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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF AGRICULTURAL ECONOMICS

VARIATIONS IN THE COMPOSITION AND GRADE OF COTTONSEED
PRODUCED IN THE STATES OF
ARKANSAS, LOUISIANA, MISSISSIPPI, AND TENNESSEE,
SEASONS OF 1934-35 TO 1937-38

By G. S. Meloy,
Senior Marketing Specialist

Washington, D. C.
June 1939

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Cottonseed Quality Estimated

The cottonseed-crushing industry has grown rapidly since 1870. In that year the industry consisted of 26 mills, which crushed only about 2 or 3 percent of the seed produced. The crush had grown to about a million tons, or 25 percent of the total production, by 1890; and by 1914 more than 870 mills crushed more than five million tons, or 80 percent of the seed produced.

During all of this period of rapid growth in the industry, attention was centered on questions of processing technique and on improvements in the quality of the products of cottonseed. Little study was given directly to the variable composition of the seed. Under such conditions, it became the general practice for crushing mills to estimate the average quality of the cottonseed occasionally during each season and to base their purchase prices on such averages. In addition, from time to time efforts were made by trade associations in the industry to set up a basis for discounting, usually based on adulteration or on exceptional spoilage.

Standard Grades Established

In 1925 the U. S. Department of Agriculture undertook a study of the subject. As a result, on May 23, 1932, the first standards of the United States for the grading of cottonseed intended for crushing were officially promulgated by the Secretary of Agriculture.

These standards provided not only a basis for equitable discounts for off quality, but also a basis for equitable premiums for superiority. A basis grade was established, of definite description both as to the quantity of obtainable products and as to the condition of the seed that would affect the costs of processing and the quality of the products (appendix A).

Elements of Quality in Cottonseed

The standard method of grading cottonseed is based, (1) on the development of the seed, as indicated by the quantity of oil and protein elaborated during growth, oil and protein being the two most valuable constituents; (2) on the deterioration that has taken place in the seed between the maturing of the bolls and the time of sale, as indicated by the percentage of free fatty acids in the oil; and (3) on the quantity of moisture and foreign matter, in deleterious quantities, that have been absorbed by or incorporated in the seed before sale.

To measure the development of the seed constituents, a method is provided for determining a quantity index. To measure the deterioration and to take into account the excesses of moisture and foreign matter, a method is provided for determining a quality index. To determine the grade or relative value in relation to a base, a method is provided for combining the quantity index with the quality index, the result being the grade. In practice, the grade is used as a value index related to the price quoted at the time of sale for cottonseed of the base grade.

Sampling and Analysis Standardized

The necessity for the accurate sampling of cottonseed and for the accurate chemical analysis of the samples was recognized as a problem precedent to the establishment of the standard grades. Therefore, coincident with the promulgation of the cottonseed standards, approved methods were published for both the drawing and the handling of samples and for the procedure to be followed in making chemical analyses and calculating the grade of cottonseed. 1/

1/ United States Department of Agriculture. Bureau of Agricultural Economics. The official standards of the United States for the grading, sampling, and analyzing of cottonseed sold or offered for sale for crushing purposes. U. S. Dept. of Agri. Service and Regulatory Announcements (B.A.E.) 133. 10pp. 1932.

Meloy, G. S. Development of standards for grades of cottonseed. 31pp. United States Department of Agriculture, Bureau of Agricultural Economics, 1935. (Mimeographed.)

United States Department of Agriculture. Bureau of Agricultural Economics. Methods of drawing and preparing official samples of cottonseed. For licensed cottonseed samplers. Approved by the Acting chief... June 7, 1938. 4pp. 1938. (Mimeographed.)

United States Department of Agriculture. Bureau of Agricultural Economics. Methods of chemical analysis and grade calculations for cottonseed. For licensed cottonseed chemists. Approved... June 7, 1938. 11pp. 1938. (Mimeographed.)

First Amendment to Standard Grades

The cottonseed standards are what are known as permissive standards in that it is optional whether they be used in the marketing of cottonseed. Nevertheless, since their establishment a large number of transactions in cottonseed have been based on the standards. This has been particularly true in the cotton-producing States in the Mississippi Valley. Each season since the establishment of the standards, the grading of cottonseed has become more and more popular as a marketing practice with producers, middlemen, and managers of crushing mills. During the season of 1936-37, the number of lots of cottonseed that were marketed on grade in the Mississippi Valley was practically double that for previous seasons (table 2). Moreover, the premiums and discounts based on the grades as an index of relative value, became increasingly important, especially in the minds of the sellers of cottonseed. It being demonstrated that full grades were too broad, the standards were amended on July 30, 1937, to provide for half grades (appendix B).

Supervision of Sampling and Grading

Interest in the marketing of cottonseed became so keen that at the beginning of the season of 1937-38 the Department of Agriculture undertook the supervision of both the sampling and the grading of all cottonseed sold for crushing in the Mississippi Valley, including that portion of Louisiana northeast of the Red River; Arkansas, except that part contiguous to Oklahoma and Texas; Mississippi; Missouri; Illinois; Kentucky; and western Tennessee. This was done by means of licensed and bonded samplers and of licensed chemists. The work of both was supervised by a corps of inspectors regularly employed by the Department for the purpose. Chemists' licenses were issued only to commercial and independent chemists who could demonstrate their ability to analyze samples of cottonseed accurately and who agreed to have their laboratories supervised by qualified agents of the Department.

This official supervision apparently gave all parties greater confidence in the sampling and grading, for the number of lots of seed that were sampled and graded that season was greatly increased--in fact, was again practically doubled in some of the States.

The season of 1936-37 in the Mississippi Valley was characterized as a late, wet, cool spring followed by a hot, dry summer, frequently of drought intensity. Then came a cold, wet harvest season, with a number of storms of heavy precipitation. The adverse conditions of growth and harvest were most intense in western Tennessee and were least severe in Louisiana. The adverse growing conditions are reflected in the quantity of oil elaborated in the seed; and the adverse harvest conditions are reflected in the high percentage of instances in which the quality index was lowered for cause. It is

interesting that although moisture excesses were high and were found in a large percentage of the lots of seed that were graded, relatively little deterioration in the oil was found, probably owing to the coolness of the harvest season. This is in contrast to the season of 1937-38 when, with little or no excess seed moisture, but with combinations of high atmospheric temperatures and humidity during the harvest season, serious deterioration occurred in the oil.

Second Amendment to Standard Grades

The cottonseed marketed in the Mississippi Valley States during the season of 1937-38 was of the poorest quality on record. The intensity of the deterioration contrasted with that of the previous season, however, in that it was most severe in Louisiana and contiguous counties in Mississippi and least severe in Tennessee. The continued rains and the warm, humid weather during the harvest period made it practically impossible to prevent spoilage. Many lots of cottonseed were so badly decomposed when offered for sale to the oil mills, that it was not possible to process them. In many instances it was found that when these seed were graded according to the official standards, the grades were no longer true indexes of relative value. Since this contingency had not been anticipated when the standards were established, the standards were again amended on June 7, 1938, by providing that all cottonseed which, upon analysis, were found so low in quality as to result in a grade below 25, should not be graded on the standards but be left the subject of negotiation (appendix C). In the early part of the 1937-38 season the industry had recognized that grade 25 was the minimum that represented fair relative values and by universal consent had adopted this modification in applying the standards.

Analyses Reported to Department of Agriculture

Immediately after the establishment of the standards, in 1932, arrangements had been made by the Department of Agriculture with all chemists, both commercial and private, whereby a copy of each cottonseed analysis and grade report, when made according to the official standards, would be furnished the Department for its study.

Beginning with the season of 1934-35, fairly complete records have been kept of the factors of grade of the cottonseed produced in Arkansas, Louisiana, Mississippi, and Tennessee. In most instances these data are available for each cotton-producing county in these States; but in this report, the data are given on a State-wide basis for the seasons of 1934-35, 1935-36, 1936-37, and 1937-38 (tables 1, 2, 3, and 4). In addition to the grade reports considered in these tables, other reports were received, giving the analysis and grade of seed believed to have been grown in Arkansas, Missouri, Illinois, Kentucky, or

Tennessee, but these data were so incomplete with respect to point of origin of the seed in question, that it was thought best to omit them from the tables. There were 900 of these reports for 1934-35, more than 1,800 reports for 1935-36, and 787 reports for 1936-37. All reports for the season of 1937-38 contained the identification of the State and county in which the seed were produced. A tabulation of the omitted data from these reports has been made, but they are not included herewith, since it was found that they would make no material change in the results as given.

Although the seasonal variations and the averages of the grades are of interest for general comparisons, it is believed that, from the producer's standpoint, the distribution of the grades are of even greater interest. Such data are extended in tables 5, 6, 7, and 8; but, since the bulk of the graded lots was classified between grade 80 and grade 120, all lots falling below 80 in grade are grouped. Producers should be particularly interested in the evidence that, in spite of seasonal difficulties that result in reducing the general quality of the cottonseed, a large number of shipments sold each month of each season had been so carefully harvested and handled as to be classified in the premium grades.

For the information of those who may wish to estimate the quantity of cottonseed covered by these reports, it may be said that each sample presumably represents an average carlot or its equivalent; that is to say, approximately 25 tons of cottonseed.

Explanation of Tables

In brief explanation of the tables, it may be pointed out that the yields of oil and cake given are the expected yields under standard manufacturing efficiency. Actual yields, therefore, may be slightly ^{more or} slightly less than the figures given in the tables; but the averages are believed to be fairly close to the actual averages.

Referring to table 1, it will be seen, for example, that in Arkansas 305 lots of cottonseed were sampled and graded during the month of August 1934. The oil content varied from 14.2 percent to 21.1 percent and averaged 17.65 percent. The yields of oil varied from 224 pounds to 366 pounds and averaged 294 pounds per ton of seed. The ammonia varied from 3.04 percent to 4.48 percent and averaged 3.77 percent which when converted into protein represented 15.63 percent, 23.03 percent, and 19.38 percent protein respectively. From these ammonia contents it is possible to produce cake of 41.13 percent protein content, ranging from 714.1 pounds to 1052.8 pounds and averaging 885.9 pounds per ton of seed. According to the official standards, the quantity index varied from 82.2 to 109.5 and averaged 98.22. The quality index of 148 lots was lowered for cause. These were divided as to cause as follows: 7 lots were found to contain excesses of free

fatty acids in the oil, one lot containing 13.1 percent of free fatty acids and averaging 4.14 percent, resulting in an average reduction in the quality indexes of the 7 lots of 11.70 units for this cause; 143 lots contained more than 12 percent moisture, the highest moisture content being 20.4 percent, and the quality indexes of these 143 lots being reduced an average of 2.77 units because of excesses of moisture; 3 lots contained more than 3 percent foreign matter; the foreign matter content in one of these lots being 11.2 percent, and the average reduction in the quality indexes of the 3 lots, because of foreign matter, being 3.50 units. It is evident that the quality indexes of at least 5 of the 148 lots were reduced for two or more causes.

Out of the 305 lots that were sampled and graded, 7 were classified as of Superior Quality. The range of the grades was from 48 to 110, and the average of the grades was 96.6.

The number of lots of cottonseed that were sampled, analyzed, and graded increased materially as soon as the Department of Agriculture undertook the supervision of the sampling and grading. In Arkansas (table 1) the number of lots that were sampled and graded rose from 10,093 in the season of 1934-35 to 15,748 in 1937-38. In Louisiana, the number was 2,220 in the season of 1934-35 and 8,577 in the season of 1937-38 (table 2). In Mississippi, 12,760 lots were sampled and graded during the season of 1934-35, contrasted with 36,445 lots during the season of 1937-38 (table 3). In Tennessee 5,477 lots were graded during the season of 1934-35 contrasted with 7,105 lots during the season of 1937-38 (table 4).

SUMMARIZING STATEMENT:

Both the ranges and the averages for oil and ammonia contents of cottonseed varied from month to month and from season to season in each of the States included in this study as shown in text and tables. These variations resulted in variations in recoverable oil of more than 250 pounds and in cake (of 41.13 percent protein) of more than 500 pounds per ton of seed processed.

The reduction in the quality index of the various lots of cottonseed sold on the basis of grade during the season of 1936-37 was greatest in Tennessee and least in Louisiana; in contrast with the season of 1937-38, when it was greatest in Louisiana and least in Tennessee.

In Tennessee and Arkansas, the grade of cottonseed is lowered most frequently because of excesses of moisture and foreign matter; whereas in Louisiana and Mississippi and in Southeastern Arkansas, the greatest reductions in grade are caused by excesses of free fatty acids in the oil in the seed.

The tables giving the distributions of the grades show that the grades of cottonseed produced become progressively lower as the season

progresses, particularly during the seasons of 1936-37 and 1937-38 in the States of Arkansas, Louisiana, and Mississippi. They show also that, regardless of generally unfavorable seasonal conditions during harvest, many shipments of seed are so carefully handled that they are classified in the premium grades when offered for sale. This is notable in Mississippi where the average grade of the seed marketed each month fell below basis rapidly during the season of 1937-38, beginning with November. During October, out of 8,405 shipments, 5,408 were classified in the premium grades; and the average grade of all shipments was 100.4, or four-tenths above basis. During November, out of 5,422 shipments, 2,034 were of premium grades, and the average grade of all shipments was 94.3. During December, out of 4,285 shipments, 651 were found in the premium grades; and the average grade of all shipments was 85.5. Even during February, when the average grade of 2,600 shipments was 72.3, or 27.7 units below basis, 132 shipments were classified in the premium grades.

ORDER OF PROMULGATION

PUBLIC NOTICE ESTABLISHING THE GRADES, METHODS OF SAMPLING,
ANALYZING, AND GRADING COTTONSEED SOLD OR OFFERED FOR
SALE FOR CRUSHING PURPOSES WITHIN THE UNITED STATES

By virtue of the authority vested in the Secretary of Agriculture by the act of Congress entitled "An act making appropriations for the Department of Agriculture for the fiscal year ending June 30, 1932, and for other purposes," approved February 23, 1931 (Public, No. 717, 71st Cong.), I, Arthur M. Hyde, Secretary of Agriculture, do hereby fix, establish, and promulgate the following standards of class, quality, and condition for cottonseed, which shall become the official standards of the United States for the grading and analysis of cottonseed sold or offered for sale for crushing purposes, on the 1st day of June, 1932, and be in force and effect as long as Congress shall provide the necessary authority therefor, unless amended or superseded by standards hereafter prescribed and promulgated under such authority.

SECTION 1. The grade of cottonseed shall be determined from the analysis of samples, and it shall be the result, stated as the nearest whole number without fractions, obtained by multiplying a quantity index by a quality index, as hereinafter provided.

- (a) The basis grade of cottonseed shall be grade 100.
- (b) High grades of cottonseed shall be those grades above 100.
- (c) Low grades of cottonseed shall be those grades below 100.

SEC. 2. The following equations shall be used in determining the quantity index of cottonseed:

- (a) For cottonseed, that by analysis contain not less than 17 per cent of oil, the quantity index shall equal 4 times the percentage of oil, plus 6 times the percentage of ammonia, plus 5.
- (b) For cottonseed, that by analysis contain less than 17 per cent oil, the quantity index shall equal 5 times the percentage of oil, plus 6 times the percentage of ammonia, minus 12.

SEC. 3. The quality index of cottonseed shall be a percentage of purity and soundness, and shall be determined as follows:

- (a) Superior quality cottonseed.--Cottonseed that, by analysis, contain less than one-half per cent foreign matter, and more than 8 per cent but less than 10 per cent moisture, and less than three-fourths per cent free fatty acids in the oil in the seed shall be known as superior quality cottonseed and shall have a quality index of 102 per cent.
- (b) Prime quality cottonseed.--Cottonseed that, by analysis, contain not more than 3 per cent foreign matter, not more than 12 per cent moisture, and not more than 1.8 per cent free fatty acids in the oil in the seed, shall be known as prime quality cottonseed and shall have a quality index of 100 per cent.

(c) Subquality cottonseed.--Cottonseed that, by analysis, contain foreign matter, moisture, and/or free fatty acids in the oil in the seed in excess of the percentages shown in section 3-b, or are seed from seed cotton that has been processed in a boll breaker, or other device for preparing snapped cotton or bollies for ginning, shall be known as sub-quality cottonseed; and the quality index of such cottonseed shall be found by reducing the quality index of prime quality cottonseed as follows:

(1) Not to exceed five-tenths of a unit for each 0.1 per cent of free fatty acids in the oil in the seed in excess of 1.8 per cent; provided that this reduction shall not exceed 50 units of the quality index of prime quality cottonseed.

(2) Not to exceed 1 unit for each 1 per cent of foreign matter in excess of 3 per cent.

(3) Not to exceed 1 unit for each 1 per cent of moisture in excess of 12 per cent.

(4) Not to exceed 8 units when the seed cotton has been processed as snapped cotton or bollies before ginning.

(d) Off quality cottonseed.--Cottonseed that have been treated by either mechanical or chemical process other than the usual cleaning, drying, and ginning (except such sterilization as may be required by the United States Department of Agriculture for quarantine purposes) or that are hot or fermented, or that upon analysis are found to contain more than 25 per cent foreign matter, or more than 25 per cent moisture, or more than 40 per cent combined moisture and foreign matter, shall be known as off quality cottonseed and may not be graded.

SEC. 4. Sampling of cottonseed.--In the application of these standards the following methods shall be observed in the drawing and handling of samples of cottonseed.

(a) Sampling before unloading.--Portions shall be drawn at different points in each end and in the middle of the car with a suitable cottonseed trier or sampling device. In drawing samples with a trier, cross sections shall be taken from the top to the bottom of the car, if possible. In the absence of a trier, holes shall be dug at various points at least 30 inches deep with a small (8-tine) fork and portions taken from the bottom and sides of these holes.

(b) Sampling during unloading.--For this purpose the sampler shall be provided with a suitable receptacle which he shall place in the center of the unloading chute at regular intervals, as the seed are being ejected from the car, to receive portions of the seed.

Whether drawn before or during unloading the several portions drawn from car lots shall total not less than 50 pounds in weight.

(c) Sampling of truck or wagon seed.--In drawing samples of truck or wagon loads of cottonseed, the same methods shall be used as in sampling car lots before unloading. The total weight of the portion drawn shall be not less than 2 1/2 pounds for each ton of seed in the load.

(d) Handling samples.--Samplers shall be provided with metal containers with close-fitting covers large enough to hold 60 or 70 pounds of cottonseed. Each portion of a sample as drawn shall be immediately placed in such a receptacle and the cover promptly replaced. As soon as

the full sample has been taken it shall be carefully weighed, then cleaned of foreign matter, and carefully reweighed. The loss in weight shall be calculated as foreign matter. After the sample is cleaned the seed shall be mixed either by means of a suitable mechanical mixer or by heaping together and mixing by passing the hands or a small shovel up through the heap, repiling and spreading by pressing. Finally not less than 2 quarts shall be packed in an air-tight tin can or Mason jar and sent to the laboratory for analysis and grading. All cleaning, mixing, and handling of samples shall be done expeditiously and without undue exposure.

SEC. 5. Analysis.--The methods for analyzing cottonseed recommended from time to time by the interbureau committee of this department on standard methods of sampling and analyzing cottonseed shall be used.

(SEAL) In testimony whereof I have hereunto set my hand and caused the official seal of the Department of Agriculture to be affixed in the City of Washington, this 23d day of May 1932.

(s) ARTHUR M. HYDE

Secretary.

PUBLIC NOTICE ESTABLISHING STANDARDS FOR GRADES OF
COTTONSEED SOLD OR OFFERED FOR SALE FOR
CRUSHING PURPOSES WITHIN THE UNITED STATES

By virtue of the authority vested in the Secretary of Agriculture by the Act of Congress entitled "An act making appropriations for the Department of Agriculture for the fiscal year ending June 30, 1938, * * * and for other purposes," (Public No. 173, 75th Congress), I, M. L. Wilson, Acting Secretary of Agriculture, do hereby fix, establish, and promulgate the following official standards of the United States for grades of cottonseed sold or offered for sale for crushing purposes, the same to supersede the standards for cottonseed promulgated May 23, 1932, and to be in force and effect as/ Congress shall provide the necessary authority therefor, unless amended or superseded by standards hereafter prescribed and promulgated under such authority.

SECTION 1. The grade of cottonseed shall be determined from the analysis of samples, and it shall be the result, stated in the nearest whole or half numbers, obtained by multiplying a quantity index by a quality index and dividing the result by 100 as hereinafter provided.

- (a) The basis grade of cottonseed shall be grade 100.
- (b) High grades of cottonseed shall be those grades above 100.
- (c) Low grades of cottonseed shall be those grades below 100.

SEC. 2. The following formulae shall be used in determining the quantity index of cottonseed:

- (a) For cottonseed, that by analysis contain 17 per cent of oil or more, the quantity index shall equal 4 times the percentage of oil, plus 6 times the percentage of ammonia, plus 5.
- (b) For cottonseed, that by analysis contain less than 17 per cent oil, the quantity index shall equal 5 times the percentage of oil, plus 6 times the percentage of ammonia, minus 12.

SEC. 3. The quality index of cottonseed shall be a percentage of purity and soundness, and shall be determined as follows:

(a) Superior quality cottonseed.--Cottonseed that, by analysis, contain not less than 18.7 per cent oil, nor more than one-half of one per cent foreign matter, 8 per cent but not more than 10.0 per cent moisture, and not more than one-half of one per cent free fatty acids in the oil in the seed shall be known as superior quality cottonseed and shall have a quality index of 102.

(b) Prime quality cottonseed.--Cottonseed that, by analysis, contain not more than 3 per cent foreign matter, not more than 12 per cent moisture, and not more than 1.8 per cent free fatty acids in the oil in the seed, shall be known as prime quality cottonseed and shall have a quality index of 100 per cent.

(c) Subquality cottonseed.--Cottonseed that, by analysis, contain foreign matter, moisture, and/or free fatty acids in the oil in the seed in excess of the percentages shown in section 3-b, shall be known as sub-quality cottonseed; and the quality index of such cotton-

seed shall be found by reducing the quality index of prime quality cottonseed as follows:

(1) Not to exceed five-tenths of a unit for each 0.1 per cent of free fatty acids in the oil in the seed in excess of 1.8 per cent.

(2) Not to exceed 1 unit for each 1 per cent of foreign matter in excess of 3 per cent.

(3) Not to exceed 1 unit for each 1 per cent of moisture in excess of 12 per cent.

(d) Off quality cottonseed.--Cottonseed that have been treated by either mechanical or chemical process other than the usual cleaning, drying, and ginning (except such sterilization as may be required by the United States Department of Agriculture for quarantine purposes) or that are "hot" or fermented, or that upon analysis are found to contain 13 per cent or more free fatty acids in the oil, or more than 25 per cent foreign matter, or more than 25 per cent moisture, or more than 40 per cent combined moisture and foreign matter, shall be designated as "Off Quality Cottonseed, approximate grade ____."

SEC. 4. Sampling, analysis, and certification of samples and grades.--The drawing and preparation and certification of samples of cottonseed and the analysis and certification of grades of cottonseed shall be performed in accordance with methods approved from time to time by the Chief of the Bureau of Agricultural Economics.

In testimony whereof I have hereunto set my hand and caused the official seal of the Department of Agriculture to be affixed in the City of Washington, this 30th day of July, 1937.

(SEAL)

(s) M. L. WILSON,
Acting Secretary.

UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics
Washington, D. C.

Public Notice Establishing Standards for Grades of
Cottonseed Sold or Offered for Sale for Crush-
ing Purposes Within the United States.

By virtue of the authority vested in the Secretary of Agriculture by the Act of Congress entitled "An Act making appropriations for the Department of Agriculture for the fiscal year ending June 30, 1938, * * * and for other purposes" (Public No. 173, 75th Congress), I, H. A. Wallace, Secretary of Agriculture do hereby fix, establish, and promulgate the following official standards of the United States for grades of cottonseed sold or offered for sale for crushing purposes the same to supersede the standards for cottonseed promulgated July 30, 1937, 1/ and to be in force and effect as long as Congress shall provide the necessary authority therefor, unless amended or superseded by standards hereafter prescribed and promulgated under such authority.

SECTION 1. The grade of cottonseed shall be determined from the analysis of samples, and it shall be the result, stated in the nearest whole or half numbers, obtained by multiplying a quantity index by a quality index and dividing the result by 100 as hereinafter provided.

- (a) The basis grade of cottonseed shall be grade 100.
- (b) High grades of cottonseed shall be those grades above 100.
- (c) Low grades of cottonseed shall be those grades below 100.

SEC. 2. The following formulae shall be used in determining the quantity index of cottonseed:

- (a) For cottonseed that by analysis contain 17 percent or more of oil, the quantity index shall equal 4 times the percentage of oil, plus 6 times the percentage of ammonia, plus 5.
- (b) For cottonseed that by analysis contain less than 17 percent oil, the quantity index shall equal 5 times the percentage of oil, plus 6 times the percentage of ammonia, minus 12.

SEC. 3. The quality index of cottonseed shall be an index of purity and soundness, and shall be determined as follows:

(a) Superior quality cottonseed.--Cottonseed that, by analysis, contain not less than 18.7 percent oil, nor more than one-half of one percent foreign matter, 8 percent but not more than 10.0 percent moisture, and not more than one-half of one percent free fatty acids in the oil in the seed shall be known as superior quality cottonseed and shall have a quality index of 102.

(b) Prime quality cottonseed.--Cottonseed that, by analysis, contain not more than 3 percent foreign matter, not more than 12 percent moisture, and not more than 1.8 percent free fatty acids in the oil in the seed, shall be known as prime quality cottonseed and shall have a quality index of 100.

(c) Subquality cottonseed.--The quality index of cottonseed that, by analysis, contain foreign matter, moisture, and/or free fatty acids in the oil in the seed in excess of the percentages shown in section 3-b shall be found by reducing the quality index of prime quality cottonseed as follows:

(1) Not to exceed five-tenths of a unit for each 0.1 percent of free fatty acids in the oil in the seed in excess of 1.8 percent.

(2) Not to exceed 1 unit for each 1 percent of foreign matter in excess of 3 percent.

(3) Not to exceed 1 unit for each 1 percent of moisture in excess of 12 percent.

Such cottonseed shall be known as subquality cottonseed, except as hereinafter provided.

(d) Off quality cottonseed.--Cottonseed that have been treated by either mechanical or chemical process other than the usual cleaning, drying, and ginning (except such sterilization as may be required by the United States Department of Agriculture for quarantine purposes) or that are fermented and hot, or that upon analysis are found to contain 12 percent or more free fatty acids in the oil, or more than 10 percent foreign matter, or more than 18 percent moisture, or more than 25 percent combined moisture and foreign matter, shall be designated as Off Quality Grade.

(e) Below grade cottonseed.--Cottonseed the grade of which when calculated according to section 3-c above is below Grade 25 shall be designated as "Below Grade Cottonseed." A grade shall not be indicated.

SEC. 4. Sampling, analysis, and certification of samples and grades.--The drawing and preparation and certification of samples of cottonseed and the analysis and certification of grades of cottonseed shall be performed in accordance with methods approved from time to time by the Chief of the Bureau of Agricultural Economics.

In testimony whereof I have hereunto set my hand and caused the official seal of the Department of Agriculture to be affixed, in the City of Washington, this 7th day of June 1938.

(SEAL)

(s) H. A. WALLACE,
Secretary

(F. R. Doc. 38--1600; Filed, June 7, 1938; 12:37 p.m.)
(From Federal Register, Volume 3, Number 111, June 8, 1938, pp. 1343-44).

Table 1.

ARKANSAS COTTONSEED: COMPOSITION AND GRADE

Month	Total Number of Samples	PERCENT OIL		YIELDS OIL Pounds per ton of seed		PERCENT AMMONIA		YIELDS 8% MEAL Pounds per ton of seed		QUANTITATIVE INDEX				LOW QUALITY BY CAUSES										BELLOW GRADE		SUPERIOR QUALITY		GRADE	
		Min. Max.		Min. Max.		Min. Max.		Min. Max.		Min. Max.		Number of Samples	Aver. of Low Quality	Free Fatty Acids		Moisture		Foreign Matter		Number of Samples		Aver. of Low Quality		Number of Samples	Min.	Max.	Aver.		
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.			Number of Samples	Max. Reduction	Number of Samples	Max. Reduction	Number of Samples	Max. Reduction										

SEASON 1934-35																																
August	375	14.2	21.1	17.65	204	356	294.0	714.1	1022.8	885.9	22.2	136	13.1	11.70	14.5	18.6	1.33	105	23.7	2.32	3	11.2	3.90	-	-	-	-	7	48	110	96.6	
September	3,111	14.9	20.9	18.53	280	364	295.8	731.2	1078.6	984.7	21.1	1,266	3.4	3.50	1.25	1.56	1.56	19	1.56	0.99	146	1.56	0.99	-	-	-	-	146	60	112	99.7	
October	1,361	15.9	20.9	18.53	287	362	297.2	731.2	1078.6	985.2	21.1	1,266	3.4	3.50	1.25	1.56	1.56	19	1.56	0.99	146	1.56	0.99	-	-	-	-	146	60	112	99.7	
November	1,540	14.8	20.6	18.35	235	356	297.0	747.5	1069.2	940.0	26.4	111	7.3	6.10	33	14.7	0.68	64	10.5	1.44	45	10.5	1.44	-	-	-	-	45	74	113	102.3	
December	762	14.3	20.1	17.94	229	346	298.8	791.9	1051.1	934.5	20.5	136	3.7	3.93	3.37	4.46	3.93	282	15.1	2.32	3	11.2	3.90	-	-	-	-	3	50	111	99.4	
January	2,662	14.5	20.1	17.76	236	343	298.2	766.1	1041.0	931.0	22.1	124	3.8	3.80	3.26	4.28	3.80	184	11.6	2.67	17	11.6	2.67	-	-	-	-	17	62	108	91.7	
February	148	15.6	20.1	17.76	232	343	298.2	766.1	1041.0	931.0	22.1	124	3.8	3.80	3.26	4.28	3.80	184	11.6	2.67	17	11.6	2.67	-	-	-	-	17	62	108	91.7	
March	39	16.2	19.4	17.98	289	358	295.6	780.2	1031.0	916.5	28.9	26	10.0	13.45	23	13.9	0.88	17	40.9	3.76	33	40.9	3.76	-	-	-	-	33	106	90.0		
April	13	16.9	20.0	18.14	277	340	302.8	883.6	1010.5	923.5	25.5	5	6.0	9.05	4	13.0	0.55	3	7.1	1.53	-	7.1	1.53	-	-	-	-	3	74	108	97.6	
May	25	17.7	20.8	18.93	294	356	316.6	761.4	1010.5	923.5	25.5	5	6.0	9.05	4	13.0	0.55	3	7.1	1.53	-	7.1	1.53	-	-	-	-	3	63	112	94.5	
June	85	16.0	20.8	18.72	260	359	314.4	761.4	1010.5	907.1	21.5	27	10.0	8.30	13	15.5	0.90	1	5.0	2.00	-	5.0	2.00	-	-	-	-	1	56	108	100.8	
July	22	17.1	20.7	19.11	231	337	323.2	736.5	1010.5	890.6	100.5	8	6	5.5	5.25	2	12.9	0.45	1	3.9	0.90	-	3.9	0.90	-	-	-	-	8	57	108	102.5
SEASON 1935-36																																
August	18	16.3	20.5	18.47	269	350	311.4	768.4	951.5	850.1	21.1	10	3	4.0	6.43	7	14.5	0.70	1	3.8	0.80	-	3.8	0.80	-	-	-	-	91	105	96.8	
September	2,261	15.6	21.3	18.75	232	340	317.0	686.2	1015.2	860.1	25.3	10	3	6.6	6.38	597	20.6	1.39	8	19.6	5.99	-	19.6	5.99	-	-	-	-	216	82	114	101.8
October	3,699	14.9	21.9	19.09	242	362	323.8	700.3	1017.5	876.5	23.2	580	2	2.8	2.75	512	18.9	1.55	114	20.2	1.31	-	20.2	1.31	-	-	-	-	438	78	118	103.8
November	2,409	13.0	21.5	17.50	204	373	293.0	719.1	1010.5	846.0	1.977	3	3.0	3.83	1,972	22.4	1.19	114	20.2	1.31	-	20.2	1.31	-	-	-	-	34	67	115	94.6	
December	1,942	13.1	21.2	16.76	167	367	278.2	658.0	1019.9	846.0	20.3	1,447	3	5.1	6.67	1,359	20.3	1.94	430	36.4	2.23	-	36.4	2.23	-	-	-	-	16	39	112	91.5
January	1,046	12.4	20.8	16.66	126	356	276.2	740.3	991.5	846.3	70.8	437	3	6.0	7.73	438	18.9	1.56	237	30.1	1.68	-	30.1	1.68	-	-	-	-	16	39	112	91.5
February	1,046	12.4	20.8	16.66	126	356	276.2	740.3	991.5	846.3	70.8	437	3	6.0	7.73	438	18.9	1.56	237	30.1	1.68	-	30.1	1.68	-	-	-	-	16	39	112	91.5
March	123	12.4	19.6	16.72	131	338	276.4	755.7	982.3	857.7	71.1	74	11	2.8	2.83	58	15.6	0.92	43	14.0	3.03	-	14.0	3.03	-	-	-	-	2	63	106	91.8
April	6	13.9	16.3	16.15	222	310	266.0	799.0	900.8	846.3	79.5	5	5	2.7	2.66	2	14.3	1.50	4	16.2	6.05	-	16.2	6.05	-	-	-	-	67	99	84.7	
May	9	14.5	20.2	17.90	234	347	300.0	813.1	975.2	878.9	81.3	5	5	5.0	7.66	3	12.4	1.47	3	12.4	4.17	-	12.4	4.17	-	-	-	-	60	108	94.6	
June	1	18.9	16.9	16.90	318	318	318.0	918.8	918.8	918.8	104.1	1	1	3.6	9.00	-	10.1	-	-	-	-	-	-	-	-	-	-	-	95	95	95.0	
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
SEASON 1936-37																																
August	219	16.5	21.5	19.04	268	371	320.8	775.5	1048.1	921.2	25.94	5	2	8.5	19.50	654	14.6	1.1	-	2.7	-	-	2.7	-	-	-	-	10	67.5	113.5	104.6	
September	4,199	14.1	21.0	18.01	223	363	301.0	705.0	1066.9	893.0	21.82	1,709	5	10.5	18.00	1,574	17.8	1.0	31	12.2	1.8	-	12.2	1.8	-	-	-	-	165	80.5	111.0	99.6
October	4,240	13.5	21.0	17.81	223	363	297.2	754.3	1071.5	897.7	21.82	1,709	5	10.5	18.00	1,574	17.8	1.0	31	12.2	1.8	-	12.2	1.8	-	-	-	-	165	80.5	111.0	99.6
November	2,624	13.8	22.5	17.95	216	352	298.0	730.9	1116.3	897.7	20.92	1,279	111	4.0	3.00	1,077	22.0	1.3	380	24.0	2.4	-	24.0	2.4	-	-	-	-	50	71.0	110.0	97.0
December	1,086	12.7	19.8	17.42	201	337	289.4	723.8	1024.2	890.6	20.98	1,458	150	5.5	3.50	333	20.2	1.6	182	24.5	2.9	-	24.5	2.9	-	-	-	-	54.0	107.5	95.8	
January	1,429	14.1	19.6	17.46	177	338	290.2	768.4	1024.2	863.6	21.82	209	74	20.5	18.00	180	18.1	1.5	56	20.6	3.5	-	20.6	3.5	-	-	-	-	20.0	107.0	94.9	
February	211	14.1	19.6	17.46	222	334	293.8	770.8	1026.4	867.1	21.82	126	74	20.5	18.00	106	19.8	1.9	32	30.0	4.5	-	30.0	4.5	-	-	-	-	2	49.5	106.5	90.1
March	76	14.7	20.6	17.32	236	353	286.4	754.3	923.5	867.1	83.28	42	36	27.5	31.00	33	19.8	1.8	17	34.6	5.7	-	34.6	5.7	-	-	-	-	34.0	103.5	80.6	
April	34	14.5	19.2	17.73	231	328	296.6	796.0	940.0	869.5	84.88	22	20	17.0	36.00	12	17.7	1.5	9	10.0	17.1	-	10.0	17.1	-	-	-	-	1	43.0	104.0	78.8
May	40	15.1	21.1	18.34	244	366	307.8	806.0	977.6	878.9	79.5	7	6	14.0	30.50	2	12.9	0.6	3	20.0	6.6	-	20.0	6.6	-	-	-	-	1	44.5	110.0	92.9
June	53	16.5	20.0	18.01	270	338	300.2	817.8	1024.2	904.4	94.58	13	13	22.0	21.00	-	12.0	-	1	5.9	2.9	-	5.9	2.9	-	-	-	-	1	44.5	110.0	92.9
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
SEASON 1937-38																																
August	41	15.1	20.0	18.10	242	345	305.0	695.6	942.3	817.8	23.74	31	2	3.9	9.00	30	20.5	3.69	1	6.9	3.90	-	6.9	3.90	-	-	-	-	77.0	105.5	94.8	
September	1,796	13.6	22.0	18.32	222	363	309.4	622.8	1034.0	871.2	25.30	2,131	300	17.0	3.36	2,076	24.1	3.63	30	5.0	0.78	-	5.0	0.78	-	-	-	-	8	44.0	111.0	97.2
October	4,240	13.6	22.0	18.32	222	363	309.4	622.8	1034.0	871.2	25.30	2,131	300	17.0	3.36	2,076	24.1	3.63	30	5.0	0.78	-	5.0	0.78	-	-	-	-	8	44.0	111.0	97.2
November	2,624	13.8	22.5	17.95	216	352	298.0	730.9	1116.3	897.7	20.92	1,279	111	4.0	3.00	1,077	22.0	1.3	380	24.0	2.4	-	24.0	2.4	-	-	-	-	50	71.0	110.0	97.0
December	1,086	12.7	19.8	17.42	201	337	289.4	723.8	1024.2	890.6	20.98	1,458	150	5.5	3.50	333	20.2	1.6	182	24.5	2.9	-	24.5	2.9	-	-	-	-	54.0	107.5	95.8	
January	1,429	14.1	19.6	17.46	177	338	290.2	768.4	1024.2	863.6	21.82	209	74	20.5	18.00	180	18.1	1.5	56	20.6	3.5	-	20.6	3.5	-	-	-	-	20.0	107.0	94.9	
February	211	14.1	19.6	17.46	222	334	293.8	770.8	1026.4	867.1	21.82	126	74	20.5	18.00	106	19.8	1.9	32	30.0	4.5	-	30.0	4.5	-	-						

Table 2.

LOUISIANA COTTONSEED: COMPOSITION AND GRADE

Month	Total Number of Samples	PERCENT OIL			YIELDS OF SEED Pounds per 100 of seed			PERCENT ANACARDIA			YIELDS OF MEAL Pounds per 100 of seed			QUANTITY INDEX			LOW QUALITY SYCAUSES										BELOW GRADE		STANDARD QUALITY		GRADE					
		Min.	Max.	Aver.	Min.	Max.	Aver.	Min.	Max.	Aver.	Min.	Max.	Aver.	Min.	Max.	Aver.	Free Fatty Acids					Moisture					Foreign Matter					Number of Samples	Aver. Ratio	Min.	Max.	Aver.
																	Number of Samples	Max. Reduction %	Aver. Reduction %	Number of Samples	Max. Reduction %	Aver. Reduction %	Number of Samples	Max. Reduction %	Aver. Reduction %	Number of Samples	Max. Reduction %	Aver. Reduction %	Number of Samples	Max. Reduction %	Aver. Reduction %					
SEASON 1934-35																																				
August	213	15.7	21.5	18.75	252	373	316.0	3.08	4.44	3.75	723.4	1031.4	851.2	90.2	112.3	102.50	72	47	6.0	11.25	68	15.0	1.37	-	2.6	-	13	73	112	102.0						
September	672	15.4	21.4	18.94	252	373	319.8	3.01	4.42	3.79	707.4	1037.7	890.6	90.5	113.8	103.50	213	47	6.0	11.25	206	17.6	1.37	33	6.7	1.17	52	69	113	102.8						
October	782	15.4	21.4	18.64	268	388	317.4	2.60	4.35	3.61	658.0	1022.2	895.3	88.4	110.0	103.14	86	66	5.0	3.60	131	16.8	0.89	22	11.1	1.72	13	76	111	102.4						
November	280	17.0	21.4	19.04	279	371	321.6	3.02	4.39	3.79	709.7	1031.6	890.6	91.7	111.5	105.50	66	70	6.0	5.00	13	14.0	0.57	32	7.9	1.65	9	61	112	102.4						
December	103	16.3	20.7	18.61	267	360	317.2	3.05	4.27	3.66	719.1	1031.4	891.0	91.9	108.4	105.04	30	24	5.0	4.75	10	15.4	0.86	9	6.1	1.71	3	64	108	101.7						
January	19	17.0	22.1	19.58	280	368	320.8	3.16	4.62	3.78	742.6	1085.7	888.3	96.1	112.3	104.64	9	6	12.0	13.75	3	13.4	0.80	2	4.4	0.50	56	108	99.9	101.8						
February	5	17.7	19.7	18.78	293	335	315.6	3.80	4.12	4.00	693.0	968.2	940.0	100.5	106.6	104.12	1	1	4.0	11.00	-	-	-	-	1.0	-	89	107	101.8	101.8						
March	0																																			
April	0																																			
May	0																																			
June	6	16.0	21.2	19.10	301	383	324.0	3.30	3.98	3.70	775.5	935.3	869.5	99.9	112.4	103.60	1	1	6.0	21.00	-	11.8	-	2.3	-	-	80	112	100.0	100.0						
July	0																																			
SEASON 1935-36																																				
August	222	15.1	20.5	18.17	246	356	305.4	2.05	4.39	3.62	716.8	1031.6	864.8	85.1	108.0	99.72	171	13	2.6	2.27	171	22.4	2.91	4	7.1	1.23	3	77	110	97.8						
September	1,053	15.1	21.6	18.49	243	376	316.8	2.00	4.30	3.75	703.8	1010.5	861.2	86.2	111.3	101.28	205	23	6.5	5.27	116	17.5	1.25	28	12.1	1.50	17	81	112	102.0						
October	803	15.6	21.8	18.68	250	378	319.6	2.08	4.60	3.75	723.8	1034.0	904.7	90.7	114.2	104.02	244	23	6.5	5.27	17	17.0	0.85	51	16.3	1.30	122	74	114	104.0						
November	275	15.0	21.0	18.63	261	344	312.6	2.95	4.24	3.66	702.6	956.4	907.1	90.5	110.1	102.58	61	16	14.0	7.75	4	13.2	0.75	22	25.1	2.58	9	52	110	102.0						
December	131	9.8	20.3	18.01	141	348	301.2	3.21	4.39	3.82	754.3	1031.6	891.7	96.5	108.1	99.96	47	17	6.0	5.70	15	22.0	3.00	21	15.3	2.97	6	48	110	97.8						
January	34	10.5	20.2	18.08	155	346	301.6	3.29	4.25	3.98	773.1	984.8	935.3	96.2	107.7	101.20	14	24	6.0	6.53	3	15.0	1.37	2	6.9	2.25	55	108	94.2	94.2						
February	34	16.8	20.6	18.61	276	360	313.2	3.03	4.05	3.71	712.0	971.7	876.5	95.3	105.6	101.82	2	2	3.1	5.50	1	12.4	0.40	-	-	-	94	106	100.5	100.5						
March	4	17.2	19.6	18.45	284	333	305.0	3.51	3.97	3.70	695.3	932.9	918.8	91.3	106.3	102.26	3	3	8.0	12.00	-	11.7	-	1	5.6	2.60	73	101	92.9	92.9						
April	2	18.6	18.6	18.60	310	311	310.0	4.05	4.28	4.16	951.7	1075.8	971.6	104.7	105.1	104.76	-	-	0.8	-	-	10.4	-	-	0.6	-	-	104	105	104.5	104.5					
May	0							3.43	3.50	3.47	806.0	822.5	815.4	105.6	110.3	108.42	-	-	1.2	-	-	10.7	-	-	0.6	-	-	107	110	106.5	106.5					
June	0																																			
July	0																																			
SEASON 1936-37																																				
August	376	16.0	21.8	19.19	260	380	321.8	3.09	4.48	3.63	756.2	1052.8	900.0	90.76	111.10	104.74	60	10	9.0	6.50	75	19.6	1.20	5	8.2	4.50	5	61.5	113.0	103.2						
September	1,702	14.4	21.7	18.52	228	379	312.4	2.64	4.49	3.71	690.9	1051.1	869.5	83.94	111.44	101.28	425	137	10.7	6.50	34	15.2	1.90	26	4.2	1.50	20	66.0	112.5	101.8						
October	1,668	13.9	21.1	18.64	221	346	314.8	3.08	4.50	3.72	726.2	1052.8	874.2	83.20	110.74	102.04	144	137	7.0	6.50	95	15.6	1.20	117	15.4	1.50	20	69.5	110.5	101.1						
November	393	16.7	21.4	19.58	277	371	313.6	3.08	4.24	3.72	723.8	1057.5	874.2	78.98	110.94	101.86	136	73	8.5	6.00	28	24.7	1.10	64	16.5	2.20	-	46.5	110.0	100.6						
December	213	14.9	22.0	19.66	277	371	313.6	3.08	4.24	3.70	723.8	986.4	869.5	83.16	110.22	101.52	74	45	7.0	9.00	18	14.7	0.90	28	10.7	1.50	-	70.0	110.0	100.2						
January	52	18.9	22.1	18.73	278	368	316.6	3.10	4.18	3.72	740.3	982.3	874.2	96.02	111.72	104.76	23	16	9.5	6.50	18	14.7	0.90	4	5.4	1.20	5	94.9	114.0	104.2						
February	5	17.9	19.2	18.40	300	358	310.0	3.68	3.74	3.70	860.1	978.5	869.5	96.74	103.76	100.40	34	2	7.0	15.50	3	16.3	1.70	2	8.5	2.10	-	48.5	108.5	98.2						
March	0																																			
April	3	16.9	19.8	19.47	320	340	331.4	3.47	3.63	3.67	815.4	970.0	862.4	102.92	106.78	104.20	1	1	2.8	5.00	-	11.3	-	-	0.6	-	-	94.0	107.0	103.3						
May	0							3.36	4.18	3.75	789.6	982.3	881.2	96.58	105.64	102.46	3	3	5.0	13.50	-	10.9	-	-	2.0	-	-	86.5	105.5	97.1	97.1					
June	0																																			
July	0																																			
SEASON 1937-38																																				
August	168	16.3	20.9	18.52	277	360	307.4	2.94	4.07	3.54	730.2	1034.7	890.6	86.12	113.66	103.94	674	9	2.8	2.05	171	20.7	1.46	8	5.9	2.15	-	80.0	110.0	95.6						
September	2,083	14.0	22.9	19.06	226	398	323.2	2.91	4.09	3.64	683.8	1051.1	869.5	86.34	113.26	103.70	512	495	27.5	22.89	105	24.5	1.48	105	24.5	1.48	-	47.5	115.5	96.2						
October	2,145	15.6	22.4	19.24	252	382	319.6	3.07	4.45	3.65	721.4	1051.1	885.9	89.10	116.98	104.58	1658	1523	16.5	7.49	334	14.5	2.88	271	26.2	2.30	-	44.0	117.0	97.6						
November	1,229	15.7	22.2	19.23	261	367	305.6	3.04	4.37	3.80	723.8	1029.9	893.0	86.98	118.56	104.72	1170	1125	15.0	15.61	284	23.6	0.99	202	23.6	3.17	-	46.0	111.5	89.6						
December	950	14.8	21.8	19.05	226	379	322.0	3.12	4.32	3.79	733.2	1034.7	890.6	86.12	113.66	103.94	674	641	20.5	22.89	168	16.3	3.15	168	16.3	3.15	4	24.0	111.0	82.2						
January	565	15.4	21.9	19.02	247	371	321.4	3.11	4.39	3.77	730.9	1034.7	890.6	86.12	113.66	103.94	512	495	27.5	22.89	168	16.3	3.15	168	16.3	3.15	4	24.0	111.0	82.2						
February	377	15.1	21.9	19.02	247	371	321.4	3.11	4.39	3.77	730.9	1034.7	890.6	86.12	113.66	103.94	512	495	27.5	22.89	168	16.3	3.15	168	16.3	3.15	4	24.0	111.0	82.2						
March	295	16.9	22.2	19.43	277	342	310.6	3.12	4.45	3.70	733.2	1032.2	871.8	85.96	113.96	104.58	278	274	36.5	32.67	144	16.5	0.91	64	19.1	2.62	29	25.0	111.0	77.6						
April	130	16.1	21.1	18.89	262	366	317.4	3.29	4.49	3.83	773.1	1035.1	900.0	94.20	115.16	105.96	118	118	30.5	17.69	10	19.4	1.31	33	28.2	2.75	3	25.0	107.5	97.6						
May	205	17.4	22.3	19.42	268	399	328.4	3.16	4.45	3.85	742.6	1045.7	904.7	94.42	115.62	105.78	161	180	36.5	24.13	5	12.2	0.36	15	12.8	2.23	6	25.								

Table 3.

MISSISSIPPI COTTONSEED: COMPOSITION AND GRADE

Month	Total Number of Samples	PERCENT OIL		TITERS OIL		PERCENT ANOMIA		YIELDS OF MEAL		QUANTITY INDEX		LOW QUALITY BY CAUSES										BELLOW GRADE		SUPERIOR QUALITY		ORATE					
		Min.	Max.	Aver.	Min.	Max.	Aver.	Min.	Max.	Aver.	Min.	Max.	Aver.	Moisture			Foreign Matter			Number of Samples	Max. Ratio	Number of Samples	Max. Ratio								
														Number of Samples	Aver. Ratio	Max. Ratio	Number of Samples	Aver. Ratio	Max. Ratio					Number of Samples	Aver. Ratio		Max. Ratio				
SEASON 1931-35																															
August	333	16.2	21.0	18.63	264	365	316.5	3.05	4.05	3.46	716.3	951.7	813.1	92.3	110.3	100.28	243	16	8.6	5.40	232	18.5	1.74	-	2.7	-	-	68	109	96.8	
September	462	19.5	24.0	21.93	351	373	326.8	2.96	4.31	3.58	695.6	1012.9	856.4	88.2	111.4	103.24	1644	281	11.0	3.00	1569	19.5	1.35	-	7.1	1.05	338	56	113	102.8	
October	4442	11.1	21.0	18.99	166	344	321.8	3.16	4.18	3.67	742.6	996.4	867.1	58.3	110.9	103.10	1296	281	5.0	3.50	1086	14.5	0.67	-	14.0	1.14	338	70	39	111	
November	2157	16.6	24.2	19.03	277	363	321.8	3.16	4.18	3.67	731.9	982.3	883.6	90.5	111.3	103.58	538	214	7.0	4.60	136	14.5	0.94	-	10.9	1.49	338	70	39	111	
December	2167	14.1	20.9	19.09	225	361	322.5	3.25	4.13	3.71	763.7	979.9	883.6	80.1	110.4	103.92	277	214	7.0	4.60	136	14.5	0.94	-	10.9	1.49	338	70	39	111	
January	671	17.2	20.8	19.11	282	360	324.0	3.35	4.13	3.73	787.2	970.5	874.2	96.4	110.0	103.96	118	75	6.0	3.55	51	14.6	0.60	-	4.8	0.97	338	70	39	111	
February	81	17.4	20.7	19.15	292	355	324.2	3.44	4.04	3.74	838.4	940.0	874.2	95.2	110.7	103.76	47	41	6.0	3.55	51	14.6	0.60	-	4.8	0.97	338	70	39	111	
March	5	18.4	20.0	19.16	309	343	326.2	3.50	3.62	3.56	822.5	971.7	890.1	100.9	109.0	103.36	4	3	3.8	3.15	1	12.3	0.80	-	4.4	1.40	338	70	39	111	
April	6	18.9	20.5	19.58	319	352	333.6	3.52	3.62	3.56	821.2	971.7	890.1	100.9	109.0	103.36	4	2	3.2	3.75	1	12.2	0.80	-	2.1	-	98	109	104.1		
May	22	17.7	20.0	18.65	348	375	328.2	3.45	4.04	3.81	810.7	949.9	874.2	99.2	108.9	103.20	18	13	5.0	3.60	1	12.4	0.80	-	1.2	-	84	106	101.3		
June	46	18.0	20.4	19.22	301	391	326.4	3.38	4.04	3.72	761.4	949.9	874.2	99.7	116.2	104.30	14	-	-	-	-	-	-	-	-	-	76	116	101.3		
July	9	18.2	20.0	19.15	307	343	326.0	3.30	3.74	3.56	775.5	975.9	876.6	99.5	106.4	102.96	1	-	-	-	-	-	-	-	-	-	99	106	102.9		
SEASON 1935-36																															
August	574	15.6	20.5	18.18	256	351	306.6	2.96	4.37	3.56	695.6	1026.9	856.4	86.3	109.8	99.08	416	24	3.9	3.04	415	20.7	3.36	-	-	-	-	4	73	110	96.1
September	7479	15.3	21.8	18.73	286	375	315.6	2.78	4.28	3.64	653.3	1005.8	876.5	88.3	110.8	101.76	1684	228	7.5	3.25	1589	20.7	1.14	-	-	-	-	946	64	112	101.4
October	4763	16.5	21.1	19.14	272	371	321.0	3.21	4.28	3.74	690.9	1003.4	893.0	92.9	114.8	103.92	328	134	8.0	5.57	96	15.3	0.59	-	-	-	1986	62	115	101.4	
November	2144	12.8	21.3	18.50	200	372	311.0	3.00	4.26	3.78	705.0	1001.1	886.3	72.4	114.3	101.58	493	94	8.0	5.57	370	20.0	1.20	-	-	-	58	55	112	101.4	
December	876	15.5	21.1	18.35	292	365	308.0	3.15	4.21	3.76	740.3	989.4	883.6	78.9	110.3	100.96	251	66	5.0	5.99	166	14.8	0.81	-	-	-	59	49	113	100.3	
January	409	15.6	21.9	18.90	296	367	311.0	2.99	4.25	3.62	738.0	987.9	883.6	82.5	109.2	101.30	166	22	8.0	6.04	47	16.3	0.78	-	-	-	19	77	111	100.4	
February	118	18.5	20.0	18.23	273	341	304.6	3.53	4.18	3.89	839.5	982.3	894.1	96.3	108.0	101.26	31	24	4.4	7.46	7	13.2	0.61	-	-	-	6	66	108	99.4	
March	8	17.3	19.3	18.54	286	326	310.8	3.75	4.06	3.93	881.2	954.1	923.5	98.0	106.4	102.74	1	1	2.2	2.00	-	11.9	-	-	-	-	6	96	106	102.5	
April	41	17.3	22.0	19.26	285	384	327.2	3.20	4.08	3.69	752.0	958.8	867.1	99.1	113.4	104.18	2	2	4.0	6.90	-	11.2	-	-	-	-	6	92	113	104.1	
May	115	17.3	21.1	19.14	287	364	323.8	3.30	4.12	3.77	775.5	968.2	885.9	97.6	113.2	104.13	16	16	8.5	9.02	-	11.7	-	-	-	-	13	72	113	104.1	
June	53	17.3	20.5	19.14	286	351	323.8	3.49	4.14	3.81	820.1	972.9	892.1	97.9	110.4	104.32	4	3	3.0	3.17	-	11.4	-	-	-	-	9	71	112	104.6	
July																															
SEASON 1936-37																															
August	160	16.3	21.0	18.23	267	363	306.6	3.15	4.08	3.69	740.3	958.8	867.1	91.60	110.3	109.06	113	1	2.0	1.00	113	18.5	2.5	-	-	-	-	1	84.5	110.0	96.2
September	7479	15.3	21.8	18.73	286	375	311.0	3.04	4.61	3.73	714.0	1083.4	876.5	86.58	113.20	109.38	1175	72	5.0	3.50	1109	19.0	1.4	-	-	-	-	244	82.0	113.0	101.2
October	3415	12.0	21.0	18.34	183	366	307.6	3.16	4.37	3.75	742.0	1125.7	881.2	80.14	112.12	100.89	1034	155	8.0	5.00	882	18.4	0.9	-	-	-	-	23	73.0	111.5	100.5
November	1917	14.4	20.6	18.21	269	351	305.2	3.12	4.21	3.76	733.2	959.4	883.6	82.96	109.54	100.40	380	98	7.0	6.80	261	15.9	0.9	-	-	-	20	64.5	109.5	99.7	
December	994	15.0	20.8	18.46	282	364	310.4	3.24	4.22	3.76	756.7	997.7	883.6	82.96	109.54	100.40	180	61	9.0	8.50	156	17.7	1.2	-	-	-	7	74	109.0	99.7	
January	150	15.0	21.0	18.26	239	361	305.0	3.59	4.44	3.73	773.1	1024.6	871.5	85.07	109.00	102.94	199	82	21.6	37.00	123	18.0	1.6	-	-	-	8	49.0	110.0	96.3	
February																															
March																															
April																															
May																															
June																															
July																															
SEASON 1937-38																															
August	667	15.9	20.4	18.48	261	353	313.6	2.90	4.41	3.45	681.5	1036.4	810.7	87.54	108.30	99.62	656	10	2.6	1.30	656	21.9	3.78	-	-	-	-	1	79.0	109.0	95.9
September	8405	14.5	22.4	18.61	281	393	315.2	2.61	4.22	3.58	613.4	994.7	841.3	82.54	108.30	100.32	693	3469	21.0	4.49	5560	23.1	3.78	-	-	-	-	2	47.5	117.0	96.6
October	5422	14.6	22.2	19.36	252	393	328.2	3.04	4.36	3.71	714.4	1084.6	871.8	82.18	115.92	104.28	4432	3870	17.5	11.09	1102	25.8	0.91	-	-	-	-	9	31.5	116.0	100.4
November	1485	15.1	21.7	19.09	236	377	322.0	2.99	4.57	3.74	702.6	1074.0	878.9	89.08	116.36	104.28	4432	4123	17.5	11.09	1102	25.8	0.91	-	-	-	-	2	31.5	116.0	94.3
December	2995	15.8	21.7	18.75	236	377	322.0	3.00	4.48	3.72	705.0	995.6	869.5	86.16	115.12	103.32	3989	3637	20.5	19.43	2227	20.4	1.20	-	-	-	-	1	60.0	109.0	95.5
January	1660	15.5	21.5	18.87	244	377	319.4	3.02	4.38	3.69	709.7	1025.3	883.6	88.48	113.66	102.62	2508	2449	38.0	32.52	1980	23.4	2.82	-	-	-	-	2	31.5	116.0	96.6
February																															
March																															
April																															
May																															
June																															
July																															
SEASON 1938-39																															
August	12,760	11.1	22.4	19.07	166	391	323.4	2.96	4.31	3.66	695.6	1026.9	860.1	58.3	116.2	103.24	4203	1272	11.0	0.93	3178	45.1	1.08	-	-	-	-	467	39	116	102.6
September	17,122	12.8	22.0	18.75	200	387	317.0	2.78	4.37	3.73	653.3	1026.9	876.5	72.4	114.8	102.38	3366	696	6.5	4.72	2703	21.0	1.44	-	-	-	-	291	49	115	102.4
October	21,785	12.1	22.0	18.38	183	380	304.6	2.98	4.49	3.73	700.3	1125.7	878.9	80.14	116.40	100.96	3481	2369	39.0	20.79	3183	21.0	1.44	-	-	-	-	376	38.5		

Table 4.

TENNESSEE COTTONSEED: COMPOSITION AND GRADE

Month	Total Number of Samples	PERCENT OIL			YIELDS OIL Pounds per ton of seed			PERCENT ARAMIDA			YIELDS % MEAL Pounds per ton of seed			QUANTITY INDEX			LOW QUALITY BY CAUSES										SEASON GRADE		SUPERIOR QUALITY			
		Min. Max. Aver.			Min. Max. Aver.			Min. Max. Aver.			Min. Max. Aver.			Min. Max. Aver.			Number of Samples Low Quality			Free Fatty Acids			Moisture			Foreign Matter			Number of Samples		Number of Samples	
		Min.	Max.	Aver.	Min.	Max.	Aver.	Min.	Max.	Aver.	Min.	Max.	Aver.	Min.	Max.	Aver.	Number of Samples	Max. %	Radio- tion	Number of Samples	Max. %	Radio- tion	Number of Samples	Max. %	Radio- tion	Number of Samples	Max. %	Radio- tion	Min.	Max.	Aver.	
SEASON 1934-35																																
August	41	15.2	20.2	17.34	244	347	289.6	3.16	3.99	3.62	742.6	937.6	850.7	85.8	107.2	96.08	36	2	6.0	21.25	34	18.9	3.03	1	6.5	3.50	70	107	92.6			
September	1,443	15.5	21.6	18.22	246	372	305.4	3.11	4.42	3.75	730.2	1038.7	876.5	84.2	114.6	100.26	989	6	2.4	1.60	287	28.5	1.58	14	7.2	3.76	70	115	96.9			
October	2,065	16.0	20.7	18.54	263	354	311.8	3.16	4.36	3.75	759.6	1024.6	871.7	89.4	111.2	102.08	1,485	5	7.1	6.90	1,487	30.1	1.62	62	18.1	2.16	77	112	100.8			
November	1,049	16.4	20.3	18.73	268	349	314.6	3.40	4.32	3.50	799.0	1015.2	916.5	93.2	111.1	103.52	259	5	2.2	1.20	233	15.6	0.77	86	6.1	2.09	67	112	103.0			
December	476	15.2	20.4	18.28	250	332	306.6	3.28	4.28	3.72	770.8	991.7	891.7	85.0	106.0	99.64	290	14	34.5	5.95	223	23.1	1.44	120	11.7	2.42	53	108	94.9			
January	1,204	15.1	20.4	18.06	265	350	302.2	3.35	4.06	3.74	787.2	994.1	878.9	85.1	106.6	99.64	290	26	34.5	5.95	223	110	17.8	1.91	72	11.7	2.42	72	109	99.6		
February	263	15.9	19.8	17.82	260	339	293.4	3.43	4.04	3.72	806.0	949.4	874.2	88.1	105.6	99.64	71	48	5.0	6.46	65	17.0	2.40	91	44.0	4.40	52	106	88.8			
March	83	15.7	19.6	18.06	257	332	302.2	3.48	4.08	3.75	817.8	958.8	881.2	87.4	105.6	99.64	21	19	5.0	6.46	19	15.7	1.95	19	36.5	7.56	64	106	89.0			
April	6	14.5	19.1	16.63	311	322	316.6	3.64	4.04	3.88	855.4	949.4	911.6	101.2	105.6	103.60	1	1	3.2	7.00	1	12.4	0.40	-	2.9	-	94	106	102.3			
May	13	18.4	19.9	19.13	308	338	323.6	3.39	4.14	3.82	820.1	912.9	897.7	101.5	101.6	104.04	12	1	4.5	3.01	4	13.2	0.40	-	2.6	-	72	108	102.4			
June	76	17.2	20.4	19.00	286	350	320.0	3.50	4.20	3.84	822.5	987.0	902.4	96.0	108.8	104.04	15	11	8.0	10.40	4	12.1	0.45	-	2.9	-	72	108	102.4			
July	35	18.0	20.1	19.03	300	345	321.6	3.42	4.16	3.79	893.7	977.6	890.6	100.9	107.2	103.86	17	15	12.0	7.20	1	12.1	0.10	5	5.2	-	52	107	100.4			
SEASON 1935-36																																
August	2	15.8	18.9	17.35	254	318	286.0	3.90	4.28	4.09	916.5	1005.8	961.1	92.7	104.0	98.94	1	1	46.5	90.00	-	10.9	-	1	6.0	3.00	46	104	75.0			
September	318	15.5	20.8	18.64	253	337	318.8	3.22	4.30	3.75	756.7	1010.5	876.2	86.6	111.7	102.74	136	5	4.1	6.79	131	18.2	1.58	2	22.2	1.66	42	117	106.0			
October	1,294	16.3	22.6	19.69	289	395	326.8	3.06	4.41	3.75	794.1	1036.4	890.6	90.9	113.4	104.50	294	8	25.0	7.31	915	16.8	2.17	97	20.4	2.36	46	115	94.2			
November	1,176	13.0	20.9	17.40	285	357	293.0	3.07	4.28	3.62	724.4	1005.8	890.7	72.8	113.1	96.32	953	8	25.0	7.31	915	16.8	2.17	97	20.4	2.36	46	115	94.2			
December	671	11.0	20.7	16.27	166	355	265.4	3.04	4.25	3.57	714.4	998.8	838.9	62.4	110.8	90.77	200	31	9.0	4.33	250	19.9	1.17	279	27.5	2.46	48	111	88.1			
January	290	9.4	19.8	15.84	195	336	259.8	2.95	4.14	3.51	693.2	972.9	824.8	54.7	108.3	88.22	229	33	9.0	4.33	250	19.9	1.17	279	27.5	2.46	48	111	88.1			
February	27	12.5	20.8	17.22	192	346	286.4	3.22	4.44	3.69	756.7	949.4	867.1	70.1	112.6	98.02	19	4	2.4	1.85	15	15.6	1.21	23	34.1	8.38	47	112	91.8			
March	57	11.2	20.1	16.44	172	344	270.8	3.02	4.33	3.62	709.7	1017.5	869.5	62.1	112.2	92.40	46	19	6.4	5.87	36	15.5	1.06	29	38.1	3.96	54	109	88.1			
April	12	11.7	19.1	14.72	180	322	277.4	3.13	3.99	3.51	735.6	937.6	824.8	65.9	104.2	82.66	12	11	8.0	18.45	5	13.2	0.76	11	22.0	6.13	46	100	64.6			
May	6	17.6	20.2	18.87	290	344	316.4	3.25	4.28	4.09	926.2	1005.8	961.1	99.9	109.5	105.02	2	2	6.5	14.00	-	10.8	-	6	2.2	1.03	46	100	100.2			
June	18	17.6	20.6	18.77	293	351	315.4	3.46	4.31	3.84	960.1	1012.8	925.9	101.9	112.2	103.72	8	6	6.5	14.00	-	10.8	-	6	2.2	1.03	46	100	100.2			
July	3	20.0	20.8	20.30	301	360	333.0	3.35	3.82	3.58	794.3	937.1	836.5	107.9	109.0	106.36	-	-	1.2	-	-	8.0	-	-	0.4	-	-	46	100	100.2		
SEASON 1936-37																																
August	12	18.5	20.7	19.19	310	357	329.8	3.48	4.02	3.69	817.8	944.7	867.1	101.32	104.66	104.70	-	-	0.6	-	-	11.6	-	-	0.5	-	-	1	101.5	109.0		
September	905	15.0	20.1	17.62	240	346	294.4	3.17	4.26	3.72	749.0	1001.1	874.2	81.62	104.04	97.80	677	2	12.4	30.90	673	16.6	1.4	7	5.6	1.6	36.5	110.0	104.8			
October	2,066	16.3	20.9	17.81	252	348	297.2	3.34	4.34	3.87	784.9	1034.0	893.0	81.62	112.32	96.56	1,876	3	2.5	2.90	1,865	19.5	1.8	93	8.9	1.5	35.0	112.5	97.2			
November	1,085	12.2	19.9	17.09	287	342	281.8	3.38	4.34	3.87	794.3	1019.9	893.4	70.66	110.24	96.56	870	3	2.5	2.90	1,865	19.5	1.8	93	8.9	1.5	35.0	112.5	97.2			
December	399	12.8	19.8	16.91	197	334	278.2	3.48	4.22	3.85	817.8	931.7	891.0	74.90	108.96	95.71	264	12	7.0	8.00	235	16.8	1.8	87	10.2	1.7	71.5	109.0	94.2			
January	59	13.7	19.7	16.91	197	334	278.2	3.48	4.22	3.85	817.8	931.7	891.0	74.90	108.96	95.71	264	12	7.0	8.00	235	16.8	1.8	87	10.2	1.7	71.5	109.0	94.2			
February	99	13.1	19.2	17.22	293	325	295.4	3.37	4.23	3.78	791.9	1008.2	890.6	70.72	104.42	98.62	94	9	12.0	14.00	46	17.6	2.2	31	47.2	9.8	44.0	104.0	89.5			
March	37	16.1	19.1	17.57	224	322	291.4	3.50	4.29	3.68	822.5	1008.2	911.6	80.70	105.76	98.66	25	9	13.5	35.90	23	15.1	1.0	5	25.6	12.0	44.0	106.0	92.9			
April	10	15.2	19.4	17.95	244	326	299.0	3.76	4.19	3.98	883.6	984.6	935.3	87.94	107.74	100.64	4	-	1.2	-	3	13.5	0.9	1	4.5	1.5	47.0	107.5	100.0			
May	14	17.9	21.7	19.12	298	379	323.4	3.28	4.02	3.62	770.8	944.7	897.7	100.72	111.46	103.02	-	-	1.5	-	-	11.8	-	-	1.4	-	-	100.5	111.5	104.4		
June	43	16.9	20.2	18.64	277	342	312.8	3.54	4.02	3.91	831.9	1010.5	916.8	90.72	111.60	103.02	10	6	3.2	5.90	2	12.2	0.2	-	2.4	-	35.0	111.5	102.4			
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
SEASON 1937-38																																
August	636	14.7	20.8	18.64	240	359	314.8	2.93	4.15	3.64	848.6	975.2	855.4	80.40	109.98	101.40	633	24	5.0	3.93	633	25.9	2.75	10	9.4	1.62	69.0	110.0	99.2			
September	1,441	16.1	21.4	18.71	282	394	320.2	3.10	4.25	3.68	728.5	998.8	864.8	89.68	112.70	102.72	1,513	6	4.7	0.00	1,507	22.1	1.85	6	5.4	0.77	43.0	112.5	101.1			
October	1,569	16.4	21.0	18.77	270	363	317.4	3.04	4.23	3.64	794.3	1019.9	894.8	89.68	112.52	102.72	1,144	7	4.7	0.00	1,126	20.8	1.85	6	5.4	0.77	43.0	112.5	101.0			
November	399	12.8	19.8	16.91	197	334	278.2	3.48	4.22	3.85	817.8	931.7	891.0	74.90	108.96	95.71	264	12	7.0	8.00	235	16.8	1.8	87	10.2	1.7	71.5	109.0	94.2			
December	59	13.7	19.7	16.91	197	334	278.2	3.48	4.22	3.85	817.8	931.7	891.0	74.90	108.96	95.71	264	12	7.0	8.00	235	16.8	1.8	87	10.2	1.7	71.5	109.0	94.2			
January	99	13.1	19.2	17.22	293	325	295.4	3.37	4.23	3.78	791.9	1008.2	890.6	70.72	104.42	98.62	94	9	12.0	14.00	46	17.6	2									

Table 5.

ARKANSAS
DISTRIBUTION OF GRADES OF COTTOUNGROWND
The number of bales classified by each grade by month and season

GRADES	SEASON 1934-35												SEASON 1935-36												SEASON 1936-37												SEASON 1937-38															
	Months												Months												Months												Months															
	A	S	O	N	D	J	F	M	A	M	J	J	Season	A	S	O	N	D	J	F	M	A	M	J	J	Season	A	S	O	N	D	J	F	M	A	M	J	J	Season	A	S	O	N	D	J	F	M	A	M	J	J	Season
Below 80.....	1	-	-	1	5	7	24	8	1	5	1	-	53	-	-	2	60	176	96	11	10	1	-	-	356	1	2	-	14	24	21	36	27	16	5	4	-	-	150	1	22	4	25	139	197	208	142	60	5	6	-	990
80.0.....	-	3	-	-	2	2	3	-	-	-	-	-	10	-	-	-	15	39	16	3	1	-	2	-	74	-	-	-	3	2	3	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34
80.5.....	-	2	-	2	3	1	6	-	-	-	-	-	14	-	-	-	-	15	33	10	1	2	-	-	61	-	-	-	1	5	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58	
81.0.....	-	2	-	2	3	1	6	-	-	-	-	-	14	-	-	-	-	15	33	10	1	2	-	-	61	-	-	-	1	5	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58	
81.5.....	2	1	-	-	3	5	2	-	-	-	-	-	15	-	-	1	22	38	15	5	3	1	-	-	67	-	-	-	2	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	
82.0.....	2	1	-	1	4	7	4	2	-	-	-	-	22	-	-	1	33	41	16	5	4	1	-	-	102	-	-	-	1	7	7	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61	
82.5.....	2	2	-	1	4	7	4	2	-	-	-	-	22	-	-	1	33	41	16	5	4	1	-	-	102	-	-	-	1	7	7	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61		
83.0.....	2	3	-	1	4	4	2	1	-	-	-	-	18	-	-	2	37	42	13	3	1	-	-	98	-	-	-	-	7	6	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64		
83.5.....	2	3	-	1	4	4	2	1	-	-	-	-	18	-	-	2	37	42	13	3	1	-	-	98	-	-	-	-	7	6	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64		
84.0.....	2	10	2	-	1	2	6	-	-	-	-	-	23	-	-	4	37	43	16	6	4	-	-	-	110	-	-	-	3	9	4	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61		
84.5.....	4	6	1	1	1	7	4	-	-	-	-	-	25	-	-	1	3	45	54	23	6	4	-	-	136	-	-	-	-	6	12	12	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70		
85.0.....	8	23	1	-	6	9	4	-	-	-	-	-	52	-	-	-	6	55	63	23	2	4	1	-	155	-	-	-	-	2	20	7	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80		
85.5.....	6	19	1	1	9	4	-	-	-	-	-	-	43	-	-	1	3	70	66	13	-	3	-	-	157	-	-	-	-	2	11	20	9	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	86		
86.0.....	11	29	1	4	5	8	1	1	2	-	-	-	66	-	-	4	6	74	75	21	4	7	-	-	191	-	-	-	-	2	12	17	9	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	101			
86.5.....	11	29	1	4	5	8	1	1	2	-	-	-	66	-	-	4	6	74	75	21	4	7	-	-	191	-	-	-	-	2	12	17	9	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	101			
87.0.....	11	29	1	4	5	8	1	1	2	-	-	-	66	-	-	4	6	74	75	21	4	7	-	-	191	-	-	-	-	2	12	17	9	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	101			
87.5.....	11	29	1	4	5	8	1	1	2	-	-	-	66	-	-	4	6	74	75	21	4	7	-	-	191	-	-	-	-	2	12	17	9	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	101			
88.0.....	11	29	1	4	5	8	1	1	2	-	-	-	66	-	-	4	6	74	75	21	4	7	-	-	191	-	-	-	-	2	12	17	9	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	101			
88.5.....	11	29	1	4	5	8	1	1	2	-	-	-	66	-	-	4	6	74	75	21	4	7	-	-	191	-	-	-	-	2	12	17	9	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	101			
89.0.....	11	29	1	4	5	8	1	1	2	-	-	-	66	-	-	4	6	74	75	21	4	7	-	-	191	-	-	-	-	2	12	17	9	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	101			
89.5.....	11	29	1	4	5	8	1	1	2	-	-	-	66	-	-	4	6	74	75	21	4	7	-	-	191	-	-	-	-	2	12	17	9	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	101			
90.0.....	7	44	7	-	13	5	5	1	-	-	-	-	83	-	-	9	7	104	84	32	5	9	1	-	251	-	-	-	-	12	28	31	12	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	129		
90.5.....	10	46	6	5	7	5	4	-	1	-	-	-	85	-	-	1	7	110	95	30	7	5	-	-	257	-	-	-	-	17	22	24	15	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-	129			
91.0.....	13	67	13	5	10	7	4	-	-	-	-	-	120	-	-	13	12	99	87	30	9	9	-	-	259	-	-	-	-	11	36	38	23	5	4	-	-	-	-	-	-	-	-	-	-	-	-	-	151			
91.5.....	13	67	13	5	10	7	4	-	-	-	-	-	120	-	-	13	12	99	87	30	9	9	-	-	259	-	-	-	-	11	36	38	23	5	4	-	-	-	-	-	-	-	-	-	-	-	-	-	151			
92.0.....	19	59	10	7	16	8	3	1	-	-	-	-	124	-	-	22	17	103	32	7	1	-	-	359	-	-	-	-	54	67	69	26	11	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	156			
92.5.....	12	104	18	13	24	13	4	-	-	-	-	-	169	-	-	27	21	152	116	27	6	3	-	-	392	-	-	-	-	57	105	65	25	10	2	3	-	-	-	-	-	-	-	-	-	-	-	-	172			
93.0.....	13	115	11	19	22	18	1	-	-	-	-	-	236	-	-	49	30	146	113	23	2	6	-	-	370	-	-	-	-	64	136	95	32	6	5	2	-	-	-	-	-	-	-	-	-	-	-	-	202			
93.5.....	13	146	49	38	14	3	3	-	-	-	-	-	286	-	-	1	70	45	173	129	32	7	7	-	-	464	-	-	-	-	2	118	104	87	15	8	2	-	-	-	-	-	-	-	-	-	-	-	221			
94.0.....	22	177	89	37	32	19	4	-	-	-	-	-	304	-	-	47	56	157	106	30	5	6	-	-	447	-	-	-	-	2	145	130	49	26	8	1	-	-	-	-	-	-	-	-	-	-	-	279				
94.5.....	13	260	134	57	45	16	7	1	-	-	-	-	536	-	-	2	100	63	148	81	19	9	6	-	-	449	-	-	-	-	152	182	126	94	17	6	2	-	-	-	-	-	-	-	-	-	-	326				
95.0.....	23	239	180	70	63	17	5	-	-	-	-	-	602	-	-	4	114	92	147	67	25	10	7	1	-	467	-	-	-	-	156	230	132	46	19	5	3	1	-	-	-	-	-	-	-	-	-	371				
95.5.....	40	449	152	79	22	14	3	-	-	-	-	-	1,231	-	-	2	270	196	159	66	16	10	6	-	-	730	-	-	-	-	5	444	297	142	56	12	8	2	1	-	-	-	-	-	-	-	-	-	399			
96.0.....	26	346	458	141	77	16	6	4	2	1	8	1,129	-	-	2	284	230	93	50	23	6	2	-	-	670	-	-	-	-	11	305	235	114	46	22	6	1	-	-	-	-	-	-	-	-	-	-	530				
96.5.....	21	375	529	220	91	16	8	2	1	1	10	1,875	-	-	2	296	268	88	50	22	5																															

LOUISIANA
DISTRIBUTION OF GRADES OF COTTONSEED
The number of shipments classified in each grade by months and seasons

SEASON 1934-35													SEASON 1935-36													SEASON 1936-37													SEASON 1937-38																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
GRADES			Months												Season			Months			Season			Months			Season			Months			Season			Months			Season																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J	J	A	S	O	N	D	J	F	M	A	M	J	J

Table 2.
DISTRIBUTION OF GRADES OF COTTONSEED
The number of shipments classified in each grade by month and season

GRADE	SEASON 1934-35												SEASON 1935-36												SEASON 1936-37												SEASON 1937-38											
	Months												Months												Months												Months											
	A	S	O	N	D	J	F	M	A	M	J	J	Season	A	S	O	N	D	J	F	M	A	M	J	J	Season	A	S	O	N	D	J	F	M	A	M	J	J	Season									
Below 80.0.....	1	2	1	1	3	7	21	4	-	-	2	1	43	-	-	49	14	5	15	6	-	-	-	-	102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34						
80.0.....	-	-	-	1	1	8	2	-	-	-	-	-	6	-	-	10	13	5	-	1	1	-	-	-	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4							
80.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5									
81.0.....	1	-	-	1	1	1	-	-	-	-	-	-	4	-	1	-	14	13	7	-	1	-	-	-	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5								
81.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2									
82.0.....	-	1	-	1	2	5	1	-	-	-	-	-	6	-	-	-	14	12	8	-	-	-	-	-	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6								
82.5.....	1	1	-	4	4	1	-	-	-	-	-	-	11	-	-	-	21	80	4	-	-	-	-	-	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12								
83.0.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10									
83.5.....	4	-	-	5	6	1	-	-	-	-	-	-	14	-	1	-	27	15	7	-	1	-	-	-	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13								
84.0.....	-	2	1	-	5	-	2	-	-	-	-	1	9	-	-	-	54	51	10	-	3	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	18									
84.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20										
85.0.....	1	4	1	-	6	2	2	-	-	-	-	18	18	-	1	26	22	10	-	-	-	-	-	59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25									
85.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20										
86.0.....	5	5	2	-	4	5	5	-	-	-	-	18	18	-	1	-	55	10	6	1	-	-	-	65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17								
86.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19										
87.0.....	2	14	2	1	6	1	-	2	-	-	-	28	28	-	-	-	54	25	7	-	1	-	-	69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22									
87.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24										
88.0.....	2	17	5	-	11	10	2	2	-	-	-	47	47	-	1	5	45	27	13	2	1	-	-	95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38									
88.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26										
89.0.....	1	27	4	1	16	1	1	2	-	-	1	54	54	-	1	7	41	23	12	1	2	-	-	92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50									
89.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59										
90.0.....	1	25	2	2	8	2	-	-	-	-	2	50	50	-	2	1	58	26	6	2	2	-	-	92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78									
90.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22										
91.0.....	1	26	18	2	7	5	5	-	-	-	-	72	72	-	1	5	44	27	6	1	1	1	-	99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22									
91.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28										
92.0.....	1	44	22	-	14	7	1	1	-	-	-	92	92	-	2	4	45	26	2	2	1	-	-	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	135									
92.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	135										
93.0.....	6	60	42	5	14	6	1	-	1	-	-	135	135	-	6	9	67	22	6	1	3	-	-	117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	171									
93.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	171										
94.0.....	4	44	75	6	15	15	2	-	-	-	-	179	179	-	4	14	55	25	12	1	1	-	-	115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	185									
94.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	185										
95.0.....	1	68	91	5	14	5	1	-	1	1	1	210	210	-	8	25	60	25	9	1	2	-	-	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	219									
95.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	219										
96.0.....	2	104	98	12	15	6	5	-	-	-	1	241	241	-	12	15	99	22	4	-	4	-	1	1	119	-	-	-	-	-	-	-	-	-	-	-	-	-	250									
96.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	250										
97.0.....	2	60	121	22	21	5	4	-	-	-	2	297	297	-	17	25	47	16	4	-	3	-	1	1	112	-	-	-	-	-	-	-	-	-	-	-	-	-	260									
97.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	260										
98.0.....	-	140	165	54	25	8	-	-	-	-	1	376	376	-	15	32	55	15	6	-	5	1	-	1	134	-	-	-	-	-	-	-	-	-	-	-	-	-	269									
98.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	269										
99.0.....	1	111	214	60	84	4	2	-	-	-	2	433	433	-	22	42	54	15	5	1	5	1	1	103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	269									
99.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	269										
100.0.....	1	147	255	91	49	9	4	-	-	-	1	1	540	540	-	22	45	40	10	6	-	2	-	1	124	-	-	-	-	-	-	-	-	-	-	-	-	-	269									
100.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	269										
101.0.....	1	120	237	145	45	15	5	1	1	2	7	5	611	611	-	37	72	61	12	5	2	1	-	1	131	-	-	-	-	-	-	-	-	-	-	-	-	-	269									
101.5.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	269										
102.0.....	2	114	250	172	55	11	5	2	1	2	15	6	431	431	-	32	64	46	14	1	-	1	-	1	128	-	-	-	-	-	-	-	-	-	-	-	-	-	269									
102.5.....	-	-	-	-	-	-	-	-	-	-	-	-

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