiments | 124
life history | 108
suprophytic stage, propagation | 132
sclerotial and mycelial strands | 116
habits in alfalfa fields | 115
pathological anatomy | 131
sclerotial-forming habits in Texas black-land soils | 119
sclerotium stage, study in Arizona | 114
spots, variations | 135
strand hyphae, viability | 125
studies—
at Greenville, Tex | 120
in Arizona | 110
in Arizona and Texas | 131
in Texas, field experiments, 1907 | 138

Sachs, W. H.: Mechanical Application of Fertilizers to Cotton in South Carolina, 1931. With others. | 455
Progress Report on Mechanical Application of Fertilizers to Cotton in South Carolina, Texas. With others. | 456

Sahm, C. A.: Cultural Methods for Controlling the Cotton Bollworm. With Report by McClelland. | 239
Salt River Valley Egyptian Cotton Growers’ Association, tests of Pima cotton | 337
Salt River Valley Egyptian Cotton Growers’ Association, tests of Pima cotton | 337
Sample size for diameter measurements in fiber studies | 698

Sanborn, R. W.: Ozonium Root Rot. With others. | 131

Sanderson, E. D.: Hibernation and Development of the Pink Bollworm. With others. | 183
Miscellaneous Cotton Insects in Texas | 159
Report on Miscellaneous Cotton Insects in Texas | 160
Some Observations on the Cotton Boll Weevil | 185

Sarle, C. F.: Adequacy and Reliability of Crop-yield Estimates | 559
Reliability and Adequacy of Farm-price Data. | 633

Sassaman, H. L.: The Comparative Nutritive Value of the Proteins of Linseed Meal and Cottonseed Meal for Different Animals. With others. | 835

Sasscer, E. R.: Pink Bollworm and Measures to Exclude It | 255

Saunders, D. A.: Custom Ginning as a Factor in Cottonseed Deterioration. With P. V. Cardon. | 492
Scavenger bollworm, confused with pink bollworm | 247

Schaben, L. J.: Agricultural Price-supporting Measures in Foreign Countries. With others. | 869

Schutz, H. H.: A Survey of the Pink Bollworm Situation in the Laguna District, Mexico. With E. S. Haskell. | 256

Quantitative Variation of Gossypol and its Relation to the Content of Cottonseed. With C. L. Alsberg. | 851
Relation Between Toxicity of Cottonseed and its Gossypol Content. With C. L. Alsberg. | 852

Sclerotium rolfsii Sacc., recent studies. | 141
INDEX

SCOFIELD, C. S.:  
- Agriculture on the Yuma Reclamation Project - 370  
- Cotton Hedges and Straddles - 657  
- Cotton Production in the Irrigated Southwest in 1920 - 565  
- Cotton Root-rot in the San Antonio Rotations - 134  
- Cotton Root-rot Spots - 135  
- Egyptian Cotton Culture in the Southwest - 371  
- The Salt Content of Cotton Fiber - 696  
- Scoch, effect on fibers, yarns, fabrics - 780  
- Scott, C. L.:  
  - Cotton Fabrics are the Most Suitable for Children's Wear - 773  
  - Dresses for Little Girls - 774  
  - Enamels for Sunny Days - 775  
  - Rompers - 776  
  - Suits for the Small Boy - 777  
- Sea-island cotton characteristics - 14  
- Sea-island cotton history - 56  
- Sea-island cotton in -  
  - Florida - 542  
  - Georgia - 542  
  - Puerto Rico - 334  
  - St. Croix - 373  
  - South Carolina - 542  
- Seed cotton competition with Sakellarides - 563  
- seed cotton conditions - 563  
- large-scale planting not advised - 443  
- leaf, bract and boll spot - 142  
- spinning tests:  
  - comparative - 712  
  - comparison with Meade - 350  
  - for airplane fabric - 713  
  - standards - 702  
- statistics:  
  - 1865-1913 - 583  
  - 1923-32 - 533  
- Seed. See Cottonseed.  
- Seed cotton:  
  - in farm storage - 665  
- driers:  
  - two types - 480  
  - vertical - 481  
  - drying before ginning - 484  
- marketing:  
  - disadvantages - 650  
  - in Oklahoma - 638  
  - losses from - 651  
- storage:  
  - bibliography - 671  
  - experiments - 605  
- Seedlings:  
  - diseases, leaf-cut or tomosis - 97  
  - insect injury - 147  
- Seedtime and harvest:  
  - 1922 - 417  
- Selection:  
  - methods:  
    - mass, Individual, and progeny - 43  
    - typed - 43  
    - on farm, by characters of stalks, leaves, and bolls - 44  
- SERVIS, G. H.:  
  - Development of Cotton Fibers in the Pima and Acala Varieties - 692  
- SERVIS, G. H.—Continued.  
- Progress Report on Mechanical Application of Fertilizers to Cotton in South Carolina, 1930 - 456  
- SHAMEL, A. D.:  
  - The Effect of Inbreeding Plants - 74  
- SHANTZ, H. L.:  
  - Relative Water Requirement of Plants - 6  
  - The Water Requirement of Plants at Akron, Colo. - 38  
- SHAPOVALOV, M.:  
  - The Effect of Inbreeding Plants - 147  
- SHEPPARD, W.:  
  - The Two Most Common Decays of Cotton Bolls in the Southwestern States - 136  
- SHEAR, C. L.:  
  - Texas Root-rot of Cotton: Field Experiments in 1907 - 137  
- Shedding:  
  - and water relations - 343  
  - caused by wet weather - 104  
  - description and illustration - 102  
  - four-lock and five-lock bolls - 5  
  - rater - 714  
- Shening:  
  - made with different grades of cotton:  
    - laundry tests - 780  
    - wearing qualities - 757  
  - used in power laundries - 738  
- SHERRILL, E. W.:  
  - Feeding Cottonseed Products to Livestock - 665  
  - Thompson - 842  
- SHEFFERD, W.:  
  - Analysis of Cotton Seed and Wool - 699  
- SHEPHERD, C. B.:  
  - National Standards for Farm Products - 881  
- SHEPHERD, C. B. - A.:  
  - Behavior of Seed Cotton in Farm Storage - 665  
  - with C. J. Brand - 714  
- SHEPPARD, W.:  
  - Spinning Tests of Upland Long-staple Cottons - 714  
  - with Fred Taylor - 714  
- SHEPPARD, W.:  
  - Studies of Primary Cotton Market Conditions in Oklahoma and With others - 658  
- SHERWOOD, F. W.:  
  - Studies on Gossypol and D-Gossypol Content of Some North Carolina Cottonseed Meals - 853  
- Short branch, inheritance in a hybrid - 792  
- Signal corps specifications for airplane fabric - 713  
- SIMPSON, D. M.:  
  - Behavior of Cotton Planted at Different Dates in Weevil-control Experiments in Texas and South Carolina - 213  
  - with W. W. Ballard - 36  
- SIMPSON, D. M.:  
  - Gossypol of Fruiting Parts in Cotton Plants - 36  
- Single-stalk culture:  
  - advantages - 358  
  - experiments in Arkansas, Louisiana, and North Carolina - 292  
  - method and results - 309  
- SKINNER, J. J.:  
  - Fertilizer Composition and Placement Play Big Part in Cotton Growing - 398  
  - Fertilizer Materials for Cotton Growing Must be Well Chosen - 399
INDEX

<table>
<thead>
<tr>
<th>Item</th>
<th>Soil(s)—Continued.</th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td>variations, effect on Egyptian cotton.</td>
</tr>
<tr>
<td>401</td>
<td>Somerton variety, description.</td>
</tr>
<tr>
<td>402</td>
<td>Somerso, cause and control.</td>
</tr>
<tr>
<td>405</td>
<td>South Atlantic States: production and acreage adjustments.</td>
</tr>
<tr>
<td>406</td>
<td>South Carolina: acreage decrease.</td>
</tr>
<tr>
<td>407</td>
<td>South Carolina: acreage decrease. 1919-29.</td>
</tr>
<tr>
<td>408</td>
<td>South Carolina: acreage decrease. 1919-29.</td>
</tr>
<tr>
<td>409</td>
<td>Agricultural Loan Association: analysis.</td>
</tr>
<tr>
<td>410</td>
<td>Anderson County, farm management.</td>
</tr>
<tr>
<td>411</td>
<td>Anderson County, farm management. and cost investigations.</td>
</tr>
<tr>
<td>412</td>
<td>Mississippi, farm management. and cost investigations.</td>
</tr>
<tr>
<td>413</td>
<td>Sea Island Cotton in St. Johns, Florida.</td>
</tr>
<tr>
<td>414</td>
<td>Soil(s)—Continued.</td>
</tr>
<tr>
<td>415</td>
<td>Potash Hunger in War Years. Taught Lesson. With B. E. Brown.</td>
</tr>
<tr>
<td>416</td>
<td>Results of Fertilizer Experiments on Norfolk Fine Sandy Loam and on Norfolk Sandy Loam.</td>
</tr>
<tr>
<td>417</td>
<td>The Use of Commercial Fertilizers in the Growing of Cotton.</td>
</tr>
<tr>
<td>418</td>
<td>Slavery, Negro. See Labor, slave.</td>
</tr>
<tr>
<td>419</td>
<td>Sledding—</td>
</tr>
<tr>
<td>420</td>
<td>and other methods of harvesting.</td>
</tr>
<tr>
<td>421</td>
<td>effect on lint requirements and costs in Oklahoma and Texas.</td>
</tr>
<tr>
<td>422</td>
<td>Smothing or stenosis.</td>
</tr>
<tr>
<td>423</td>
<td>Smith, A. G.: A Farm-management Study in Anderson County, South Carolina.</td>
</tr>
<tr>
<td>424</td>
<td>Smith, B. B.: Factors Affecting the Price of Cotton.</td>
</tr>
<tr>
<td>425</td>
<td>Relation Between Weather Conditions and Yield of Cotton in Louisiana.</td>
</tr>
<tr>
<td>426</td>
<td>Weather and Agriculture. With others.</td>
</tr>
<tr>
<td>428</td>
<td>Wilt Disease of Cotton, Watermelon, and Cowpea.</td>
</tr>
<tr>
<td>432</td>
<td>Snipping and other methods of harvesting.</td>
</tr>
<tr>
<td>433</td>
<td>effect on spinning value of lint requirements and costs in Oklahoma and Texas.</td>
</tr>
<tr>
<td>434</td>
<td>Spillage of Fertilizers.</td>
</tr>
<tr>
<td>435</td>
<td>Smith, T. E.: &quot;White Ants&quot; as Pests in the United States and Methods of Preventing their Damage.</td>
</tr>
<tr>
<td>436</td>
<td>Soil(s) absorption.</td>
</tr>
<tr>
<td>437</td>
<td>alkalai salts, comparative tolerance of plants.</td>
</tr>
<tr>
<td>438</td>
<td>analysis, chemical.</td>
</tr>
<tr>
<td>439</td>
<td>and climatology.</td>
</tr>
<tr>
<td>440</td>
<td>best for cotton.</td>
</tr>
<tr>
<td>441</td>
<td>building.</td>
</tr>
<tr>
<td>442</td>
<td>recommendations.</td>
</tr>
<tr>
<td>443</td>
<td>value of legumes.</td>
</tr>
<tr>
<td>444</td>
<td>dynamizing in Great Plains.</td>
</tr>
<tr>
<td>445</td>
<td>fertility, relation to cotton quality.</td>
</tr>
<tr>
<td>446</td>
<td>improvement by rotations.</td>
</tr>
<tr>
<td>447</td>
<td>regions of Cotton Belt, map.</td>
</tr>
<tr>
<td>448</td>
<td>seedling stand.</td>
</tr>
<tr>
<td>449</td>
<td>spindle tests.</td>
</tr>
<tr>
<td>450</td>
<td>Somerso, description.</td>
</tr>
<tr>
<td>451</td>
<td>Smith's variety.</td>
</tr>
<tr>
<td>452</td>
<td>Southern Sclerotium wilt, study.</td>
</tr>
<tr>
<td>453</td>
<td>Southern States: agriculture.</td>
</tr>
<tr>
<td>454</td>
<td>1867—1870. 623</td>
</tr>
<tr>
<td>455</td>
<td>changes, 1890-1924. 623</td>
</tr>
<tr>
<td>456</td>
<td>consumption, 1850-1900. 613</td>
</tr>
<tr>
<td>457</td>
<td>manufacturing. history. 618</td>
</tr>
<tr>
<td>458</td>
<td>production, 1850-1903. 613</td>
</tr>
<tr>
<td>459</td>
<td>Southern States: industry extension. survey. 537</td>
</tr>
<tr>
<td>460</td>
<td>Spacing and weevil-resistance (publications). 167</td>
</tr>
<tr>
<td>461</td>
<td>close, recommended for suppressing vegetative branches. 299</td>
</tr>
<tr>
<td>462</td>
<td>effect on earliness in cotton. 352</td>
</tr>
<tr>
<td>463</td>
<td>at Greenville, Tex. 356</td>
</tr>
<tr>
<td>464</td>
<td>with Acala, in southern regions. 354</td>
</tr>
<tr>
<td>465</td>
<td>Spain, marketing practices. 347</td>
</tr>
<tr>
<td>466</td>
<td>Spillman, W. J.: A Successful Alabama Diversification Farm. With others. Changes in Southern Agriculture and the Problems Arising Therefrom. 568</td>
</tr>
<tr>
<td>467</td>
<td>Changes in Type of Farming. 1919-24. 567</td>
</tr>
<tr>
<td>468</td>
<td>Diversified Farming in the Cotton belt. With others—438</td>
</tr>
</tbody>
</table>
Spinning tests:

Acahn

and Pima

in New Mexico

720

721

720

721

707

359

728

702

selcted bales of sea-island, American-Egyptian and Sakellaridis

varieties grown under weevil conditions

fumigated cotton

picked and snapped cotton—

in Texas

in Texas and Oklahoma

Pima, 1915-18

project of Agricultural Economics Bureau

reginned and cleaned cotton

standards—

color

grade

preliminary statements

white grades

to determine effect of:

compressing

harvesting methods and weather exposure

to produce an improved airplane fabric

upland long-staple

Squash-bug, injuries to bolls

Stalk(s):

borer

source of lignin

use in paper-making

Stand:

applicability of Pearson's method to problem

differentiation of varieties or of experimental areas

frequency distribution

relation to soil salinity

sea-island and Durango

Standards:

act:

administration

classification with reference to

handbook:

for classifiers

for supervisors

methods used by Board of Examiners

questions and answers

tentative regulations, conference, 1928

demonstrations to farmers

legislation and regulation, section on

list

official:

establishment and promulgation

history and description

manufacturing tests

preparation

United States, comparison with Liverpool

waste, tensile strength and bleaching qualities, tests

Staple, conference, July 1932

Standards—Continued.

universal:

agreement of European exchanges

benefits of adoption and history of movement

conferences

history of movement to secure manufacturing tests

upland, tinged and stained, manufacturing tests

variegation, purpose and methods

STANFORD, E. T.: Chemistry and Histology of the Glands of the Cotton Plant. With A. Viehoever

STANLEY, L.: Cottonseed Flour Rich in Vitamin G, Experiments Show

length:

1916-17, by States and amount produced

1928:

consumption in United States:

domestic

foreign-grown cotton

variations

1928-29:

Alabama

Arkansas

Louisiana

Mississippi

North Carolina

Oklahoma

South Carolina

Tennessee

Texas

United States

act authorizing the Secretary of Agriculture to collect and publish statistics of

determinations

geographic distribution in United States

official standards, public notice establishing

relation to price:

in:

Arkansas

Cotton Belt

Mississippi

North Carolina

Oklahoma:

1912-13

1928-29

United States

world crops

longer needed:

O. F. Cook

discussion

in Georgia, Texas, and Oklahoma

pulling, methods

required in manufacture of different fabrics

standards:

conference, July 1932

legislation

uniformity, plea for, 1881

Staple Cotton Cooperative Association:

discussion

study and analysis

Starch pastes, physical properties

Static electricity, cause of gin fires

Statistics:

1790-1911

1795-1895, production and price

1814-94, production and export

1850, world manufactures
Statistics—Continued.

1850 and 1860, imports, Gt. Britain. 375
1850-1893, consumption and production. 613
1860, exports. 375
1860-1900, world crops. 525
1863-1920, published by Bureau of Crop Estimates. 606
1860-95, acreage, production, value. 610
1880-91, production, etc. 610
1894-95, production. 615
1895-93, export trade. 608, 609
1896-97. 617
1897-1860, acreage in India. 613
1897-98. 617
1898. 601
1899. 616
1900-1863, imports, Gt. 375
1899-1900. 612
1903-9. 619
1905-9, production and price for one hundred years. 618
1910-20, production, etc. 619
1913-20, production in principal countries. 619
1929-31, gross income. 610
1995-96. 608
1996-97. 615
1997-99. 614
1998. 601
1999-1900. 612
2000-1903. 610
2003-4. 619
Straddles and hedges. 657
the South. 669
Storage: A System of Accounting for Cotton. 577
.aws and measures, United States equivalents. 593
graphical summary. 595
Long staple situation in United States. 533
production and price for one hundred years. 618
published by Crop Estimates Bureau, 1863-1920. 606
reliability and adequacy. 633
section on. 592-619
Steece, H. M.: Annotated Bibliography on the Storage of Cottonseed and of Seed Cotton. 671
Stencils, or marking, description. 95
Foreign Trade in Farm Products is Above Pre-war Level. 521
Progress in Price Analysis and an Appraisal of Success in Price Forecasting. 636
The Cotton Situation. With Others. 592
The Effect of the Business Depression on Agriculture. 635
What Agricultural Products Had We Best Export? 522
Storage: benefits of adequate system. 666
bibleography. 502
cottonseed and seed cotton, bibliography. 671
farm: behavior of seed cotton. 665
methods. 670
section on. 665-672
seed cotton: behavior in farm storage. 665
bibliography. 671
warehouse facilities available in the South. 669
Store supply relations. 876
Straddles and hedges. 657

Item | Strang, P. M.: Cotton Bags in the Wholesale Grocery Trade. With others. 753
1850-1903, consumption and production. 613
Domestic Mill Consumption of American Cotton by Grades and Colors. With others. 528
Farm Uses for Cotton and its Products. With others. 740
Quality of Cotton Spun in the United States (year ending July 31, 1928). 568
Staple Length of Foreign-grown Cottons Consumed in the United States, 1928-31. 569
Stripper harvester. 400
Strom, G. N.: Correlations of Certain Lint Characters in Cotton and their Practical Application. 75
Subsoiling experiments: in Great Plains. 295
in Texas. 325
Sugar Loaf variety, spinning tests. 752
Sunburn protection afforded by various fibers. 766
Sunning and whipping cotton in St. Croix. 373
Supply: competitive sources. 525
long-staple maintaining. 378
quality See grade(s); Quality; Staple(s). 875
relation to price and consumption. 623
section on. 533-582
stored, relation to price. 876
surplus. See Surplus(es). 584
Stu. See also Statistics. 673
Survey(s): farm customs and conditions. 415
farmer opinion. 433
See also Farm(s), management. 403
Swartout, A. V.: A System of Accounting for Cotton Gineries. With J. A. Bexel. 493
Farmers' Cooperative Business Study. The Staple Cotton Cooperative Association. 684
Swingle, W., T., member of Committee on Southwestern Cotton Culture. 380, 577
Swinson, C. R.: Cost of Producing Cotton in Fifteen Selected Areas, 1923, With L. E. Long. 444
Tahiti cotton, seed tests in United States. 804
Tare: definition. 642
investigations. 642
jute and cotton baggings, comparison. 526
methods in Egypt. 652
practices and problems, United States. 660
rules of exchanges and associations. 660

<table>
<thead>
<tr>
<th>Item</th>
<th>Texas Cotton Growers Finance Corporation and other corporations preliminary report</th>
<th>449</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>acreage increase: 1900-1930</td>
<td>547</td>
</tr>
<tr>
<td></td>
<td>1919-29</td>
<td>534</td>
</tr>
<tr>
<td></td>
<td>boll-weevil control</td>
<td>711</td>
</tr>
<tr>
<td></td>
<td>&quot;boll-weevil cotton&quot;</td>
<td>107</td>
</tr>
<tr>
<td></td>
<td>diversified farming</td>
<td>433</td>
</tr>
<tr>
<td></td>
<td>Ellis County, farm management study</td>
<td>439</td>
</tr>
<tr>
<td></td>
<td>ginning: laws</td>
<td>489</td>
</tr>
<tr>
<td></td>
<td>practices and costs</td>
<td>489</td>
</tr>
<tr>
<td></td>
<td>gins, cooperative</td>
<td>486</td>
</tr>
<tr>
<td></td>
<td>Greenville:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plant growth and development</td>
<td>843</td>
</tr>
<tr>
<td></td>
<td>root-rot—</td>
<td>357</td>
</tr>
<tr>
<td></td>
<td>behavior</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>cycles of growth</td>
<td>118</td>
</tr>
<tr>
<td></td>
<td>spacing experiments</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>growing in Plains Area</td>
<td>356</td>
</tr>
<tr>
<td></td>
<td>harvesting methods, effect of weather, spinning quality</td>
<td>717</td>
</tr>
<tr>
<td></td>
<td>insects: miscellaneous</td>
<td>160</td>
</tr>
<tr>
<td></td>
<td>report</td>
<td>159</td>
</tr>
<tr>
<td></td>
<td>irrigation experiments and survey</td>
<td>461</td>
</tr>
<tr>
<td></td>
<td>labor requirements for producing a pound of lint cotton</td>
<td>412</td>
</tr>
<tr>
<td></td>
<td>Lubbock County, receipts, 1924.</td>
<td>580</td>
</tr>
<tr>
<td></td>
<td>marketing, local</td>
<td>645</td>
</tr>
<tr>
<td></td>
<td>picked and snapped cotton, spinning test</td>
<td>703</td>
</tr>
<tr>
<td></td>
<td>pink bollworm law</td>
<td>256</td>
</tr>
<tr>
<td></td>
<td>precipitation and yield</td>
<td>287</td>
</tr>
<tr>
<td></td>
<td>production—</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1916-17</td>
<td>564</td>
</tr>
<tr>
<td></td>
<td>1918</td>
<td>445</td>
</tr>
<tr>
<td></td>
<td>1923</td>
<td>444</td>
</tr>
<tr>
<td></td>
<td>effect of weather</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td>in Plains area</td>
<td>580</td>
</tr>
<tr>
<td></td>
<td>root-rot, control</td>
<td>137</td>
</tr>
<tr>
<td></td>
<td>San Antonio:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>experiment farm:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>experiments in sub-soiling</td>
<td>325</td>
</tr>
<tr>
<td></td>
<td>work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1915</td>
<td>326</td>
</tr>
<tr>
<td></td>
<td>1918</td>
<td>351</td>
</tr>
<tr>
<td></td>
<td>1919-20</td>
<td>398</td>
</tr>
<tr>
<td></td>
<td>field station, rotation and tillage experiments</td>
<td>367</td>
</tr>
<tr>
<td></td>
<td>staple length—</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1928-29</td>
<td>561</td>
</tr>
<tr>
<td></td>
<td>and mill consumption</td>
<td>581</td>
</tr>
<tr>
<td></td>
<td>increasing</td>
<td>582</td>
</tr>
<tr>
<td></td>
<td>varieties, spinning tests:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1923 crop</td>
<td>725</td>
</tr>
<tr>
<td></td>
<td>1923-25</td>
<td>727</td>
</tr>
<tr>
<td></td>
<td>1924 crop</td>
<td>724</td>
</tr>
<tr>
<td></td>
<td>weather</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and yield, 1899-1929</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>exposure, effect on spinning quality</td>
<td>717</td>
</tr>
<tr>
<td></td>
<td>yields by districts, averages</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>Textile(s):</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and clothing—</td>
<td>786</td>
</tr>
<tr>
<td></td>
<td>bibliography</td>
<td></td>
</tr>
<tr>
<td></td>
<td>government publications (bibliography)</td>
<td>778</td>
</tr>
<tr>
<td></td>
<td>buying for home, aided by system labeling</td>
<td>757</td>
</tr>
<tr>
<td></td>
<td>industry:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>China</td>
<td>520</td>
</tr>
<tr>
<td></td>
<td>See also Fabric(s).</td>
<td>519</td>
</tr>
<tr>
<td>Item</td>
<td>Upland cotton—Continued.</td>
<td>Item</td>
</tr>
<tr>
<td>------</td>
<td>--------------------------</td>
<td>------</td>
</tr>
<tr>
<td></td>
<td>and Pima, culture in Arizona.</td>
<td>301</td>
</tr>
<tr>
<td></td>
<td>and sea-island, boll weevil biol.</td>
<td>197</td>
</tr>
<tr>
<td></td>
<td>studies</td>
<td>197</td>
</tr>
<tr>
<td></td>
<td>boll-weevil</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>chemistry of</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>and histology of glands.</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>isolation of all attractiveness</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>boll weevil.</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>development of axillary buds</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>history</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>long-staple:</td>
<td>386</td>
</tr>
<tr>
<td></td>
<td>growing</td>
<td>386</td>
</tr>
<tr>
<td></td>
<td>varieties</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>American</td>
<td>374</td>
</tr>
<tr>
<td></td>
<td>varieties with Pima</td>
<td>341</td>
</tr>
<tr>
<td></td>
<td>list and descriptions alphabetically arranged</td>
<td>374</td>
</tr>
<tr>
<td></td>
<td>Uses</td>
<td>374</td>
</tr>
<tr>
<td></td>
<td>agricultural and industrial:</td>
<td>277</td>
</tr>
<tr>
<td></td>
<td>and manufacture of by-products</td>
<td>277</td>
</tr>
<tr>
<td></td>
<td>bibliography by M. C. Bolton</td>
<td>735</td>
</tr>
<tr>
<td></td>
<td>chart</td>
<td>742</td>
</tr>
<tr>
<td></td>
<td>early</td>
<td>325</td>
</tr>
<tr>
<td></td>
<td>farm</td>
<td>740</td>
</tr>
<tr>
<td></td>
<td>household</td>
<td>742</td>
</tr>
<tr>
<td></td>
<td>in a four-room house</td>
<td>742</td>
</tr>
<tr>
<td></td>
<td>in power laundries</td>
<td>738</td>
</tr>
<tr>
<td></td>
<td>industrial:</td>
<td>742</td>
</tr>
<tr>
<td></td>
<td>exhibit</td>
<td>749</td>
</tr>
<tr>
<td></td>
<td>industrial cloths</td>
<td>770</td>
</tr>
<tr>
<td></td>
<td>new</td>
<td>770</td>
</tr>
<tr>
<td></td>
<td>act authorizing investigation</td>
<td>883</td>
</tr>
<tr>
<td></td>
<td>discussion</td>
<td>741</td>
</tr>
<tr>
<td></td>
<td>particle</td>
<td>748</td>
</tr>
<tr>
<td></td>
<td>wearing apparel</td>
<td>712</td>
</tr>
<tr>
<td></td>
<td>See also Utilization, section on:</td>
<td>748</td>
</tr>
<tr>
<td></td>
<td>also under names of use.</td>
<td>748</td>
</tr>
<tr>
<td></td>
<td>Utilization:</td>
<td>748</td>
</tr>
<tr>
<td></td>
<td>bags and other containers, section on</td>
<td>750-756</td>
</tr>
<tr>
<td></td>
<td>fabric finishing and laundering</td>
<td>750-756</td>
</tr>
<tr>
<td></td>
<td>section on</td>
<td>750-756</td>
</tr>
<tr>
<td></td>
<td>household uses, section on</td>
<td>750-756</td>
</tr>
<tr>
<td></td>
<td>section on</td>
<td>750-756</td>
</tr>
<tr>
<td></td>
<td>wearing apparel, section on</td>
<td>750-756</td>
</tr>
<tr>
<td></td>
<td>Value:</td>
<td>750-756</td>
</tr>
<tr>
<td></td>
<td>1866-95</td>
<td>600</td>
</tr>
<tr>
<td></td>
<td>1921-26, cotton marketed by associations</td>
<td>674</td>
</tr>
<tr>
<td></td>
<td>farm statistics</td>
<td>602</td>
</tr>
<tr>
<td></td>
<td>VAN DEMAN, R.: Selected list of Government Publications on Textiles and Clothing</td>
<td>778</td>
</tr>
<tr>
<td></td>
<td>Varietal differences</td>
<td>352</td>
</tr>
<tr>
<td></td>
<td>in maturation periods</td>
<td>352</td>
</tr>
<tr>
<td></td>
<td>relation of leaf temperatures</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Varieties:</td>
<td>374</td>
</tr>
<tr>
<td></td>
<td>American upland, list and descriptions.</td>
<td>374</td>
</tr>
<tr>
<td></td>
<td>Asiatic, See Asiatic varieties, description.</td>
<td>374</td>
</tr>
<tr>
<td></td>
<td>classification:</td>
<td>374</td>
</tr>
<tr>
<td></td>
<td>according to nectaries</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>according to proportion of lint to seed</td>
<td>377</td>
</tr>
<tr>
<td></td>
<td>according to time of maturity</td>
<td>377</td>
</tr>
<tr>
<td></td>
<td>cluster:</td>
<td>377</td>
</tr>
<tr>
<td></td>
<td>caused by brachysm.</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>description</td>
<td>314</td>
</tr>
<tr>
<td></td>
<td>common and native names in various countries</td>
<td>690</td>
</tr>
<tr>
<td></td>
<td>common cotton standards. See Standards.</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>plant behavior, Pima and Acala.</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>plant characteristics</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>Pima and upland.</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>Pima and Yuma.</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>Item</td>
<td>145</td>
</tr>
<tr>
<td>1821-50</td>
<td>518</td>
<td></td>
</tr>
<tr>
<td>1868-95</td>
<td>608</td>
<td></td>
</tr>
<tr>
<td>1921-26</td>
<td>609</td>
<td></td>
</tr>
<tr>
<td>American Cotton Holds Ground</td>
<td>503</td>
<td></td>
</tr>
<tr>
<td>Despite Growth of Foreign Competition. With others—</td>
<td>503</td>
<td></td>
</tr>
<tr>
<td>Mechanization in South has been Retarded by Lack of a Cotton-picking Machine. With L. A. Raymond—</td>
<td>464</td>
<td></td>
</tr>
<tr>
<td>Use of Outlook Information in Farm-business Planning in the Cotton Belt. With O. V. Wells—</td>
<td>436</td>
<td></td>
</tr>
<tr>
<td>Thielavia basicola, host plant—</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Thunbergia amplexicaulis, host plant—</td>
<td>268</td>
<td></td>
</tr>
<tr>
<td>TOOLT, E. H.: Detection of Cotton-tussock-moth larvae, injury to seed-transportation</td>
<td>268</td>
<td></td>
</tr>
<tr>
<td>TITUS, E. S. G.: The Cotton Red Spider (Tetranychus glemorci Bk.).</td>
<td>735</td>
<td></td>
</tr>
<tr>
<td>TODD, S. E.: Improved Farm Implements—</td>
<td>742</td>
<td></td>
</tr>
<tr>
<td>TOLMAN, L. M.: Detection of Cottonseed Oil in Lard—</td>
<td>742</td>
<td></td>
</tr>
<tr>
<td>TOUND, L. M.: Detection of Cottonseed Oil in Lard—</td>
<td>742</td>
<td></td>
</tr>
<tr>
<td>TOWNSEND, J. S.: Cultivated Varieties of Cotton.</td>
<td>742</td>
<td></td>
</tr>
<tr>
<td>TRACY, S. M.: Cultivated Varieties of Cotton.</td>
<td>742</td>
<td></td>
</tr>
<tr>
<td>TYLER, F. J.: The Nectaries of Cotton—</td>
<td>742</td>
<td></td>
</tr>
<tr>
<td>Tussoc-moth larvae, injury to seedlings—</td>
<td>742</td>
<td></td>
</tr>
<tr>
<td>TWINES, used in power laundries—</td>
<td>742</td>
<td></td>
</tr>
<tr>
<td>TWINES, used in power laundries—</td>
<td>742</td>
<td></td>
</tr>
<tr>
<td>TYLER, F. J.: The Nectaries of Cotton—</td>
<td>742</td>
<td></td>
</tr>
<tr>
<td>TWINES, used in power laundries—</td>
<td>742</td>
<td></td>
</tr>
<tr>
<td>Tussoc-moth larvae, injury to seedlings—</td>
<td>742</td>
<td></td>
</tr>
<tr>
<td>TWINES, used in power laundries—</td>
<td>742</td>
<td></td>
</tr>
<tr>
<td>TWINES, used in power laundries—</td>
<td>742</td>
<td></td>
</tr>
<tr>
<td>TUSCOS-MOTH LARVAE, INJURY TO SEEDLINGS—</td>
<td>147</td>
<td></td>
</tr>
<tr>
<td>Uniform-depth press-wheel cotton-planter attachment—</td>
<td>738</td>
<td></td>
</tr>
<tr>
<td>Uniformity:</td>
<td>738</td>
<td></td>
</tr>
<tr>
<td>Pima cotton</td>
<td>69</td>
<td></td>
</tr>
<tr>
<td>Pima cotton.</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>Universal Cotton Standards Conference. See International Universal Cotton Standards Conference.</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>Universal standards. See Standards.</td>
<td>374</td>
<td></td>
</tr>
<tr>
<td>Upland cotton.</td>
<td>374</td>
<td></td>
</tr>
<tr>
<td>American classification—</td>
<td>661</td>
<td></td>
</tr>
<tr>
<td>American characters—</td>
<td>374</td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>Varieties—Continued. comparisons—continued.</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>plant growth and development</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>tolerance for soils</td>
<td>377</td>
<td></td>
</tr>
<tr>
<td>descriptions, alphabetically arranged</td>
<td>321</td>
<td></td>
</tr>
<tr>
<td>differentiation with respect to seedlings</td>
<td>317</td>
<td></td>
</tr>
<tr>
<td>for special regions and purposes:</td>
<td>376</td>
<td></td>
</tr>
<tr>
<td>development</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>recommended</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>grouped by nectararies</td>
<td>301</td>
<td></td>
</tr>
<tr>
<td>histories</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>improvement and tests, Yuma reclamation project</td>
<td>221</td>
<td></td>
</tr>
<tr>
<td>in California</td>
<td></td>
<td></td>
</tr>
<tr>
<td>in Guatemala</td>
<td></td>
<td></td>
</tr>
<tr>
<td>judging:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>lint percentages, danger in</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>factors in</td>
<td>408</td>
<td></td>
</tr>
<tr>
<td>limbless</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>list and description, alphabetically arranged</td>
<td>377</td>
<td></td>
</tr>
<tr>
<td>local adjustment</td>
<td>305</td>
<td></td>
</tr>
<tr>
<td>novelty</td>
<td>314</td>
<td></td>
</tr>
<tr>
<td>multiplicity in United States</td>
<td>314</td>
<td></td>
</tr>
<tr>
<td>origin and history</td>
<td>377</td>
<td></td>
</tr>
<tr>
<td>plant characteristics relative rank:</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>in regard to seed composition</td>
<td>792</td>
<td></td>
</tr>
<tr>
<td>in regard to yield</td>
<td>805</td>
<td></td>
</tr>
<tr>
<td>spinning tests, See Spinning tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>superior, characteristics of tests and experiments:</td>
<td>314</td>
<td></td>
</tr>
<tr>
<td>at San Antonio experiment farm</td>
<td>326</td>
<td></td>
</tr>
<tr>
<td>at Yuma reclamation projects</td>
<td>361</td>
<td></td>
</tr>
<tr>
<td>tropical, investigations</td>
<td>168</td>
<td></td>
</tr>
<tr>
<td>types, commercial</td>
<td>508</td>
<td></td>
</tr>
<tr>
<td>weevil-resistant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>acclimatization</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>bionomic study of</td>
<td>225</td>
<td></td>
</tr>
<tr>
<td>hybridization</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>in Guatemala</td>
<td>221</td>
<td></td>
</tr>
<tr>
<td>wilt-resistant breeding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>discussed</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>progeny-row method</td>
<td>127</td>
<td></td>
</tr>
<tr>
<td>circular of information concerning</td>
<td>799</td>
<td></td>
</tr>
<tr>
<td>description</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>development</td>
<td>129</td>
<td></td>
</tr>
<tr>
<td>distribution of seed</td>
<td>805</td>
<td></td>
</tr>
<tr>
<td>Jackson variety</td>
<td>800</td>
<td></td>
</tr>
<tr>
<td>yield:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>effect of latitude, length of growing season and place of origin of seed on</td>
<td>318</td>
<td></td>
</tr>
<tr>
<td>relative rank in regard to</td>
<td>377</td>
<td></td>
</tr>
<tr>
<td>See also One-variety communities:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>caused by nectararies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and Pests and Publications of the Cotton Belt.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warehousing:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>accounts system</td>
<td>607</td>
<td></td>
</tr>
<tr>
<td>act:</td>
<td>890</td>
<td></td>
</tr>
<tr>
<td>information concerning</td>
<td>606</td>
<td></td>
</tr>
<tr>
<td>receipt under</td>
<td></td>
<td></td>
</tr>
<tr>
<td>construction:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and fire protection</td>
<td>672</td>
<td></td>
</tr>
<tr>
<td>several types</td>
<td>668</td>
<td></td>
</tr>
<tr>
<td>facilities in South</td>
<td>669</td>
<td></td>
</tr>
<tr>
<td>fire protection</td>
<td>672</td>
<td></td>
</tr>
<tr>
<td>in Georgia and North Carolina</td>
<td>669</td>
<td></td>
</tr>
<tr>
<td>survey</td>
<td>669</td>
<td></td>
</tr>
<tr>
<td>licenses issued prior to April 1, 1921</td>
<td>898</td>
<td></td>
</tr>
<tr>
<td>list, 1921</td>
<td>898</td>
<td></td>
</tr>
<tr>
<td>regulations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>issued September 1926</td>
<td>896</td>
<td></td>
</tr>
<tr>
<td>issued September 1931</td>
<td>897</td>
<td></td>
</tr>
<tr>
<td>protecting cottonseed for commercial purposes, legislation</td>
<td>896</td>
<td></td>
</tr>
<tr>
<td>Warehousing:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>benefits of adequate system</td>
<td>666</td>
<td></td>
</tr>
<tr>
<td>legislation and regulation, section on</td>
<td>896-899</td>
<td></td>
</tr>
<tr>
<td>service in marketing</td>
<td>648</td>
<td></td>
</tr>
<tr>
<td>WARNER, M. F.: Cotton: Partial List of Publications in English Exclu-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>service in marketing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>st of Publications on Diseases and Pests and Publications of the St-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Experiment Stations    1926-1928</td>
<td>917</td>
<td></td>
</tr>
</tbody>
</table>
INDEX

| Item |
| Weekly Cotton Region Bulletin | 89 |
| Webb, H. J.: See also Cotton weevil; Thurberia weevil. | 155 |
| Weevils: emerged from cotton in Peru | 183 |
| related to boll weevil, biology. | 183 |
| Weighing and Weather Exposure on | 593 |
| Weights and measures used in foreign | 593 |
| statistics, United States equivalents | 593 |
| WEBB, C. F.: Tariff Rates on Rep- | 902 |
| resentative Agricultural Products | 902 |
| in Tariff Acts of 1930 and | 902 |
| 1922. | 902 |
| WEBB, O. V.: | 641 |
| Farmers' Response to Price. A | 641 |
| selected bibliography. | 641 |
| WILLARD, R. E.: A Farm Manage- | 739 |
| ment Study of Cotton Farms of | 739 |
| Ellis County, Texas | 739 |
| WILLARD, H. F.: With R. J. Cheatham | 619 |
| J. O.: Cottonseed Meal | 619 |
| WILLIAMS, J. C.: Fertilizers for Cotton Soils | 408 |
| WHITE, G. C.: With L. B. Floir | 619 |
| Handling and Marketing Duran- | 373 |
| ge Cotton in the Imperial | 373 |
| Valley. With J. G. Martin | 373 |
| WHITE, H. C.: With J. G. Martin | 655 |
| The Manuring of Cotton | 655 |
| abstraction. | 655 |
| WHITE, J. C.: The Movement of the 1924-25 | 406 |
| Cotton Crop and Changes in | 406 |
| Freight Rates on Cotton | 406 |
| WHITTAKER, M. : With L. B. Floir | 618 |
| Climatology and Soils | 618 |
| Whitney's saw gin—effect on production | 618 |
| WICKENS, D. L.: With R. J. Cheatham | 618 |
| Whitewash of Cotton | 618 |
| Wickens' saw gin—effect on | 618 |
| production. | 618 |
| WILLIAM, E. J.: With R. J. Cheatham | 452 |
| Willd-cotton weevil. See Thurberia weevil. | 452 |
| WILLARD, R. E.: With R. J. Cheatham | 261 |
| Williams, J. C.: With R. J. Cheatham | 261 |
| WILLARD, H. F.: Parasites of the Pink Bollworm in Hawaii | 261 |
| WILLARD, R. E.: A Farm Manage- | 439 |
| ment Study of Cotton Farms of | 439 |
| Ellis County, Texas | 439 |
| WILLIAMS, J. O.: Cottonseed Meal for Horses. With G. A. Bell | 834 |
| Willis, H. H.: With G. A. Bell | 834 |
| Cleaning Low-grade Cotton | 834 |
| Cotton Lint Research. | 834 |
| Effects of Methods of Harvesting and Weather Exposure on Spinning Quality of Cotton (Texas and Oklahoma—crop of 1926) | 717 |
| Manufacturing Tests of Cotton of the White Grades of the Universal Standards for American Cotton | 717 |
| WEBB, H. J.: | 718 |
| The Advantage of Planting Heavy Cotton Seed. With E. B. Boykin | 718 |
| WEBB, H. J.: | 718 |
| Seed Selection | 718 |
| WEBB, H. J.: | 718 |
| Upland Cottons | 718 |
INDEX

WITHERS, H. H.—Continued.
Results of Spinning Tests of South Carolina Cottons (crop of 1925). With E. S. Cumming
Spinning Test of Acala Cottons Grown in New Mexico (crop of 1926). With M. E. Campbell
Spinning Test of Picked and Snapped Cotton (Texas crop of 1926). With M. E. Campbell
Spinning Tests of Acala and Pima Cotton, San Joaquin Valley, California
Spinning Tests of Leading Varieties of North Carolina Cottons (crop of 1925)
Spinning Tests of Leading Varieties of South Carolina Cottons (crop of 1925)
Spinning Tests of Leading Varieties of Texas Cotton (crop of 1924)
Spinning Tests of Picked and Snapped Cottons (Texas and Oklahoma—1925 crop)
Spinning Tests of Some Texas-grown Varieties of Cotton (crops of 1923, 1924, and 1925). With H. C. McNamar
Utilization of Pima Cotton
WILT: and root-knot, control—126
     carried by cottonseed—98
     control: and seedling description—139
     by rotation of crops—94
     methods—127
     cotton, watermelon, and cowpea: description and control—102
     discussion—128
     habits and control—103
     okra, cotton, and other plants: resistant varieties: development—129
     See also Varieties, wilt-resistant
     southern Sclerotium—141
     toxicity studies—133
     Verticillium: and wilt-diseases of okra: description and control—123
     San Joaquin Valley—106
Wind-blown rain, factor in disease dissemination—100
WITHERS, W. A.: Comparative Toxicity of Cottonseed Products. With F. E. Carruth
     Gossypol, the Toxic Substance in Cottonseed. With F. E. Carruth
     Gossypol, the Toxic Substance in Cottonseed Meal. With F. E. Carruth
Woolly-bear larvae, injury to seedlings—147
WOOTEN, E. O.: Cotton in the Texas Plains Area—537
WORKMAX, J. M.—Continued.
     World's Industrial and Cotton Centennial Exposition. Catalogue of the exhibit of economic entomology
     World's Industrial and Cotton Exposition, New Orleans. Exhibits illustrating agricultural statistics
     Worm. See Bollworm; Cotton worm; Pink bollworm

     Comparative Advantages of Jute and Cotton Ruggings for American Cotton Bales. With R. J. Cheatham—526
     X-ray, used for detecting pink bollworm in cottonseeds—248
     Yarn tests. See Spinning tests.
     Yazoo-Mississippi Delta, tenant system—411

Yields:
a actual and estimated, 1919-24—638
     changes (maps) —595
     economic significance to farmers—420
     effect of: cultural methods—363
     latitude, length of growing season, and place of origin of seed—318
     rotation and tillage, comparison—367
     spacing—354
     in California—356
     in Texas—326
     estimating. See Crop reports.
     In Gulf Coast region, increasing—311
     In Texas, average, by districts—87
     increasing by: early defoliation—360
     root-crowns—17
     seed-selection and plowing under dead crops—418
     turning under hairy vetch—204
     on demonstration farms, 1909—10—346
     per acre: 1890-1931, charts—572
     Increasing—310
     relation of: leaf temperatures—18
     weather: Louisiana—85
     Texas:—1890-1929—76
     studies—87
     revised estimates, 1868-1931—575

YOTHERS, W. W.: Hibernation of the Mexican Cotton Boll Weevil. With others—191

YOUNGBLOOD, B.: Adjusting the Quality of the Cotton Crop to Spinners' Requirements—527
     Cotton Bagging for Cotton. With others—756
     Cotton Culture and Marketing in the United States—510
### Index

<table>
<thead>
<tr>
<th>Item</th>
<th>Youngblood, B.—Continued.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cotton Quality Studies Show Opportunities to Adjust Staple Production</td>
</tr>
<tr>
<td>581</td>
<td>Cotton-spinning Value Studies Show Need of Higher Qualities</td>
</tr>
<tr>
<td>582</td>
<td>delegate to International Cotton Conference, Brazil</td>
</tr>
<tr>
<td>505</td>
<td>Domestic Mill Consumption of American Cotton by Grades and Staples. With others</td>
</tr>
<tr>
<td>528</td>
<td>Relation of Soil Fertility to the Quality of Cotton</td>
</tr>
<tr>
<td>387</td>
<td>The Correlation of Research in Cotton Marketing</td>
</tr>
<tr>
<td>907</td>
<td>The Necessity for Better Correlation of Research Activities in the Field of Agriculture with Special Reference to Cotton Growing</td>
</tr>
<tr>
<td>529</td>
<td>The Quality of Cotton and Market Demand</td>
</tr>
<tr>
<td>909</td>
<td>The Research Program of the Division of Cotton Marketing</td>
</tr>
<tr>
<td>337</td>
<td>Yuma cotton: comparison with Pima</td>
</tr>
<tr>
<td>54</td>
<td>Yuma Project: cotton: in rotation with alfalfa recommended as crop</td>
</tr>
<tr>
<td>370</td>
<td>Yuma Project: cotton: work</td>
</tr>
<tr>
<td>380</td>
<td>1912</td>
</tr>
<tr>
<td>385</td>
<td>1918</td>
</tr>
<tr>
<td>288</td>
<td>1919–20</td>
</tr>
<tr>
<td>361</td>
<td>Zeimet, C.: A Bibliography on the Use of Airplanes in Insect Control to March 1, 1928. With W. E. McBeth</td>
</tr>
<tr>
<td>164</td>
<td>Zones, non-cotton, compensation</td>
</tr>
<tr>
<td>900</td>
<td></td>
</tr>
</tbody>
</table>