

QUALITY OF OKLAHOMA COTTON  
AND THE COMPETITIVE OUTLOOK

QUALITY OF OKLAHOMA COTTON AND THE  
COMPETITIVE OUTLOOK

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## OBJECTIVE

The purpose of this study is (1) to analyze the quality of cotton produced in Oklahoma in order to discover if Oklahoma farmers can improve their economic position relative to cotton production and marketing; (2) the evaluation and threat of synthetics and substitutes.

## METHOD OF PROCEDURE

Each year since 1929 the United States Department of Agriculture has gathered and published material covering many phases of cotton production and marketing. The data used in this study were obtained by compiling, summarizing and analyzing information published annually. In addition to this general information data were available from related studies of cotton production, harvesting, ginning and marketing problems by the Department of Agricultural Economics of the Oklahoma Agricultural and Mechanical College.

## ACKNOWLEDGEMENT

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## Chapter I

### INTRODUCTION

Cotton was the most important crop in Oklahoma from 1924 to 1930, when farm value of cotton and cottonseed averaged approximately 42.5 per cent of the total farm value of all leading crops produced in the state. The cash receipts for cotton have shifted from 51.95 per cent in 1924 to 11.85 per cent in 1944, and at present, cotton ranks fifth as to total cash receipts.<sup>1</sup> Most of this shift has been very gradual since 1930. While the amount of cotton is somewhat less the production of other crops have greatly increased so that the percentage figures tend to indicate a greater relative decrease than has actually occurred.

In normal times farmers produce cotton primarily because they can secure a greater return in the use of available resources, land, labor, management, and capital, than from other known alternatives.

One of the important problems that the Oklahoma cotton farmer faces is determining the quality of cotton he should produce. Economic and physical conditions in the different sections of the state apparently would have some influence upon the kind of cotton that the individual farmer might produce. Supply and demand for each class would influence its value. The relative profitableness of producing the different grades and staples of cotton depends upon the relationship between the cost of producing and the price of each kind of cotton produced. It may be that in different sections, areas or

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<sup>1</sup>United States Department of Agriculture - Bureau of Agricultural Economics. Cash Receipts From Farming 1924-1944, January 1946. pp. 117-118.

farms different qualities of cotton will be produced most profitably because of physical or economic factors such as different qualities of cotton on fertile bottom land in Eastern Oklahoma compared to hill land in that area or deep sandy soil in Western Oklahoma, or in areas where cotton acreages are small and labor plentiful compared to sections where the cotton acreage grown per family is large and harvesting labor scarce.

A survey made by the United States Department of Agriculture in 1928 shows that the prices received by farmers in local markets in Oklahoma varied considerably and that in some instances higher prices were received by farmers for shorter staple, than for longer staples and for poorer than for better grades of cotton.<sup>2</sup> Considerable improvement has occurred in the cotton marketing system since 1928, especially regarding prices paid; over half of the cotton in Oklahoma is now sold on the basis of grade and staples.

If farmers were better informed on cotton classification and market information, they could likely come nearer producing cotton that would conform more nearly with the market demand.

Synthetic fibers and paper have been very noticeable in displacing large quantities of cotton in certain uses during the period of 1935 to 1939. Whether cotton can continue to compete on a price basis with these substitutes will depend upon a number of items. The extent to which reductions can be made in production, ginning, marketing, and processing costs without adversely affecting incomes of cotton growers may have a decided influence on the future possibilities of cotton's remaining prominent as a fiber crop both here and abroad.

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<sup>2</sup>L. D. Howell, Farm Prices of Cotton Related to Quality. Oklahoma Crops, 1928-1929; United States Department of Agriculture, April 1931, pp. 22-23.

It is apparent that in the future American cotton is likely to face stronger competition in the domestic market. It is also quite clear that the extent to which cotton is able to retain its position or to develop new or expanded markets will depend on technological factors of suitability for specific uses and the price of cotton in relation to competing fibers.



## Chapter II

### QUALITY OF OKLAHOMA COTTON

The quality of cotton is determined by grade, staple, and character.

Grade is dependent upon the color of the lint, the kind and quantity of foreign material included; and, the "preparation" or the degree of smoothness with which the lint has been ginned. Staple length is expressed in inches or fractions of an inch, and is the rather accurately estimated length of a representative portion of the fiber from a sample of cotton. Character is an inclusive term used to describe those elements of quality not embodied in grade and staple-length designations or descriptions, such as body, uniformity, strength, and fineness of the fibers.<sup>1</sup> The definition of these terms is necessary in order to grasp the significance of the quality of Oklahoma cotton.

Middling and Strict Low Middling on an average constitute about 75 per cent of Oklahoma cotton (Table 3.)

From 1938 to 1933 more than one-half of the cotton ginned in Oklahoma was of the higher grades, that is, Extra White and White in color and Middling or above in grade.<sup>2</sup>

Cotton ginned in Oklahoma from the crops of 1933-36 averaged considerably lower in grade than that grown in the United States as a whole (Table 3).

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<sup>1</sup>A. H. Garside, "Cotton Goes to Market", p. 51.

<sup>2</sup>F. A. Ballanger and C. C. McWorther, Economic Aspects of the Grade and Staple Length of Cotton Produced in Oklahoma. Oklahoma Agricultural Experiment Station, Bulletin No. 212, October, 1933.



For 1933 to 1935 only 21 per cent of all cotton ginned in Oklahoma was Extra White in color and Middling or above in grade, whereas almost 62 per cent of all cotton ginned in the United States was of this classification. For these same years 22 per cent of all cotton ginned in Oklahoma was Extra White and White in color and below Middling in grade, while the cotton from the remaining cotton producing states accounted for only about 15 per cent of the cotton produced.

It is evident that much of the cotton produced in Oklahoma falls in the Spotted grades, since 53 per cent of all cotton ginned in the years 1933-1935 was of the Spotted grades. About 81 per cent was below Middling. For this same period an average of 22 per cent of all United States upland cotton was classed as Spotted, of which 87 per cent was Middling or better in grade (Table 3) while 13 per cent was classed below Middling.

\* The year 1936 was an unusually dry year and about 33 per cent of Oklahoma's cotton was Extra White and White in color and Middling above in grade. The dry weather that year likely increased the proportion of short staples. About 54 per cent of all the cotton produced in the United States could go in the category of White and Extra White (Table 3).

Cotton ginned in Oklahoma averaged much higher in grade for the early periods of the season than from the later periods.<sup>3</sup> Weather damage caused by exposure of open cotton, frost or frozen immature cotton and less care in harvesting are generally accepted as factors in causing lower grades late in the season.

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<sup>3</sup>United States Department of Agriculture, Bureau of Agricultural Economics, "Quality of Cotton Ginned in Oklahoma Crops, 1933-36", June, 1938, pp. 17-20.

Differences in the time of harvesting and in harvesting practices are no doubt responsible for a great part of the differences between grades of cotton ginned in the eastern and western sections of Oklahoma. The western half of Oklahoma on an average snaps a larger percentage of the crop. It is generally understood that snapped cotton does not clean in the ginning process as well as picked cotton.

The average staple length of cotton ginned in Oklahoma from 1935 to 1936 inclusive, decreased; but for the same period there was an increase in the staple lengths for the United States as a whole. Cotton produced in the 1934 and 1935 seasons averaged short in staple length. In 1934 the average was 29/32 inch and was the lowest for any year from 1928 up to this time (Table 2). The unusually dry season, especially during the harvesting period, permitted farmers to secure 29.5 per cent of extra white cotton, but the dry weather in growing season likely was also partly responsible for the higher proportion of short staple. World weather conditions are not controllable, but improvement of varieties can be studied and the varieties which are more hardy and better suited to the particular locality can be grown.

In 1936 the grade and staples of Oklahoma were again influenced by a dry season. The average staple length of 1936 in 32nds of an inch was 28.8 which is one of the lowest averages on record. In 1936 Oklahoma produced 82.3 per cent of its cotton with a staple length of 7/8 inch or shorter (Table 2), while only 3.9 per cent was 1 inch or more in staple length. For this same year 71.3 per cent of the cotton ginned was classed as White or Extra White (Table 3). The remaining 28.7 per cent was Spotted or Tinged.

There seems to be a relationship between short staple and high grades. The quality of the 1937 crop measured from the standpoint of staple length alone showed a slight improvement over 1936 but the grade was lower.

TABLE 1

Percentage of Untenderable Cotton Produced in Oklahoma  
and the Average Staple Length Ginned 1928-45

Year	Average Staple in 32nds of an inch	Percentage of Untenderable
1928	30.2	24.2
1929	29.2	37.1
1930	29.8	18.3
1931	29.9	22.0
1932	29.8	10.5
1933	30.5	13.8
1934	29.0	32.3
1935	29.4	46.8
1936	28.4	40.8
1937	28.8	36.6
1938	29.2	14.9
1939	28.7	15.7
1940	30.7	25.7
1941	30.2	44.1
1942	30.2	37.8
1943	28.6	38.1
1944	29.5	39.7
1945	28.9	62.2

Sources: United States Department of Agriculture, Bureau of Agricultural Economics, "Grade, Staple Length and Tenderability of Cotton United States", 1928-33, p. 90.

United States Department of Agriculture, Statistical Bulletin, No. 56, February, 1937, p. 56.



From year to year Oklahoma produces cotton slightly below the average of the United States in grade and staple. (See Table 2 and 3). In 1940 the average staple length for the crop produced in 32nds of an inch was 30.7. The untenderable cotton of this crop made up 25.9 per cent of the total crop ginned.<sup>4</sup> Since 1940 the quality of cotton in general has not been on a par with earlier years. This was in part influenced by the labor shortage and delayed harvesting of the cotton. During the war cotton growers had to compete with industry for scarce labor. Industries with a higher wage scale made it difficult for the farmer to secure sufficient seasonal labor. Dry weather and weevil damage also have caused some damage to the grades and staple.

The average staple length of cotton in Oklahoma for the years 1928-1945 would be slightly above 29/32 inch. The amount of untenderable cotton produced will vary from year to year depending chiefly on conditions under which it is grown, such as dry weather before harvesting, variety planted, wet weather while harvesting and the method used in harvesting.

Although a substantial proportion of Oklahoma cotton has long been exported and probably will continue to be while there are important exports of American cotton, production of the qualities of short staple cotton which have been grown during recent seasons puts producers at a disadvantage upon export markets because producers come in direct competition with those in India, where the bulk of the commercial short staple cotton of the world is grown.<sup>5</sup>

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<sup>4</sup>United States Department of Agriculture, Agricultural Marketing Service, "Cotton Quality Statistics United States", December, 1941, p. 25.

Untenderable: Cotton not deliverable on future contracts.

<sup>5</sup>Experiment Station, Bulletin No. 250, "Quality-Price Relationship of Cotton at Local Markets in Oklahoma". By T. R. Hedges, December, 1941, p. 35.



TABLE 2

YEAR	13/16" and SHORTER			7/8" and 29/32"			15/16" and 31/32"			1" and 1-1/32"			1-1/16" and LONGER		
	U.S.		CARRY-OVER	U.S.		CARRY-OVER	U.S.		CARRY-OVER	U.S.		CARRY-OVER	U.S.		CARRY-OVER
	OKLA.	U.S.		OKLA.	U.S.		OKLA.	U.S.		OKLA.	U.S.		OKLA.	U.S.	
1928	13.7	14.5	3.6	35.5	41.5	20.0	33.3	22.6	17.6	14.5	11.0	27.3	3.0	10.4	31.5
1929	28.6	20.1	7.3	44.4	38.1	30.8	18.5	18.9	18.7	6.0	11.7	18.6	2.5	11.2	24.6
1930	14.8	13.1	10.4	40.9	38.8	33.5	34.4	24.9	19.1	8.4	12.6	18.1	1.7	10.4	18.9
1931	11.2	6.1	7.4	45.1	39.7	41.9	33.5	27.2	24.5	9.0	15.4	13.6	1.2	11.6	12.6
1932	8.2	6.6	3.1	50.0	37.7	35.5	36.0	28.9	28.3	4.9	14.3	17.4	.5	12.5	15.7
1933	5.8	4.3	2.3	31.5	35.6	31.0	47.9	31.6	27.3	12.0	15.8	22.0	2.8	12.7	17.4
1934	19.1	8.3	3.0	64.2	36.9	33.2	15.3	21.8	27.7	1.3	15.0	19.3	.1	18.0	16.8
1935	19.2	12.7	7.4	49.8	31.1	38.9	24.4	25.3	25.2	5.6	16.2	14.0	1.0	14.7	14.5
1936	29.6	9.5	10.5	52.7	25.9	43.0	13.8	21.6	23.6	3.2	22.7	13.4	.7	20.3	9.5
1937	21.7	10.1	13.9	49.6	28.7	36.5	23.3	27.6	19.6	4.5	19.4	14.7	.9	14.2	15.3
1938	13.5	4.4	12.9	39.9	17.3	37.6	37.0	26.9	19.1	9.1	25.6	15.3	.4	25.8	15.0
1939	11.7	5.7	9.6	60.8	21.3	26.8	23.2	24.3	23.7	4.0	28.8	21.3	.2	19.9	18.6
1940	2.2	2.9	7.4	15.7	13.1	27.0	44.9	24.4	24.7	31.4	33.9	20.6	5.8	25.7	20.3
1941	6.5	4.1	5.8	26.5	11.7	23.8	38.3	21.7	27.1	23.5	36.9	23.1	5.1	25.6	20.2
1942	10.9	4.7	8.3	25.5	11.3	26.3	29.2	18.5	22.3	25.8	41.1	24.5	8.0	24.4	18.6
1943	19.5	4.3	10.2	35.7	13.5	25.9	32.4	20.8	19.3	6.6	35.0	21.3	.5	26.4	23.3
1944	8.1	7.8	12.5	35.5	11.4	24.0	33.0	23.4	20.9	12.0	38.2	24.9	.9	19.2	18.3
1945	14.9	2.6	7.8	45.9	7.6	16.3	27.8	19.3	17.2	10.4	42.0	29.3	.3	28.5	29.3

Staple length of American upland cotton produced and in carry-over 1928-45.

TABLE 3

Grades of American Upland Cotton 1928-1945

YEAR	WHITE-MIDDLING OR BETTER			WHITE-S.L.M. AND L.M.			WHITE-S.G.O. AND G.O.			SPOTTED, TINGED, STAINED AND OTHER GRADES		
	PRODUCTION		U.S. CARRY- OVER	PRODUCTION		U.S. CARRY- OVER	PRODUCTION		U.S. CARRY- OVER	PRODUCTION		U.S. CARRY- OVER
	OKLA.	U. S.		OKLA.	U. S.		OKLA.	U. S.		OKLA.	U. S.	
1928	63.7	73.1	70.3	16.6	12.9	16.9	6.1	2.3	2.3	13.6	12.5	10.5
1929	39.3	65.4	56.7	14.6	18.5	22.6	3.5	2.6	6.3	12.6	12.5	14.3
1930	56.6	72.7	55.2	31.6	16.9	20.3	.5	1.0	5.1	11.3	9.4	19.4
1931	50.7	75.2	62.6	26.1	14.4	19.4	8.0	3.5	1.4	15.2	6.8	16.6
1932	62.5	65.6	73.4	16.8	15.0	13.9	.5	1.3	2.6	19.9	18.1	9.9
1933	19.7	56.1	61.3	10.5	10.9	20.2	1.1	.5	2.4	68.7	31.5	17.8
1934	42.1	81.2	62.1	15.4	6.0	18.4	3.8	.5	1.7	38.7	13.8	14.8
1935	22.8	59.7	63.8	27.4	16.5	20.6	6.9	2.5	.8	42.9	22.3	13.1
1936	33.1	54.2	57.9	28.3	22.2	21.0	9.9	2.1	1.5	28.7	21.5	19.6
1937	21.8	44.3	47.6	29.0	28.3	32.1	7.3	3.5	2.6	41.9	23.9	17.7
1938	76.5	55.6	42.5	10.7	21.5	34.2	.5	.4	3.8	12.3	22.4	19.5
1939	74.8	53.0	53.3	12.2	29.5	31.8	.3	1.0	1.0	12.7	16.5	13.9
1940	38.1	56.5	55.3	37.8	32.3	34.1	5.5	2.9	1.3	18.6	8.3	9.3
1941	14.5	41.6	49.8	41.2	39.5	33.4	18.3	4.9	1.4	26.0	13.9	15.2
1942	15.3	40.9	36.3	49.1	41.8	38.4	9.6	3.7	4.1	26.0	12.2	20.9
1943	34.2	47.1	32.9	45.4	42.9	41.6	4.0	2.1	5.9	16.4	7.6	19.3
1944	10.8	33.6	37.0	51.4	49.2	41.3	12.8	5.5	5.4	25.9	8.8	16.2
1945	4.3	30.7	32.2	47.8	46.8	40.1	25.7	9.2	9.2	32.2	11.1	18.5

It appears evident that every attempt for maintaining and improving the grade and staple length of Oklahoma cotton should be followed. The idea of producing cotton at a profitable level is what the farmer desires. Buying of cotton by individual bales strictly on a quality basis would go a long way in making production practices economical. This procedure has improved in recent years but eastern Oklahoma still sells some cotton in the seed.

\* It appears that in most investigations it would be almost as <sup>m</sup>possible <sup>d</sup>to tell General Motors that they will no longer be permitted to produce Chevrolet cars, as to say that Oklahoma must produce cotton with an inch or better staple and classified as White in color. It appears that a policy of paying producers a set price for all grades and staples of cotton, rather than varying prices for individual bales of cotton according to their quality, is detrimental to both the producer and the consumer, since it would either have to subsidize producers of low grade cotton or penalize the producer of high quality cotton. It is possible that both may occur at the same time. If we continue to follow this procedure it is possible that we may find it more and more difficult to find ready markets for Oklahoma cotton.

Less than one per cent of the Oklahoma cotton crops has been classified as 1-1/16 inch and longer in staple for most years since 1928. But in 1940, 6.6 per cent and in 1941, 4.2 per cent of the entire crop was of this length (Table 2). The area in Oklahoma suitable for the production of cotton of this staple length is limited. It is possible that we might even lose in turn-out and yield per acre by attempting to produce the longer staples.

We could give a little more time in studying new uses to be made of the lower grades of cotton. It is believed by the writer that we could do more \* <sup>Quoting self</sup> in many ways other than suggest to the farmer that he shift to longer staples. We could set up a means of educating the producers and ginnermen and other

interested parties to the fact that cotton should be sold accordingly to the quality of the individual bale and that this quality should be determined by qualified classifiers. If we take care of this one point many of the other problems would tend to adjust themselves. ~

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The extent to which reductions can be made in production, ginning, marketing and processing without adversely affecting incomes of cotton growers may have a decided influence on the future possibilities of cotton's remaining prominent as a fiber crop.

In summary the quality of cotton produced in Oklahoma no doubt can be improved but at the same time the thing that the Oklahoma farmer is most interested in is obtaining the greatest possible net return from the use of his land, labor and capital. For this reason some farmers can produce certain types of cotton cheaper and more profitably than he can other types. Therefore, due to the varied types of soil and weather conditions in Oklahoma it does not seem logical to attempt any definite variety or staple length for the state as a whole. Weather conditions cannot be controlled but some study as to varieties best suited to specified localities might improve conditions in some localities.

The marketing practices in Oklahoma might be of interest to see if we are in need of changes there.

(conclusion)



### Chapter III

#### VALUE AND MARKETING OF COTTON PRODUCED IN OKLAHOMA

Since the close of the recent war, high domestic consumption, high exports and small output has tended to bring the carry-over of cotton down to a lower level than normal. Prices to farmers have increased due to the higher general price level and the improved cotton price position.

The price farmers receive for their cotton is determined by the supply of cotton, the general price level for all commodities - and some have said industrial employment.

The market value of cotton is based upon its use to the consumer. Prices will vary with the differences in quality of cotton as indicated by grade and staple length. Grade is the term designated to note differences in color of fiber, foreign material and preparation in ginning. Grade is influenced largely by weather conditions before and during harvestings, the method of harvesting, time of harvesting, condition of cotton at ginning time, and use of ginning equipment.

The usefulness of cotton in the manufacturing of yarns and fabrics and the quality of the finished products vary considerably with its grade. For example, spinning tests show that the quantity of waste removed from the lint by pickers and cards varies on the average from 6.12 per cent for Strick Good Middling to 15.16 per cent for Good Ordinary.<sup>1</sup> (Table 6) In addition, manufacturing costs, other than raw material and carding costs, tend

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<sup>1</sup>Bureau of Agricultural Economics, United States Department of Agriculture. Miscellaneous Bulletin 310, The Classification of Cotton, P. 15.

to be reduced and the quality of the finished products tends to be improved by the use of the higher instead of the lower grades.

The color of the lint is important in determining the value of a bale of cotton. High grade cotton is white. Cotton is whiter at the beginning of the picking season than later on. Tinged or yellow stained cotton is usually the result of frost. Spotted cotton may be the result of insect damage. Cotton left in the field a long time develops a blue color. It is also dull in appearance. Cotton lint will also take on soil stains.

Differences in quality or in spinning utility as indicated by grade are reflected in prices quoted in the central markets. During the four crop years 1943-44 to 1946-47, prices quoted in the ten designated markets for other grades of 15/16 inch cotton, when expressed as percentages of the price of Middling 15/16 inch, varied on the average from 68.86 per cent for Good Ordinary to 102.13 per cent for Middling Fair. Premiums for grades above Middling and discounts for grades below Middling vary considerably from year to year as shown in Figure 1. These variations are accounted for by changes in the relative supply-and-demand situation for cotton of the various grades and by changes in the general level of prices. It is probable that one-half or more of the change of one grade in relation to Middling is caused by or accounted for by changes in the proportion of the total supply of American cotton that was of that grade or lower.

Differences in prices on the basis of grade in farmers' local markets generally are much less than those quoted in the central markets.

The staple length of cotton means the normal length by measurement of a typical portion of its fibers and is influenced largely by variety and by the condition under which the cotton is grown and ginned. Length of staple is important in connection with the strength and fineness of the yarns that

can be produced and with the cost of manufacturing. The longer stapled cottons generally are considered to be necessary for spinning fine yarns and yarns having high strength requirements; however, they can also be used in making medium and coarse yarns. Short staples are used mainly in manufacturing the coarse yarns. As a rule, yarns of a given specification can be made from cotton having a considerable range in length of staple, but the use of the longer staples in preference to the shorter staples tends to reduce the other costs of manufacturing and to increase the cost of raw cotton.

Cotton prices tend to vary directly with the length of staple. During the four years 1943-44 to 1946-47, prices quoted for cotton in the ten designated markets for the various staple lengths of Middling grade when expressed as percentages of the price of Middling 15/16 inch varied, on the average, from 89.74 per cent for Middling 13/16 inch to 112.51 per cent for Middling 1 1/8 inch staple.\* Staple premiums and discounts in farmers' local markets generally are much less than those quoted in the central markets. Premiums and discounts for the ten designated markets are shown in Figure 2.

Price differences on the basis of staple length change considerably over relatively short periods. The variations are accounted for by changes in the relative supply-and-demand situation for cotton of the various staples and also by changes in the general price levels. Probably the most important item in causing change in the relative price of one staple length of cotton as compared to 15/16 inch cotton is the change in the proportion of the total supply that is made up by the particular staple length. This is especially true for the longer staples. As prices for cotton of one quality increase in relation to prices for other qualities, consumption of the relatively cheaper cotton or poorer quality cotton tends to increase in relation to the total consumed. Such shifts in consumption tend to bring about a readjustment in

the comparative prices of the various qualities on the basis of their differences in spinning utility.

Prices to growers vary considerably from one local market to another, largely as a result of differences in the quality of the cotton and of the differences in costs of moving it to centers of consumption. Average prices in farmers' local markets tend to vary directly with the average quality of the cotton and inversely with transportation costs to centers of consumption. For an example: a study conducted in 1937 shows that prices in five local markets in Oklahoma, representing a surplus producing area far removed from centers of consumption, averaged 2.6 cents a pound lower than the average of eleven local markets in North Carolina, which is a consuming center for cotton. On the basis of central-market premiums and discounts for grade and staple length, about 1.4 cents of this difference in average prices can be attributed to differences in grade and staple length, having about 1.2 cents to be accounted for by differences in transportation costs and other minor factors. Farmers who sold cotton in local markets where the average quality, as indicated by grade and staple length, was relatively high, generally received correspondingly higher prices than those who sold in local markets where the average quality of cotton was relatively low.

In farmers' local markets where there is no cotton-classification service available to growers, average prices for the higher grades and the longer staples are somewhat higher than for the lower grades and shorter staples; but these grade and staple premiums and discounts average considerably less than those quoted in central markets. However, in farmers' local markets where public cotton-classification service to the growers is available, premiums and discounts on the various grades and staple lengths more closely follow those in the central markets.



Irregular price variations on the basis of grade and staple length may be accounted for largely by differences between the classification on the basis of which the cotton is sold and that on the basis which premiums and discounts are calculated, differences in value of cotton of the same grade and staple length designation according to the official standards, changes in price level during the day, and differences in bargaining power of farmers and of local buyers.

Possibly the largest portion of the irregular variation in prices to growers, on the basis of grade and staple length, may be accounted for by differences between the classification by the Government specialists, on the basis of which premiums and discounts are calculated, and that by local buyers, on the basis of which the cotton is sold. In a comparison of the classification by Government specialists, of 11,051 samples taken at the gin press box, with the classification by local buyers of samples cut from the same bales, it shows differences of 1 grade for about 37 per cent and 2 or more grades for 2 per cent of the bales. A similar comparison for 7,764 bales shows differences in staple length of  $1/16$  of an inch for  $14\frac{1}{2}$  per cent and  $1/8$  of an inch or more for 2 per cent of the bales. These differences may be accounted for by these factors:

1. Samples being taken from different parts of the bale.
2. Differences in physical condition of sample at the time it was classed.
3. Differences in conditions under which the sample was classed.
4. Differences in the competency of the classers and familiarity with official standards.
5. Inherent differences owing to the fact that classing is not an exact science.

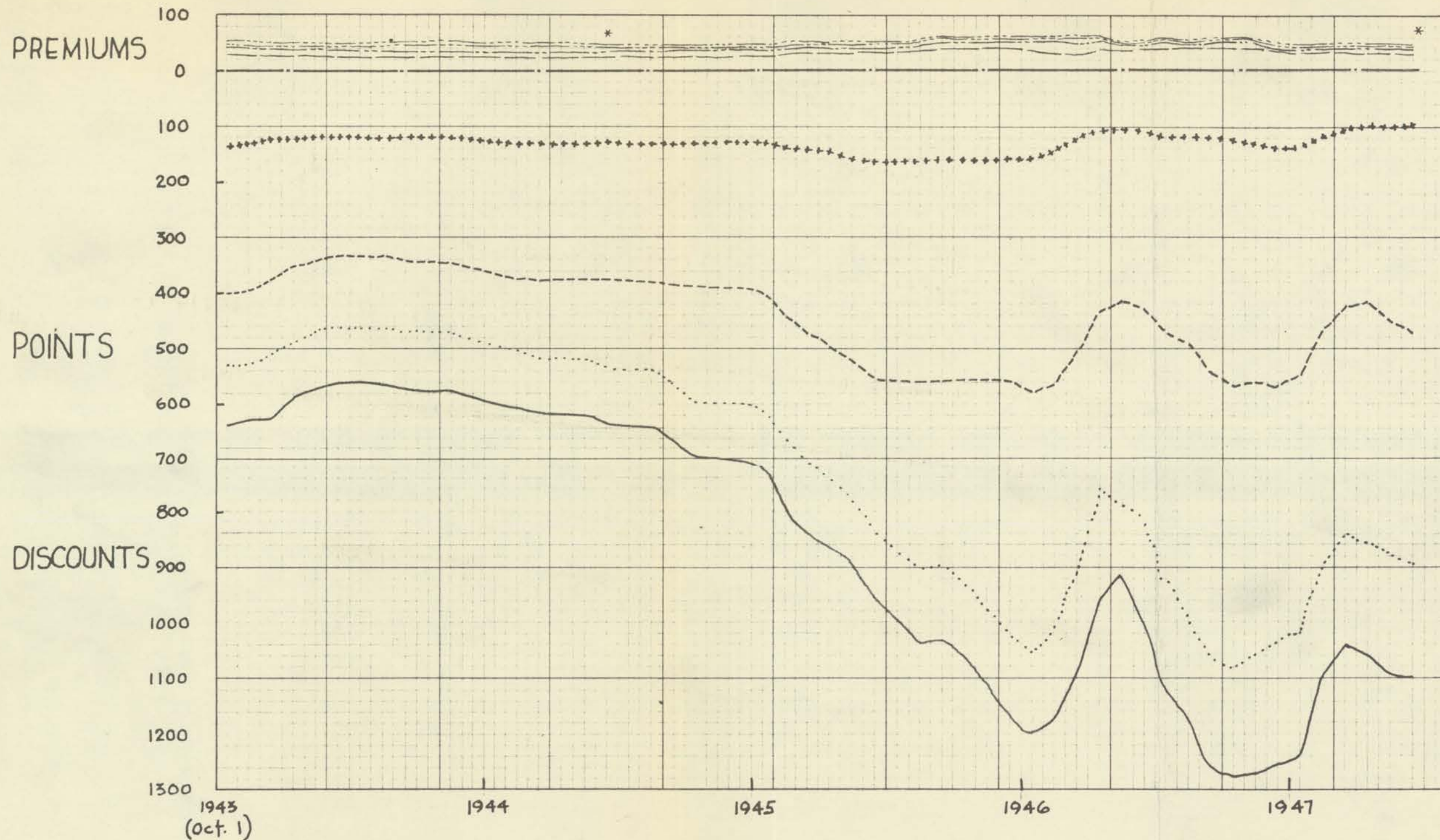
In this comparison, local buyers averaged 0.09 cents per pound higher than the government classers.

# MONTHLY AVERAGE PREMIUMS AND DISCOUNTS

FOR GRADES ABOVE AND BELOW MIDDLING FOR THE TEN DESIGNATED MARKETS.

OCTOBER 1943 THROUGH MARCH 1948

FIGURE 1



MIDDLING FAIR -----  
 STRICT GOOD MIDDLING -----  
 GOOD MIDDLING -----  
 STRICT MIDDLING -----  
 MIDDLING 15/16 -----

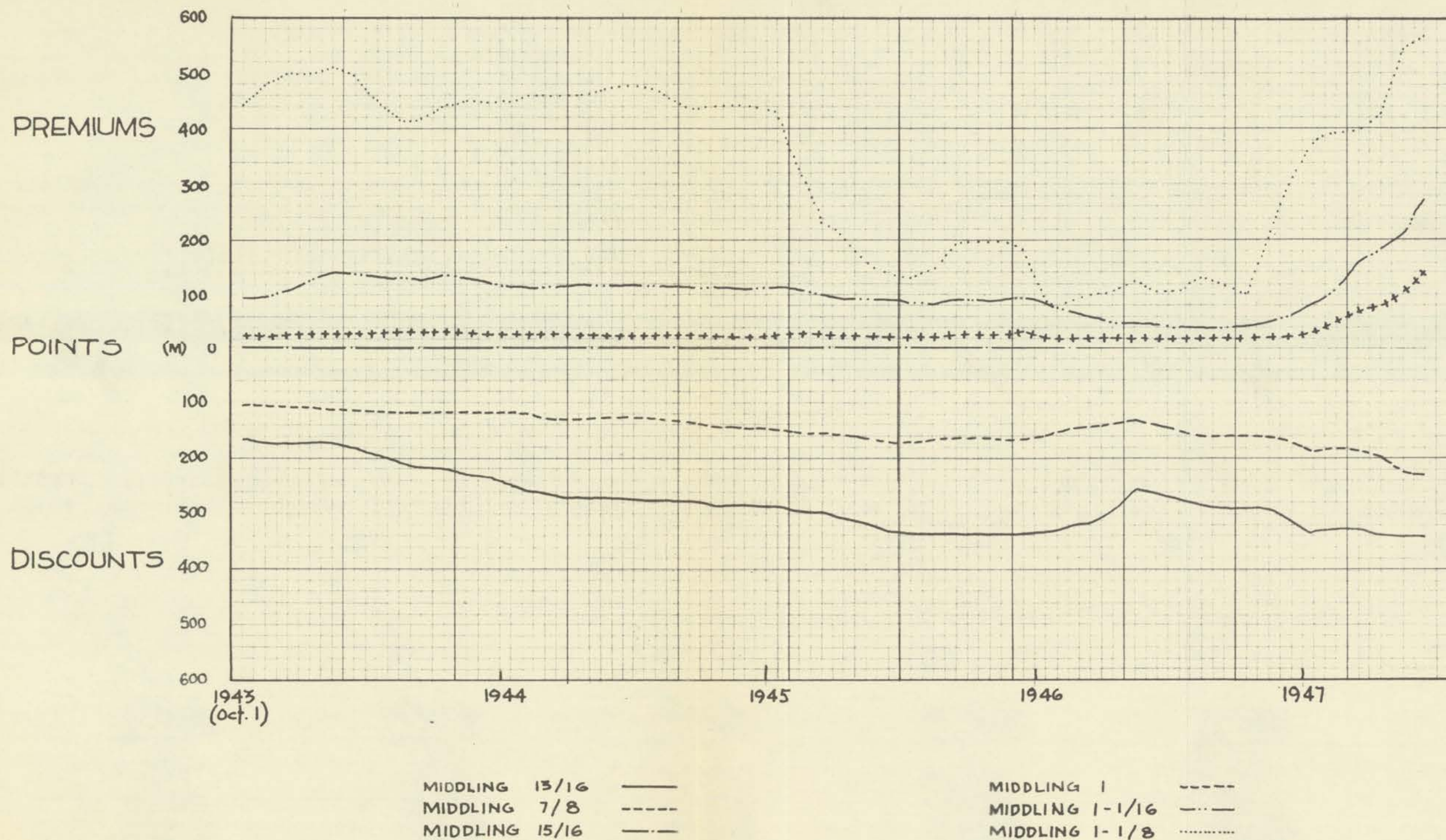
\* Between asterisks there is only 1 & 2 points spread between Middling Fair, Strict Good Middling and Good Middling.

STRICT LOW MIDDLING +++++  
 LOW MIDDLING -----  
 STRICT GOOD ORDINARY .....  
 GOOD ORDINARY -----



MONTHLY AVERAGE PREMIUMS AND DISCOUNTS  
 FOR MIDDLING STAPLES LONGER AND SHORTER THAN MIDDLING 15/16  
 FOR THE TEN DESIGNATED MARKETS  
 OCTOBER 1943 THROUGH MARCH 1948

FIGURE 2



Prices vary with the quality of cotton as reflected in its usefulness in the manufacture of yarns and fabrics and in the quality of the finished products. Changes in the relative supply-and-demand situation for cottons of the various grades and staple lengths result in considerable changes in relative prices over comparatively short periods. However, over periods of time long enough for adjustments to be made in consumption and in production on the basis of changes in relative prices, the differences in prices tend to reflect differences in costs of manufacturing, other than raw materials, and differences in value of the finished product attributable to differences in quality of the cotton used.

Cotton of the higher qualities is usually worth more for spinning purposes than cotton of the lower qualities. Variations in prices on the basis of grade and staple lengths are not so great in farmers' local markets as in central and mill markets, which means that the local markets are not accurately reflecting the differences in spinning quality. This situation encourages the production of the lower grades and shorter staples and may injure the competitive position of American cotton in foreign markets.

Prices to growers vary considerably from market to market largely for two reasons:

1. Average prices tend to vary directly with average quality of the cotton.
2. Average prices tend to vary inversely with transportation costs to the centers of consumption.

It has been determined that farmers who sell cotton in local markets where the average quality, as indicated by grade and staple length, is relatively high generally receive higher prices than those farmers who sell in local markets where the average quality is relatively low.

In farmers' local markets where public cotton-classification service



is available to the growers, premiums and discounts on the various grades and staple lengths tend to more closely follow those quoted in the central markets. Public cotton-classification also tends to reduce the practices of farmers who produce low quality-high berrant cotton in communities of relatively high quality cotton production.

Irregular price variations on the basis of grade and staple length may be accounted for largely by differences between the classification of the local buyers, on the basis of which the cotton is sold, and that of the government specialists on the basis of which premiums and discounts are calculated; differences in value of cotton of the same grade and staple length according to the official standard; changes in price level during the day; and differences in bargaining power of farmers and of local buyers.

In summary the marketing practices in Oklahoma have improved considerably in more recent years.

Prices have been at a higher than normal level since the outbreak of war. This no doubt was due to general price level, the dwindling carry over and supply-and-demand. Premiums for grades above Middling and discounts for grade below Middling tend to vary from year to year along with supply-and-demand.

## Chapter IV

### THE COMPETITIVE OUTLOOK FOR COTTON

Future market outlets for American cotton will depend upon a number of factors, such as the competition from foreign grown cotton, the competition from synthetic fibers and other raw materials, and the demand for textiles in domestic and foreign markets.

- Because of the wide range of its uses, cotton must compete with a variety of materials, including the natural and synthetic textiles fibers, as well as paper, leather, rubber, wood and metal. Only small quantities of cotton have been displaced as a result of the competition of some of these materials in recent years, but other of these materials, notably synthetic fibers and paper have been competing more and more with cotton. (Table 5).

Cotton has usually been considered the most versatile of all the fibers, and its individual uses are numerous. During the prewar year 1939 approximately 2.7 million bales of cotton were required in what is known as the apparel uses, 1.8 million bales in household uses and 2.7 million bales in industrial uses.<sup>1</sup>

The increases in the consumption of rayon in the United States during the past 10 years has been more than four-fold. In terms of cotton equivalent, world consumption of rayon in 1932 was equal to about 7½ million bales of

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<sup>1</sup>United States Department of Agriculture and War Foods Administration (December, 1944), The War Competitive Situation, p. 11.

cotton, while in 1942 consumption was equivalent to over 8 million bales.<sup>2</sup>

Rayon production in the United States was of little significance until about 1910. Since that time its production and consumption has been on a steady increase. The first rayon produced was of low tensile strength and was very irregular in quality. It had very poor wearing qualities and resistance to moisture. These disadvantages steadily have been eliminated through continuous research.

Rayon's field of uses became much wider with the development of rayon staple fiber. Its use has been increasing rapidly; world production jumped from about 450,000,000 pounds in 1930 to about 3,000,000,000 pounds in 1941. The production for 1945 was somewhat less than that for 1941. The production for 1945 was somewhat less than that for 1941 but reached about 1,500,000,000 pounds. Further expansion is now in progress. Rayon has taken away from cotton about half the market in fabrics for tires. While cotton has been advancing in prices, rayon has remained comparatively stable until recently when prices have advanced (Table 7) at present there is very little difference in prices per pounds. The percentage of waste in spinning rayon is practically nothing while the waste in spinning cotton varies from about six per cent for strict good Middling to 15 per cent for good Ordinary. The waste in spinning Strict Low Middling and Low Middling and Low Middling which are important grades of Oklahoma cotton are about 10 and 11 per cent respectively.

Until recently, practically all rayon was used for style fabrics, but its uses have been increasing in recent years until at present it is competing with cotton in household articles, women's wearing apparel and other articles as research finds practical.

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<sup>2</sup> Journal of Marketing, Vol. 10, No. 3, January, 1946. P. 258.

TABLE 4

## Textile Fiber Consumption in the United States

Year	Cotton	Silk	Wool	Rayon		Total
	Million Lb.	Million Lb.		Yarn	Staple	
1926	3214.8	65.6	342.7	61.1	—	61.1
1927	3587.7	71.6	354.1	100.5	—	100.5
1928	3184.2	74.4	333.2	100.3	0.2	100.5
1929	3422.7	81.0	368.1	131.7	1.6	133.3
1930	2610.9	75.7	263.2	118.3	0.8	119.1
1931	2656.6	77.0	311.0	157.7	1.5	159.2
1932	2463.3	70.5	230.1	152.5	3.3	155.8
1933	3952.5	59.5	317.1	212.6	5.4	218.0
1934	2655.4	58.3	229.7	195.6	2.1	197.7
1935	2754.7	62.3	417.5	253.0	6.3	259.3
1936	3470.2	57.8	406.1	297.8	24.8	322.6
1937	3657.1	53.6	380.8	267.1	37.6	304.7
1938	2918.7	51.7	284.5	274.1	55.3	329.4
1939	3629.7	47.3	396.5	359.7	99.0	458.7
1940	3953.6	35.8	411.1	388.7	93.3	482.0
1941	5187.3	*	652.2	452.4	139.4	591.8
1942	5636.7	*	613.8	468.8	151.8	620.8
1943	5269.0	*	628.0	494.2	162.0	656.1
1944	4787.5	*	623.9	539.0	165.7	704.8
1945	4508.2	*	648.2	602.4	165.1	767.5

\*Normal

Source: Textile World, LCCCIC (Annual 1939), p. 63. Southern Economical Journal, October, 1946.



TABLE 5

Per Capita Consumption of Apparel Fibers in  
United States (1920-1939 In lbs.)

Year	Cotton	Wool*	Silk	Rayon	Flax	Total
1920	25.1	3.3	.4	.1	.3	29.2
1921	23.1	3.7	.5	.2	.3	28.0
1922	24.9	4.2	.6	.2	.4	30.3
1923	27.0	4.3	.6	.3	.4	32.6
1924	22.2	3.5	.6	.4	.4	27.1
1925	25.3	3.5	.7	.5	.4	30.4
1926	25.9	3.4	.7	.5	.5	31.0
1927	28.5	3.5	.8	.9	.4	34.1
1928	24.8	3.3	.8	.8	.4	30.1
1929	26.2	3.5	.8	1.1	.4	32.0
1930	20.0	2.5	.7	.9	.4	24.5
1931	20.2	2.8	.7	1.3	.3	25.3
1932	18.7	2.1	.6	1.2	.3	22.9
1933	23.3	2.8	.6	1.7	.3	28.7
1934	20.4	2.0	.5	1.6	.3	24.8
1935	21.1	3.5	.6	2.0	.3	27.5
1936	26.6	3.6	.5	2.5	.4	33.6
1937	27.6	3.3	.5	2.4	.4	34.2
1938	21.7	2.4	.5	2.5	.2	27.3
1939	26.8	3.4	.4	3.5	.3	34.4

\*Includes Mohair, Camels hair, etc.

Source: Bureau of Agriculture Chemistry and Engineering, Rayon Today  
(New York: E. I. DuPont de Nemours Co.), 1940, p. 9.

The domestic production of rayon began in 1911. In only four years since that time has its production failed to increase over the preceding year. From 1938 onward, rayon has assumed a place among textile fibers second only to cotton.<sup>3</sup>

Summary of the total visible picker and card waste for different grades of cotton tested by the United States Department of Agriculture, Clemson, South Carolina.

TABLE 6

Grade	No. of Test	Percentage of Waste
S. G. M.	4	6.12
G. M.	76	6.33
S. M.	109	7.46
M.	73	7.85
S. L. M.	32	9.80
L. M.	24	10.97
S. G. O.	9	12.82
G. O.	10	15.15

Source: Bureau of Agricultural Economics, United States Department of Agriculture, Miscellaneous Bulletin 310. The Classification of Cotton, p. 15.

#### COMPETITION OF PAPER

Less than 10 per cent of the total paper consumed in the United States is used for products that compete directly with cotton. Paper, nevertheless,

<sup>3</sup>"The Southern Economic Journal", Vol. XIII, No. 2, October, 1946, p. 146.

TABLE 7

Year	Rayon	Staple Fiber	Cotton
	Yarn per Lb.		Average of 10 Spot Markets
1932	66 <sup>1</sup>	46 <sup>2</sup>	7.3 <sup>3</sup>
1933	61	40	11.0
1934	59	34	12.7
1935	57	34	11.9
1936	57	31	13.2
1937	62	27	9.1
1938	52	25	9.0
1939	52	25	10.1
1940	53	25	11.1
1941	54	25	13.3
1942	55	25	20.1
1943	55	24	20.6
1944	55	24	20.9
1945	55	25	26.0
1946	56	25	35.0

<sup>1</sup> Filament Viscose Yarns of 150 Denier

<sup>2</sup> Viscose Staple Fiber.

<sup>3</sup> Average price of Middling 15/16 inch Cotton in the 10 Designated Spot Markets.

Source: Compiled in Economics Section, Extension Service, United States Department of Agriculture, From data Reported in Weekly Cotton Market Review, February 1, 1947, P.M.A. Cotton Branch, United States Department of Agriculture.

TABLE 8  
Comparison of Cotton and Rayon Yarn Prices

Year	Cotton Yarn	Rayon Filament Yarn
1925	.70	2.05
1930	.47	1.05
1935	.45	.57
1940	.38	.53
1945	.66	.55

Source: "Facts About Cotton", United States Department of Agriculture  
Miscellaneous Publication, 594, 1946, p. 31.



TABLE 9

Approximate percentage of total cement, flour, refined sugar, and fertilizer packaged in various types of containers in the United States in specified years.

Commodity and Year	Cotton	Burlap	Paper	Other	Bulk	Quantity 100 Tons	Percent
	Bags	Bags	Bags	Containers			
	Percent	Percent	Percent	Percent			
<u>Cement</u>							
1925	83	(4)	10	—	7	29,572	100
1930	57	(4)	30	—	13	29,903	100
1935	38	(4)	42	—	20	14,144	100
1939	35	(4)	44	—	21	23,058	100
1940	32	(4)	42	—	26	24,506	100
1941	29	(4)	40	—	31	31,478	100
1942	27	(4)	31	—	42	34,836	100
<u>Flour</u>							
1934	68	19	5 12	—	—	9,580	100
1941	67	19	5 13	1	—	10,387	100
<u>Sugar, refined</u>							
1930	90	(6)	3	7	—	6,039	100
1934	84	(6)	5	5	—	6,034	100
1940	55	9	29	7	—	7,198	100
<u>Fertilizer</u>							
1928	2	98	—	—	—	7,985	100
1937	12	82	6	—	—	8,189	100
1940	24	61	15	—	—	7,839	100
1945	25	32	43	—	—	10,000	100

1. Including both new and second hand bags.
2. Based on shipments of cement, production of wheat, flour, disappearance of refined sugar, and consumption of fertilizer.
3. Partly based on data given in Minerals Yearbook, U. S. Bur Mines.
4. Small percentages of burlap bags used during most years are included with cotton.
5. Includes cartons.
6. A total of 50 per cent in burlap bags in 1930, 28 per cent in 1934 and 15 per cent in 1941, included with cotton bags since they were lined with cotton.
7. Crop year.
8. Rough preliminary estimate.

Source: Looking Ahead with Cotton, Miscellaneous Publication No. 584. United States Department of Agriculture, p. 13.

is one of the most important competitors of cotton from the standpoint of the quantities of cotton that it has displaced in recent years. Paper is competing directly with cotton in the manufacturing of towels, napkins, tissues, twine, bags, window shades and other items. The quantity of paper used in the products in 1939 was equivalent, on a pound for pound for pound basis, to one million pounds of raw cotton.<sup>4</sup> In the bag industry particularly, the inroads of paper are being felt. Between 1925 and 1942, use of cotton in cement bags dropped by two thirds, while the use of paper tripled. Cotton is in competition with paper to retain what it has left of the bag industry.<sup>5</sup>

The gains that paper made at the expense of cotton during the war may or may not be permanent. Much of this will depend upon the price of each in the future.

The percentage of fibers being used for specific purposes have varied from time to time but the trend toward uses of paper containers has increased on the average of from approximately 20 per cent in 1930 to about 30 per cent in 1943.

Jute is another fiber that competes with cotton in some fields. During the war, however, cotton has replaced jute to a considerable degree in bags and to a lesser degree in other forms such as wrapping materials, particularly those used in wrapping bales of cotton. Cotton, however, has failed to prove

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<sup>4</sup>"The Journal of Marketing", Vol. X, No. 3, January, 1946, p. 261.

<sup>5</sup>Looking Ahead With Cotton, Miscellaneous Publication, No. 504, United States Department of Agriculture.

TABLE 10

Paper consumption in products that compete with cotton(1,000 tons)

Paper Products	1929	1937	1943
Bags, Kraft	437	668	834
Facial Tissues and Handkerchiefs	—	37	60
Napkins	28	64	76
Towels	52	102	147

The war years are not available in separate uses.

Sources: Background Information for Farm Leaders, United States Department of Agriculture and State Agricultural Extension Services Cooperating Miscellaneous Publication, 594, February, 1946, p. 34.

superior and any gains that it has shown may or may not be temporary.

For cotton to compete successfully with jute and even paper, it is necessary that cotton products should offer the consumer at least equal value per unit of cost in comparison with these products. It has been such that cotton prices act to some extent as a ceiling for jute prices. This is because cotton can be used for practically every purpose that jute is used.

Displacement of cotton in individual uses results in very little immediate change in the total demand for cotton. Even if cotton were completely displaced in its most important single use (tire fabrics) there would be a decline of less than 8 per cent in the total domestic consumption. If a number of items are completely replaced it may have a decided influence upon demand.

During the 10 years immediately prior to the entry of the United States into World War II the domestic consumption of rayon increase 300 per cent during the next two decades preceding the last war the increase was about

5,000 per cent. By 1940 rayon consumption reached 482 million pounds. This may be compared with 3,953.6 million pounds of silk and 411.1 million pounds of wool consumed in that year.<sup>6</sup>

In the period from 1920 to 1940 the consumption of all textile fibers in the United States was related directly to the growth in population therein. Per capita consumption of apparel fibers ranged from a low of 22.9 pounds in 1932 to a high of 34.4 pounds in 1939.

Rayon was the only fiber whose consumption at the close of the period was greater than at any time earlier. Cotton consumption for the five years 1934-1939 averaged 24.8 pounds which closely approximated the thirty year average from 1905-1934 of 25.0 pounds.<sup>7</sup> Cotton consumption reached its peak in 1942, wool in 1941, silk consumption was nominal after 1940, and rayon had its greatest year in 1945 (Table 5).

The prices of rayon are unlike cotton and silk prices, which are subject to day-by-day fluctuations. Rayon prices are essentially administered prices; they are stable over relatively long periods.

The coefficient of substitution of rayon for cotton increases as the price differential between the fibers diminishes.

If, however, the current high prices for cotton prevail or if the prices of rayon staple fiber are further reduced, the displacement of cotton by rayon will be augmented by virtue of increased direct prices competition between the fibers.

It is important, however, not to over estimate the significance of cotton-rayon competition to the cotton textile industry. Since rayon staple fiber

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<sup>6</sup>"Rayon Organon", XVI (Special Supplement) January, 26, 1945, p. 20-21.

<sup>7</sup>"The Southern Economic Journal", Vol. XIII, No. 2, October 1946, p. 146.



can be processed on cotton machines, the textile mill can shift from cotton to rayon with only minor adjustments in the machinery. The chief competition in this field is between the cotton farmer and the rayon producing companies.

The competitive future of cotton will depend on a number of factors, such as prices of cotton in the future in relation to the prices of rayon and other textile fabrics and the extent to which reduction can be made in production, ginning, marketing and processing costs without adversely affecting the income of cotton growers. These reductions will be one of the factors in determining prices. The government policy toward cotton will also have an influence on future possibilities. The government will soon have to decide whether the American grower should continue to receive a government supported price or whether he would be better off if prices were permitted to drop to a point where United States cotton could compete freely with foreign cotton and other fibers again. At present it appears the price support plan is the more likely.

The production of rayon staple fiber, rayon filament yarn and the other synthetic fibers in 1949 is estimated to equal the peak of 1941, which was 2.8 billion pounds or equivalent to 6.6 million bales of cotton on a waste free basis. According to the American Cotton Council 6.6 million bales would be approximately 22 per cent of the anticipated world cotton consumption.

Synthetic fibers have been held back on a foreign basis because of the lack of fuel. It has been estimated that it requires produce synthetics as it does to spin and weave cotton. This no doubt will tend to place cotton at an advantage in any country where fuel is at a premium. This will not continue for a long period of time.

Some European countries are being forced to revert to use of synthetics and wool pulp because they have material at hand to supply these items while

the dollar is very scarce. This also should not continue over a long period of time if Europe is able to recover.

In Europe synthetics fibers are being offered on the local markets today at 30 to 50 per cent under the equivalent price of raw cotton.<sup>8</sup> We are not facing as much price competition here at home, since the price is almost on an equal basis. The difference probably is cheaper labor in Europe and the previous stated reason. Improving the staple length of American or Oklahoma cotton would do very little to improve the competitive situation.

In summary the competitive outlook for cotton does not seem to be in great danger at this time, but no doubt is facing more competition than it has in past years. The future competition to some degree will depend on the price ratio of cotton to other fibers. We cannot expect cotton to remain the leading fiber unless the price stays somewhat on a par with competing materials. Price no doubt will depend on other factors such as capital and labor involved in producing or to what degree reductions can be made in production, ginning, marketing and processing without adversely affecting the income of producers. Foreign grown cotton may likely compete more with American cotton.

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<sup>8</sup>Report to the 11th Annual Convention of the National Cotton Council  
by Read Dunn, Jr. p. 13.

## Chapter V

## SHORT-RANGE AND LONG-RANGE OUTLOOK FOR COTTON

The short-range outlook for cotton probably can be studied with a little more certainty than can the long-range outlook, since many complications could easily arise within a long-range period.

The short-range outlook seems to be relatively good. The foreign demand for the 1949-50 cotton crop very likely will continue large, since the carry-over stock pile in most of the foreign countries is less than we have here in America. This would indicate a possibility of having the greatest export demand since 1939. The American Cotton Council indicates that unless E.C.A. financing is seriously delayed, exports for the year 1949 should reach four million bales. This level of exports would not be a desirable level to maintain permanently, since it would be too low a figure, but at the same time would be a considerable increase over the previous few years. The special grants and credits brought about by the E.C.A. and other agencies are playing a vital part in maintaining our export level. If these agencies were not in existence we would probably be at our lowest peak since the Civil War.<sup>1</sup> If our exports do reach the four million bales our carry-over probably would be somewhere between five and six million bales. Our consumption here at home would determine where this figure would fall. At any rate this would increase our carry-over from 1948. In the total carry-over of all qualities of cotton in all countries of the world there would be approximately a six month's supply at the present consumption rate of 25.2 million bales.

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<sup>1</sup>"Problems in Keeping Our Foreign Markets for Cotton" - Report by Road Dunn—American Cotton Council.

With our population increases and removal of restrictions since the war the per capita consumption of cotton more than likely will be on the increase.

The general belief on cotton expansion outside the United States seems to be that the production rate will remain somewhere near the present level.

This means that the United States will have an opportunity to increase her export quota; and probably will reach the peak established in 1939 of six million bales. This peak cannot be reached without some planning and effort on the part of our cotton experts. If trade restrictions were reduced or removed then supply and demand would be a major factor.

The short-range problem for the coming year may be the dollar shortage rather than price and the competitive growths that we hear discussed frequently.

The Foreign Trade Division of United States Department of Commerce has released the following steps that would help to reach this six million bales:

- (1) Enactment of the full E.C.A. program recommended by Congress. We believe the E.R.P. will require the E.C.A. to finance about three and a half million bales of cotton next year. That would be a million more bales than were financed the past year.
- (2) Maximize the use of the revolving credit established by the Congress last year to finance cotton in the occupied countries.
- (3) Encouragement of trade between Eastern and Western Europe to further rehabilitate Western Europe and permit an exchange of cotton sorely needed to continue the operation of mills in Eastern Europe.
- (4) The establishment of self-liquidating credits for countries like Spain and India.

- (5) An arrangement to barter cotton for strategic commodities required in the United States.<sup>2</sup>

The long-range competition or competition within the next ten years may remain somewhat as they are at present. It does not seem likely that India, China, Egypt or North Africa would increase their cotton acreage, since they already have a very heavy population which is increasing at the rate of one and one-half per cent to two per cent a year at present. The pressure on the limited acreage more than likely will be forced to produce food.

These same countries are now importing foods which they were exporting before the war. It appears more likely that the cotton acreage might decline instead of increasing. Should they attempt to improve cotton production through research the increase probably would not more than offset the demand brought about by the increase in population.

Mexico and Russia may increase their cotton production. Mexico has greater possibilities of increasing but probably not to exceed a total production of one million bales. Russia is too uncertain at this time to make a statement of future possibilities.

It is generally admitted that Southern Brazil has millions of acres of land which have soil and climate suitable to cotton production but this same land for cotton faces limitations. The primary limitation is the sparsity of population. This sparsity would no doubt make labor a major problem. If and when prices drop on food crops, coffee and beans, etc., some shift to cotton will take place if at the same time cotton prices remain relatively high.

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<sup>2</sup>Source: In condensed form from A Report of National Cotton Council, by Read Dunn-11th Convention, 1948.



The real problem in Brazil is how to increase labor productivity so as to increase the total acreage under cultivation and the total acreage under cotton with the limited labor force. Labor productivity in Brazil appears to be moving very slowly at present. With these factors in mind Brazil cotton would not appear to be any immediate threat to United States cotton.

If the ratio of cotton prices to other prices are maintained they would be an incentive to greater production here at home, since very few crops yield a higher return to the farmer than does cotton. The government policy or allotment may have some influence on the trend of future acreage.

As long as the ratio of cotton prices, compared to other prices, are high we can expect capitalism to exploit cotton production in all areas where there is a possibility of growing.

Economic trends, prices, new uses, degree of competition from synthetic and other fibers, and dollar competition are factors that may help to determine the future trends in cotton production in the United States.

One of the greatest problems which faces cotton today and in the future is the competition for dollars. Today cotton is not only competing with synthetic and other fibers but is competing with cars, refrigerators and other items. Since other countries are not able to produce sufficient food at present, cotton is competing with food.

This competition should gradually decrease as each country is able to meet their own needs in food. If this policy continues it seems logical that loans or exchange of goods may be necessary in order to move the amount of cotton that we would like to move.

In summary our postwar outlets up to now have been largely made possible by a program of Government Credits. As long as these credits are made possible we can at least maintain and perhaps increase our present outlets. However, if we are forced to discontinue credit, our outlets will depend to a

large extent upon the volume of production above domestic requirements, the level of world demand, the supply of foreign and the amount of dollar exchange available to cotton importing countries. It would appear that we here in America would have very little control over such factors.

## SUMMARY AND CONCLUSIONS

The staple length of cotton produced in Oklahoma could be increased physically, but from an economic standpoint the length may not need to be increased. The grade is determined by weather conditions, degree of insect damage, time, and method of harvesting and care in ginning. Most of these factors are controllable to some degree. The tendency toward the lowering of the average grade of cotton in the market during recent years has been largely due to scarcity of labor or harvesting practices.

It would be a very difficult task to have all of Oklahoma farmers trying to grow cotton of one inch or more in staple length and of a given grade because of the economic and physical conditions in the different sections of the state. The relative profitableness of producing the different grades and staples depends upon the relationship of cost, of production and the price received. The farmer is somewhat like industry, he is seeking to produce the type of cotton that will give him the greatest return.

Considerable cotton market news is now available but it appears that improvements of this news is desirable and possible. Further education of the cotton farmers in the use of this news would also be desirable.

Premiums and discounts tend to move up and down along with supply and demand, therefore, much can be done in the way of research for uses of the different grades and staples of cotton.

The recent outlets for American cotton have been largely made possible by a program of Government credits. As long as these credits continue we can expect a substantial outlet. If these credits are discontinued, our

outlets will depend to a large extent upon the volume of production above domestic requirements, the level of world demand, the supply of foreign cotton and the amount of dollar exchange available to the cotton-importing countries and the use these countries make of this exchange.

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