

A STUDY OF COTTON PLANTING SEED
IN OKLAHOMA

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IN OKLAHOMA

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INTRODUCTION

Cotton continues to be one of the major cash crops produced in Oklahoma, although the acreage grown on many farms has decreased during the past two decades, (Table I).

The quality of seed and the variety of cotton planted seem to be important factors in the economic production of cotton. The variable climatic conditions, different soil types and other physical considerations, such as the degree of mechanization in production, add to the problem of planting seed supply, and the result is that a number of varieties are apparently needed to meet the planting requirements of Oklahoma farmers. Prior to this study, very little information of an organized nature was available on the particular varieties planted by producers, and the origin of the seed planted.

Since cotton is an important cash crop, the marketing of cotton planting seed and the problem of demand and supply of seed is important. The average acreage for the seven year period (1945-51) was approximately 1.2 million acres. At an average seeding rate of 16 pounds per acre it would require an estimated 19 million pounds of planting seed, worth 173 thousand dollars, calculated on the basis of an average value of \$9.00 per hundred pounds.

The number of varieties grown was apparently not a problem in the early history of cotton production since all of the work from planting to spinning the cloth was done by hand mostly on the farms where grown. The present situation in cotton production can be better visualized by enumerating the factors that effected changes in the cotton industry of the United States. Several events have brought about the necessity for improvement in cotton varieties.

The application of power to the textile industry, invention of the cotton gin, the spread of the bollweevil, diseases, and more recently the mechanical harvester are all factors that breeders have recognized in the breeding and selection of cotton adapted to different areas.

The breeding of superior varieties has been essentially that of preserving uniformity and improving selected strains. In the ginning process varieties that have been bred for certain characteristics or qualities tend to become mixed with other varieties that are bred for different qualities; therefore, the problem of source and supply of cotton planting seed, to the producer, is a continuous one. It may be possible where high quality seed can be purchased as replacement stock and gin and other facilities are available to insure the proper care of seed, that it is to the advantage of the farmer economically to save home-grown seed to plant a portion of each years crop. Since costs and risks are involved in the production and marketing of planting seed, any improvement in the present system that either lowers costs or reduces the risk involved could be considered desirable if it is reflected back to the producer in lower prices and adequate supply of planting seed.

Cotton Planting Seed Improvement Programs

C. F. Cook of the Bureau of Plant Industry first pointed out the advantages of cotton improvement in "One Variety Communities" in 1909, and in 1911 an outline program of "Cotton Improvement on a Communities Bases", was published.¹ The plan was first demonstrated by voluntary cooperation of farmers in irrigated valleys of the Southwest, and the sale of cotton seed for planting purposes were successful enough that, in 1925, the California State Legis-

¹ C. F. Cook, "Cotton Improvement on a Community Bases", United States Department of Agriculture, Yearbook of Agriculture 1911, pp. 123-130.

lature passed laws prohibiting the planting of more than one variety in certain areas.²

In the past the "One Variety Program", was considered an important cotton planting seed improvement program, and was administered by the War Food Administration during the war years. Under this program a group of farmers organized for the purpose of standardizing production of a single improved variety. The benefits claimed for such a community are: helps to eliminate cross-pollination, to provide growers with a suitable plan for growing and distributing planting seed of known origin and purity at a reasonable cost, to maintain varietal purity of a single improved variety, to obtain more uniform staple length, and to gain full benefits from growing improved varieties promptly.³ However, recent studies have questioned the validity of the advantages claimed for one variety cotton production.⁴

In 1943, the United States began a cotton planting seed improvement program to be administered by the Cotton and Fiber Branch of the Office of Distribution, War Food Administration. Objectives of the program were: (1) to encourage the growth of a single improved variety of cotton by all growers in an area where growing conditions were uniform so as to improve cotton, (2) to increase yields per acre, and (3) to standardize production by the elimination of a large number of inferior varieties. The War Food Administration was authorized to make payments to grower associations in connection with the

² McKeever, H. G., "Community Production of Acala Cotton in the Coachella Valley of California", United States Department of Agriculture, Bulletin 1467, pp. 29-36.

³ O. F. Cook, "One Variety Cotton Community", United States Department of Agriculture, Bulletin 1111, p. 19.

⁴ John D. Campbell, "Advantages and Disadvantages of One Variety Cotton in Oklahoma". (Unpublished manuscript)

normal production of cotton.⁵

In organizing the program, a grower committee and a technical committee were appointed by a four man state board. The state was divided into zones and the committee designated a variety of cotton for each zone. In cases where the zone was irregular and it was established by the committee that an additional variety was necessary, a sub-zone was set up and an additional variety designated for it. The committee functioned to set up a State Association to handle subsidy claims and other business in the participating state.

During the period of operation (1943-45) the main accomplishment of the program was the progress made in improving the quality of the seed planted by varieties during the three years. In Oklahoma most of the administrative details were handled by the Oklahoma Crop Improvement association through an agreement with the Department of Agriculture. The Program was discontinued in 1945.

There may be some question as to what constitutes improved cotton; for example, one definition of an improved cotton is cotton that has been developed into a "breed of high-yielding strains of medium-length staple, good spinning quality, and equal adaptation to wilt or non-wilt soils."⁶ However, the final test, from an economic point of view, is made on the farm by the farmer in a particular area; also, the market for the cotton must be such that the production of a variety or varieties is among the most profitable available to the producer within an area, otherwise there will be a tendency to shift the variety planted.

⁵ Clarence E. Pike, "Cottonseed Improvement Associations", United States Department of Agriculture, Farm Credit Administration, Circular C-130, April, 1947, p. 7.

⁶ E. E. Berkley and H. D. Barker, "What Makes Cotton Good?", United States Department of Agriculture, Yearbook of Agriculture 1943-47, pp. 368c-368e, 369-372.

Area of Study

The area covered by this study includes the major cotton producing areas of Eastern and Western Oklahoma, (Figure I).

Temperature and Rainfall

The average temperature in Oklahoma ranges from 33.5° F to 43.8° F in January and from 77.3° F to 84.9° F in July. The minimum recorded temperature was 2° F and the maximum recorded temperature was 120.0° F. The date for the last killing frost in the spring ranges from March 22 in the South to April 21 in the North. Dates for the first killing frost ranges from October 19 in the North to November 17 in the South.

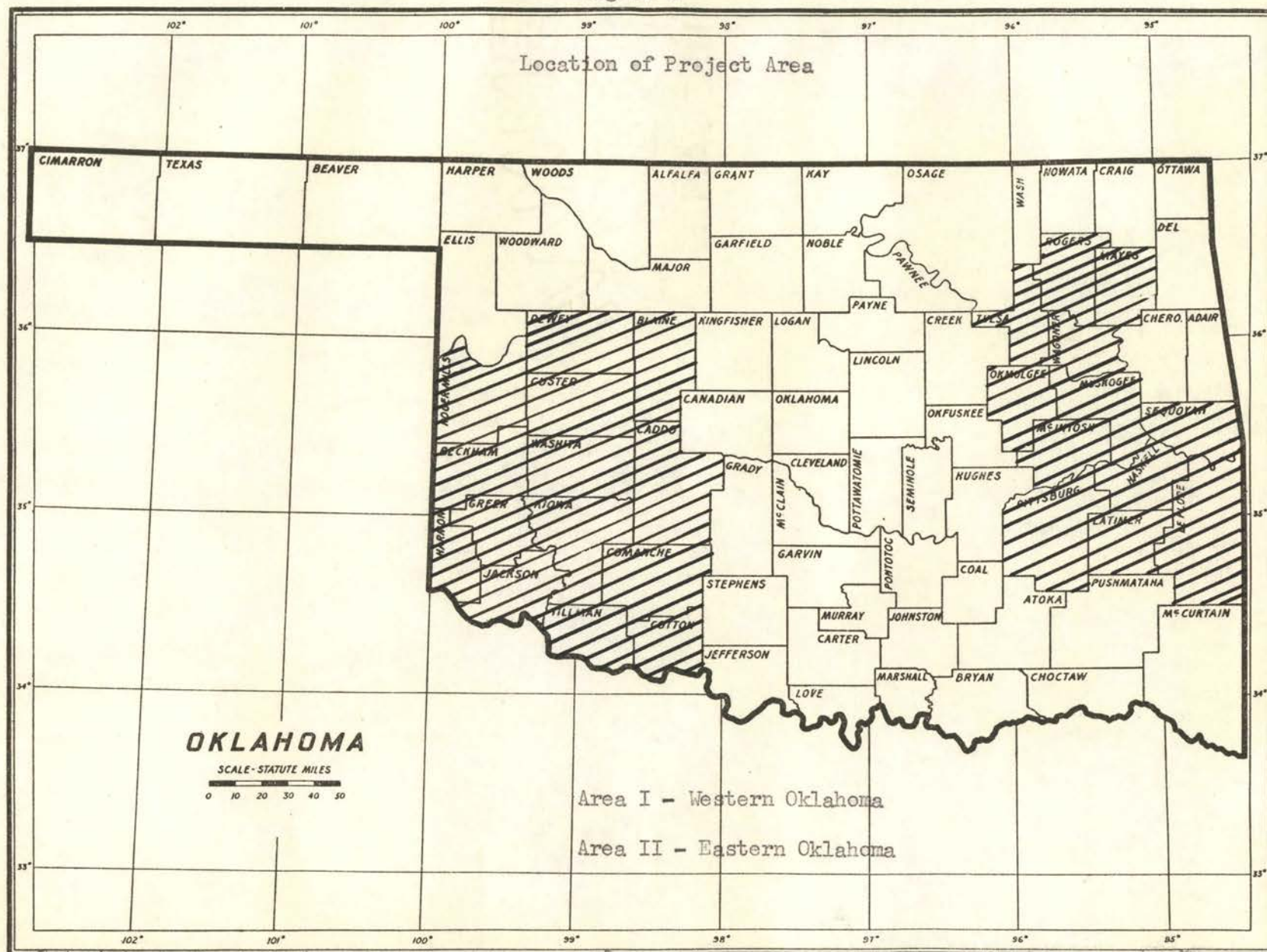
The length of growing season in Oklahoma ranges from 160 to 240 days, with an overall average of about 210 growing days.

The annual precipitation for the period covered by records ranges from 16.49 inches to 50.68 inches. The mean annual precipitation for which records have been kept is 31.94 inches. The greatest precipitation falls during the months of May and June and the least amount in February.⁷

During the period 1930 to 1950 the major crops in Oklahoma have been cotton, corn, wheat, oats, grain sorghum, and hay. During the last decade and a half, the percentage of the crop land in cotton has decreased steadily, although the land in farms has increased. Part of the decrease in cotton acreage can be explained by the increase in importance of other major crops and the decrease in percentage of land in crops (Table II). Apparently yield per acre, size of allotment per farm, and labor requirements are also important factors in determining the decrease in cotton acreage.

⁷ U. S. Department of Agriculture, Climate and Man, Yearbook of Agriculture, Washington: United States Government Printing Office, 1941, pp. 1065-68.

Figure I



* Central Oklahoma was studied in 1948. Wayne Roberson, "A Study of Cotton Planting Seed in Central Oklahoma, 1949".

** Data on cotton planting shipped into Central Oklahoma, Appendix Tables.

The number of farms reporting cotton in Oklahoma decreased from 123,477 to 38,152, a decline of 61 percent in the twenty year period from 1930 to 1950. In the same period cotton acreage decreased from a total of 4,118,228 to 1,227,911 acres, or a decline of 70.4 percent.

It appears that weather conditions largely influence the up and down fluctuations of the yield per planted acre. The peak of 217 pounds per acre was reached in 1949, a favorable year for cotton, and the low of 53 pounds per acre in 1934, a year of extreme drouth.

Table I

COTTON ACRES, YIELD, AND PRODUCTION
In Oklahoma, 1930-50*

Year	Acres in cultivation July <u>1000 Acres</u>	Yield (lbs)	Production <u>1000 Bales</u>	Value of Production <u>\$1000 Dollars</u>
1930	4,009	102	854	37,174
1935	2,427	112	567	29,926
1940	1,900	207	802	36,589
1945	1,179	116	285	28,595
1950	995	134	230	46,483
Average		138		

* Source: Compiled from the "United States Cotton Statistics", United States Department of Agriculture, Bureau of Agricultural Economics, Washington, D. C., July 1951.

Purpose and Scope

The purpose of this thesis is to determine the volume, variety, and origin of cotton planting seed shipped in from other states and marketed in Oklahoma; to determine the variety, quantity, quality and source of cotton

planting seed planted by Oklahoma farmers for the years covered by the study; and provide an insight into the marketing risk and practices involved.

Methods and Procedure

A sample was taken instead of making a complete survey because of the time and expense involved. The gin points used in the sample were selected from the gins operating in each county. The number of gins included in the sample from a given county was determined by the volume of cotton produced in the county as related to the total production within the given area for Eastern and Western Oklahoma.

The farmers sample was drawn from the PMA County Cotton Allotment record of cotton farmers in such a manner as to secure randomization. The size of the farmer sample was determined by the number of farms reporting cotton in the 1945 census of Agriculture. Approximately 0.5 of one percent of the total number of farms reporting cotton were surveyed.

Table II

PERCENTAGE OF ALL LAND IN FARMS IN OKLAHOMA BY
DESIGNATED CLASSIFICATION, 1930-50

Land Classification	1930	1935	1940	1945	1950
All land in Farms (Acres)	33,790,817	35,334,870	34,803,317	36,161,822	36,006,603
Proportion of land in Farms (percent)	76.1	79.6	78.5	81.6	81.5
Land in Crops (percent)	48.1	43.1	40.3	39.7	38.1
Percent in:					
Cotton	12.2	7.4	4.8	4.1	3.4
Corn	9.1	4.4	5.1	4.4	2.9
Wheat	13.5	10.0	11.9	14.0	17.4
Oats	2.3	3.0	3.4	3.5	1.2
Grain Sorghums	2.2	1.8	1.8	2.7	1.5
Hay	3.1	2.3	3.0	3.0	4.9
All other land in Farms ¹	51.9	56.9	59.7	60.3	61.9

Source: Compiled from the United States Census of Agriculture, 1930 through 1950.

¹ Includes all land in pasture and woodland not pastured.

ORIGIN OF COTTON PLANTING SEED SHIPPED IN FROM OUT-OF-STATE

Origin of Planting Seed

A large percentage of the cotton seed planted in Oklahoma is shipped in from other states. Variable weather conditions, the extent of insect damage, shifts in cotton acreage, and other factors are responsible for considerable variation in the quality and quantity of seed available to Oklahoma farmers for planting purposes.

The quantity of planting seed shipped into the State was obtained from the Oklahoma State Department of Agriculture Cottonseed Inspection records. The data show the quantity, variety and origin of cotton planting seed shipped into Oklahoma, and since it is a complete enumeration, may not necessarily check with that handled by ginners and planted by farmers as compiled from the Survey Schedules.

The quantity of cotton planting seed shipped into the State from other states was compiled for the period 1945-51. Texas was the leading source each year. The volume shipped in from Texas ranged from 66 percent to slightly over 77 percent of the planting seed shipped into Oklahoma for the seven year period for which information was compiled.

There appears to be a tendency toward stability of sources of supply over the entire period of years. However in anyone year individually significant fluctuations may and do occur. The variation in volume from Texas is an example.

From the historical view these fluctuations tend to point up the fact that the source of planting seed supply is uncertain and tends to fluctuate within

states and between states. These are uncertainties the seed dealers and the farmers face in acquiring planting seed. They are logically due to both state and local weather conditions where the planting seed are produced. They may be also, partly due to shifting demand from expanding and controlling acreage in different cotton producing states. Again they are influenced by the shift in demand by farmers in different areas or by production shifts, where different varieties are required to meet production requirements as in the shift to mechanization for example.

Then finally as breeders develop new and improved varieties, farmers tend to shift to new varieties even though they retain their existing production system. In some cases these shifts are forced by short supply and in other cases by the farmer. In trying to organize for optimum production, he makes a choice between varieties due to varietal characteristic and production performance.

The total volume of seed shipped into Oklahoma in 1951 was 146,224 bushels. The origin by state of cotton planting seed in order of volume were: Texas, 77.3 percent; Mississippi, 8.7 percent; Arkansas, 4.9 percent; Missouri, 4.2 percent; California, 2.6 percent; Georgia, 2.2 percent; and South Carolina less than .05 percent (Table III). The other years for which information was compiled were similar to the year mentioned as to importance of states shipping seed into Oklahoma.

The increase in planting seed shipped into the state with the decreasing acreage over 1945 was probably due to three factors: one, the small amount of seed suitable for planting purposes; two, the planting of better quality seed and three, the number of plantings necessary to secure a stand. It may be possible that the variation in the volume of planting seed from particular states was influenced by farmers experimenting with varieties they were not

Table III

COTTONSEED SHIPPED INTO OKLAHOMA FOR PLANTING PURPOSES
BY STATE OF ORIGIN, CROP YEARS 1945 through 1951

Origin of Shipment State	Percentage of Total by years ¹						
	1951	1950	1949	1948	1947	1946	1945
	Percent						
Texas	77.3	71.1	68.6	74.8	66.8	66.0	71.7
Arkansas	4.9	13.2	12.1	7.3	18.1	11.0	8.3
Mississippi	8.7	11.0	10.6	12.4	4.4	7.8	12.2
Georgia	2.2	2.4	5.6	2.6	5.8	7.3	7.8
Missouri	4.3	2.0	2.6	1.0	.8	.8	—
South Carolina	*	.3	—	—	—	—	—
California	2.6	*	*	1.9	—	2.7	—
Tennessee	—	—	.5	*	3.8	—	—
Louisiana	—	—	*	*	.3	—	*
Alabama	—	—	—	—	—	4.4	—
Total all States (Bu.) ²	146,224	166,301	199,317	222,700	192,260	155,429	132,064

Source: Compiled by Department of Agricultural Economics, Oklahoma A & M College, from Oklahoma State Department of Agriculture Cottonseed Inspection records.

¹ Adjusted.

* Less than .05 percent.

² Calculated on the basis of 32 pounds per bushel.

familiar with. After hearing favorable reports on a variety some farmers will order a small quantity for experimentation.

Composition of Seed by Varieties

There seems to be a tendency of stability in the varieties of planting seed shipped into Oklahoma. For example Northern Star, Lankart 57, and Lockett 140 were fairly staple (in terms of percentage of total) during the period under study. Varieties fluctuated in importance from year to year and any one year there are significant fluctuations. The fluctuations may be due partly to change in production methods, mechanical harvesters for example, or to change in variety characteristics. The scarcity of seed of certain varieties may shift the demand to other varieties and in such cases cause up and down fluctuations within years and between years.

In 1951 the number of varieties decreased to 34, a decrease of 41 percent from 1950 and at the same time there was a decrease of 20,077 bushels (12 percent) shipped into the state over the 1950 season. The five leading varieties by volume were: Northern Star, 26.5 percent; Lockett 140, 19.2 percent; D & PL 15, 10.9 percent; Lankart 57, 10.5 percent; Half & Half, 4.4 percent. These five leading varieties comprised slightly less than three-fourths (71.4 percent) of the total volume. (Table IV)

The amount of seed shipped into the state increased from 1945 to 1948. From 1949 to 1951 the volume decreased, however the decrease from 1948-51 was less than the increase from 1945-48. The cotton acreage during the period would indicate that farmers were planting better quality seed. Part of the decrease in volume may have been due to the lack of availability of the seed from out-of-state sources, and to an increase in supply produced within the state.

Table IV

COTTONSEED SHIPPED INTO OKLAHOMA FOR
PLANTING PURPOSES BY VARIETY, CROP YEARS
1945 through 1951

Variety ¹	Percentages of Total by Years ²						
	1951	1950	1949	1948	1947	1946	1945
	Percent						
Northern Star	26.5	18.8	20.2	17.3	21.0	28.9	35.5
Lankart #57	10.5	13.1	8.8	19.3	6.9	3.7	4.6
D & PL #15	10.9	12.2	9.5	4.2			
Lockett #140	19.2	12.1	10.1	10.4	15.6	9.8	10.1
Stoneville #62	4.1	7.0	*		*		
Hi-Bred	2.4	3.8	5.3	2.5	5.1	6.8	2.8
Rowden	1.6	2.7	2.5	3.9	3.6	4.5	1.1
Stoneville #2-B	.7	2.3	7.0	2.3	3.4	1.2	6.2
Marv. L.S. Cluster	3.6	2.1	2.5	6.3	1.9	2.1	1.9
Half & Half	4.4	1.8	1.8	.9	1.1	.7	1.0
Mebane	1.3	1.6	11.7	4.0	1.3	.9	1.6
Bluetag Rowden		.6	2.3	2.2	3.7	1.6	.4
D & PL #14			4.1	9.2	20.7	9.3	12.1
Floyds S-G Mebane			1.7	2.1	1.0	4.1	1.7
Consolidated ³	3.6	3.2	1.1	2.1	2.6	9.1	1.2
All others ⁴	11.2	18.7	11.4	13.3	12.1	17.3	19.8
Total All Varieties (Bu.) ⁵	146,224	166,301	199,317	222,700	192,060	155,429	132,064

Source: Compiled by Department of Agricultural Economics, Oklahoma A & M College, from Oklahoma State Department of Agriculture Cottonseed Inspection records.

¹ Individual varieties are listed here as recorded in the Oklahoma State Department of Agriculture Cottonseed Inspection records.

² Adjusted.

³ Consolidated: Refers to cases where quantity and variety for two or more varieties could not be identified.

⁴ All others include 23, 36, 39, 26, 29, 30, and 35 varieties (see Footnote 1) for the years 1951, 1950, 1949, 1948, 1947, 1946 and 1945 respectively.

⁵ Calculated on basis of 32 pounds per bushel.

Certain individual varieties varied somewhat in importance from 1945-1951. Some of the varieties that were important in 1945 were of little or no importance by 1951. Likewise some varieties that were important in 1951 were of no importance in 1945. Improved varieties or new varieties are a continued cause of shift in importance among varieties planted. Improved varieties, and farmers willingness to plant improved varieties, are important factors in the improvement in cotton production.

Texas is the most important source of quality planting seed shipped into Oklahoma from out-of-state sources. Arkansas, Mississippi, and Georgia are next in importance. The fluctuation between states in volume of cotton planting seed shipped into Oklahoma, may be due to climatological variations and other conditions which cause a scarcity of quality planting seed between states or areas and seasons as well as to marketing conditions.

The number of varieties shipped into the state varied somewhat from year to year. Some of the variation in number was probably due to farmers and ginners experimenting with new varieties. The leading varieties were fairly stable (percentage wise), and the new varieties composed a very small part of the total. Some of the variation between the leading varieties was due to the fact that the preferred variety was not available and one of the other leading varieties were substituted.

VARITIES OF COTTON PLANTING SEED PURCHASED AND
PLANTED IN WESTERN OKLAHOMA

Varieties Handled by Ginners

A total of 903,991 pounds of cotton planting seed, comprising 15 different varieties, were handled in 1947 by ginners interviewed in Western Oklahoma, (Table V). The five leading varieties¹ were Northern Star, Lankart 57, Lockett 140, Hi-Bred and Marvin L. S. Cluster, and composed 54 percent of all varieties handled.

In 1948 ginners handled a total of 956,488 pounds of cotton planting seed, an increase of 6 percent over the previous year. The number of varieties decreased from 15 in 1947 to 13 in 1948. The five leading varieties were: Northern Star, Lankart 57, Lockett 140, Marvin L. S. Cluster and Hi-Bred. These five varieties composed 84 percent of the total volume of cotton planting seed handled by ginners in the area.

In 1949 the cotton planting seed handled by ginners increased from 956,488 to 1,068,632, an increase of 112,144 pounds (12 percent). The number of varieties increased to 17. The five leading varieties were Northern Star, Lankart 57, Lockett 140, Marvin L. S. Cluster, and Hi-Bred, and composed 92 percent of the total volume handled by ginners.

In 1950, ginners handled a total of 827,081 pounds, a decrease of 221,551 pounds from the previous year. The five leading varieties of Lankart 57, Northern Star, Lockett 140, Hi-Bred and Marvin L. S. Cluster composed 91 per-

¹ Reported by Oklahoma State Department of Agriculture Cottonseed Inspection records, State Seed Laboratory, Oklahoma City, Oklahoma.

Table V

VARIETIES AND PERCENT OF TOTAL OF COTTON PLANTING
SEED PURCHASED BY GINNERS IN WESTERN
OKLAHOMA, 1947-49**

Variety	1949		Variety	1948		Variety	1947	
	Amount (lbs.)	Percent of Total		Amount (lbs.)	Percent of Total		Amount (lbs.)	Percent of Total
Northern Star	351,664	33.00	Northern Star	344,353	36.00	Northern Star	363,752	40.24
Lankart #57	186,644	17.46	Lankart #57	177,778	18.59	Lankart #57	147,463	16.31
Lockett #140	141,084	13.20	Lockett #140	120,896	12.64	Lockett #140	117,320	12.98
Marv.L.S.Cluster	101,000	9.45	Marv.L.S.Cluster	81,200	8.49	Hi-Bred	91,260	10.10
Hi-Bred	99,824	9.34	Hi-Bred	79,700	8.33	Marv.L.S.Cluster	53,860	5.96
D & PL #15	41,700	3.90	D & DL #15	38,200	3.99	Deltapine #14	43,600	4.82
Paymaster #54	18,500	1.73	Qualla	24,600	2.57	Qualla	18,156	2.01
Qualla	15,256	1.42	Paymaster #54	21,000	2.20	Half & Half	16,280	1.80
Half & Half	15,256	1.42	Half & Half	19,400	2.03	Acala #6	15,000	1.66
Mebane	11,640	1.08	Stoneville #62	10,960	1.15	Paymaster #54	10,800	1.19
Stoneville #62	10,000	.93	Clgett Mebane	2,500	.26	Stoneville #62	10,000	1.11
Clgett Mebane	4,000	.37	Oklahoma Special	1,400	.15	Clgett Mebane	2,500	.28
Wacona	2,900	.27	Acala #5	500	.05	Stoneville 2-B	2,500	.28
Mahca Stormproof	2,000	.18	Unknown*	34,000	3.55	Acala #5	2,000	.22
Ambassador	2,000	.18				Oklahoma Special	1,400	.15
Oklahoma Special	1,400	.12				Unknown*	8,100	.89
Acala #5	500	.04						
Unknown*	63,200	5.90						
TOTAL	1,068,632	100 %		956,488	100 %		903,991	100 %
Percentage of Change	11.70			5.79			100 %	

Source: Survey, Ginner Schedules.

* One schedule in years 1948-49 and four in 1947 were not tabulated. The information was not available because of lack of records or managerial change.

** Only total number of pounds of seed was available.

cent (751,224 pounds) of the total volume handled by ginnerers, (Table VI). In addition they handled 87,958 pounds of gin run seed they saved as planting seed, (Table VII).

In each of the four years, 1947-50, the five leading varieties were the same but they shifted positions and varied somewhat in importance. Except for 1950, Northern Star was first in order of volume. In 1950 Lankart 57 was first in order of importance by volume, and this was probably due to the growing importance of mechanical harvesting. Lankart 57 appears to be well adapted to mechanical harvesting. Consequently it may be expected to show an increase since the use of mechanical cotton strippers has increased sharply in Oklahoma.²

Table VI

VARIETIES AND AMOUNTS OF COTTON PLANTING SEED
HANDLED BY DEALERS IN WESTERN OKLAHOMA, 1950*

Variety	Amount (lbs.)	Percent of Total
Lankart #57	256,532	31.1
Northern Star	237,998	28.9
Lockett #140	101,404	12.4
Mi-Bred	87,934	10.6
Marv. L.S. Cluster	67,376	8.1
Mebane	11,200	1.5
Paymaster	11,000	1.3
Qualla	10,996	1.3
Stoneville #62	8,600	1.0
Half & Half	8,040	.9
Empire	8,000	.9
Stormproof	7,600	.8
D & PL #15	3,500	.4
Oklahoma Special	2,649	.3
Wacona	2,752	.3
Nacha	1,500	.2
TOTAL	827,081	100 %

Source: Ginnerers Survey Schedules.

² John M. Green, M. G. Keathley, I. S. Oswalt and N. M. Gober, Jr., "Varietal Description, and Performances Test Results, 1945-1951", Bulletin No. B-381, (February, 1952), pp. 8-10.

Table VII

GIN RUN COTTON PLANTING SEED HANDLED BY GINNERS
IN PROJECT AREA, 1950

Variety	Amount (lbs.)	Percent of Total	Condition*
Unknown	75,808	86.2	
Hy-Bred	4,620	5.3	D
Hy-Bred	7,500	8.5	
TOTAL	87,958	100 %	

Source: Ginnery Survey Schedules.

* D refers to delinted seed.

Varieties Planted by Farmers

Farmers that were interviewed in the sample of cotton farmers drawn from Western Oklahoma planted 132,254 pounds of planting seed in 1950, composed of 15 different varieties (Table VIII). The five leading varieties were Lankart 57, Northern Star, Hi-Bred, Marvin L.S. Cluster and Lockett 140 and accounted for 82 percent of the total volume of planting seed. These five varieties occupied 86 percent of the acres planted to certified or better seed.

The five leading varieties planted by farmers interviewed in 1950 occupied 85 percent of the total acreage planted in 1950 and were on the list tested and recommended by the Experiment Station.

Only a small amount of replanting was necessary in the 1950 season, and in most cases farmers were able to obtain the seed desired for replanting. Farmers tend to plant less seed per acre when they plant certified or better quality seed. This is especially true if they are using delinted seed. The usual seeding rate per acre for delinted seed was from 8 to 10 pounds per

Table VIII

VARIETIES OF COTTON PLANTING SEED RECEIVED AND PLANTED
BY FARMERS IN WESTERN OKLAHOMA, 1950

Variety	Seed Purchased		Acres	Variety	Seed Saved		Acres
	Amount (lbs.)	Percent of Total			Amount (lbs.)	Percent of Total	
Lankart #57	16,614	52.2	735	Northern Star	25,840	25.7	502
Northern Star	6,670	20.9	301	Lankart #57	25,300	25.2	197
Hi-Bred	1,850	5.8	119	Hi-Bred	12,200	12.2	145
Qualla	1,800	5.7	16	Marv. L.S. Cluster	10,060	10.0	208
Marv. L.S. Cluster	1,000	3.2	90	Lockett #140	8,510	8.5	210
Stoneville #62	920	2.9	66	Heavy Fruiter #5	5,600	5.6	25
Half & Half	700	2.2	17	Half & Half	4,700	4.6	119
Lockett #140	692	2.2	45	Mebane	3,200	3.2	53
Acme #144	350	1.1	25	Acala	800	.8	18
D & PL #15	300	.9	12	Unknown	4,200	4.2	28
Paymaster #54	200	.6	12				
Stormproof	200	.6	8				
Wacona	100	.3	18				
Acala #8	64	.2	4				
Unknown	384	1.2	24				
TOTAL	31,844	100 %	1,492	TOTAL	100,410	100 %	1,505

Source: Farmer Survey Schedules.

acre for certified delinted; for certified seed not delinted the rate was about 16 pounds per acre; for non-certified seed the rate was 26 to 32 pounds per acre.

Reasons for Choosing Varieties

Sixteen factors were considered by farmers in the selection of cotton-seed for planting purposes. These factors were listed in order of importance according to the number of farmers considering the factor as being important in selecting a variety of cotton (Table IX).

The five most important factors arrayed in order of importance were: (1) yield, (2) staple, (3) early maturity, (4) adaptability, and (5) gins good.

The reasons given by ginners for the selection of variety was determined and classified by the same method used on the farmer schedules. They were as follows: (1) staple, (2) early maturity, (3) adaptability, (4) yield, and (5) demand (Table X).

Farmers considered yield, staple, early maturity, adaptability, and gins good as the five most important factors in choosing a variety of cotton. Ginners considered staple, early maturity, adaptability, yield, and demand as the most important factors.

Table IX

REASONS FOR FARMERS SELECTION OF COTTON
PLANTING SEED VARIETIES

Area No.1	Yield	Staple	Early matur- ity	Adapta- bility	Gins Good	Stay in Burr	Reco- mended	Easy to get pickers	Pulls Easy	Big Boll	Storm proof	Grades Good	Strong Charac- ter	Exper- iment- ing	Good seed turn- out	Less Lint to Make Bale
Area Total	27	23	18	16	14	12	12	12	10	10	9	8	6	3	3	3

Source: Farmers Survey Schedules.

Table X

REASONS FOR GINNERS SELECTION OF COTTON
PLANTING SEED VARIETIES

Area No.1	Staple	Early Matur- ity	Adapta- bility	Yield	Demand	Gins Good	Grades Good	Late Plant- ing	Drought Resist- ant	Big Boll	Pulls Easy	Storm proof	Stays in Burr	Strong Charac- ter	Good seed Turn- out
Area Total	34	25	18	18	17	14	9	8	7	6	6	5	4	2	1

Source: Ginnars Schedules - Table I.

Varieties Preferred and Planted

Varieties listed as being preferred and planted were taken from farmers schedules which indicated seed wanted for replanting and those that were actually replanted. Thus the volume shown as being planted will be different from the volume received and planted in the areas.

In Western Oklahoma the volume indicated as wanted was 20,978 pounds and the intended acreage was 1161. The volume was composed of 10 different varieties. Lankart 57, Northern Star, and Hi-Bred composed the greater portion of the total volume. Farmers actually planted 22,423 pounds of seed on 1177 acres. They were able to get the varieties preferred for the first planting and in most cases the conditions of the seed were as preferred. The difference may be due to farmer change in preference and to the lack of availability, or to both (Table XI).

The volume and variety of seed preferred and planted for the second planting was determined by the same method as for the first planting. Farmers indicated a volume of 10,654 pounds and 669 acres, but replanted 11,010 pounds on 622 acres. They were able to get the varieties desired but the volume and condition varied from what they listed as preferred. Again it is not known, based on the information available, whether this was due to a change in the quantity and condition of seed the farmer was willing to purchase or to the availability of planting seed variety and quality. (Table XII)

However, there was apparently sufficient accuracy in the estimates made to warrant the glimmer asking the farmers his preference for seed and intended acreage, in an effort to reduce the risk involved in marketing cotton seed.

Table XI

VARIETIES AND CONDITION OF COTTON PLANTING SEED
PREFERRED AND PLANTED, FIRST PLANTING IN
WESTERN OKLAHOMA, 1950

Variety	Amount (lbs.)	In- tended Acreage	Condi- tion of Seed*	Variety	Amount (lbs.)	Planted Acreage	Condi- tion of Seed*
Lankart #57	2182	91	RT	Lankart #57	1400	68	RT
	250	23	RD		250	23	RD
	200	10	GRT		200	10	GRT
	4650	198	GR		6250	221	GR
					100	10	CT
Northern Star	1120	70	RT	Northern Star	1440	70	RT
	360	44	GRTD		352	44	GRTD
	400	40	GRT		200	10	GRT
	1500	78	GRD		980	108	GRD
	3126	155	GR		2994	155	GR
Hi-Bred	600	25	RT	Hi-Bred	600	25	RT
	400	24	RD		400	24	RD
	150	20	CTD		150	20	CTD
	1500	62	GR		1240	62	GR
Locket #140	2000	80	GR	Lockett #140	2000	90	GR
Half & Half	700	17	RT	Half & Half	700	17	RT
Mebane	600	53	GR	Mebane	538	53	GR
Stoneville #62	400	39	RT	Stoneville #62	400	35	RT
Mixed	384	24	RT	Mixed	384	24	RT
Marv.L.S.Cluster	256	100	GR	Marv.L.S.Cluster	1600	100	GR
Storm Proof #1	200	8	RT	Storm Proof #1	200	8	RT
TOTAL	20,978	1161		TOTAL	22,423	1177	

Source: Survey Schedules — Table I & II, Farmers Schedules.

* Condition refers to seed being registered, treated, delinted, or gin run, as the case may be.

R denotes Registered seed.

T denotes Treated seed.

D denotes Delinted seed.

GR denotes Gin Run seed.

** Represents only those schedules that indicated seed wanted for second planting and those which actually replanted.

Table XII

VARIETIES & CONDITION OF COTTON PLANTING SEED PREFERRED
AND PLANTED, SECOND PLANTING IN WESTERN OKLAHOMA
1950

Variety	Variety Preferred			Variety	Variety Planted		
	Amount (lbs.)	In- tended Acreage	Condi- tion of Seed*		Amount (lbs.)	Planted Acreage	Condi- tion of Seed*
Lankart #57	300	50	RTD	Lankart #57	300	50	RTD
	1556	82	RT		1200	58	RT
	150	15	RD		150	15	RD
	800	49	GRT		200	12	GRT
	1050	63	GR		1922	117	GR
					100	8	GT
Hi-Bred	1120	68	RT	Hi-Bred			
	920	41	GR		248	14	GR
Northern Star	500	33	RT	Northern Star	400	29	RT
	176	23	GRTD		176	22	GRTD
	250	25	GRT				
	200	30	GRD		250	25	GRD
	608	34	GR		412	28	GR
Lockett #140				Lockett #140	50	6	RTD
	1584	91	GR		784	66	GR
Half & Half	700	17	RT	Half & Half	700	17	RT
					800	25	GR
Marv.L.S.Cluster	640	40	GR	Marv.L.S.Cluster	2930	110	GR
					200	8	RTD
					100	4	RT
Mebane	100	8	GR	Mebane	88	8	GR
TOTAL	10,654	669		TOTAL	11,010	622	

Source: Survey Schedules -- Tables I & II, Farmers Schedules.

* Condition refers to seed being registered, treated, delinted, or gin run, as the case may be.

R denotes Registered seed

T denotes Treated seed

D denotes Delinted seed

GR denotes Gin Run seed

** Represents only those schedules that indicated seed wanted for second planting and those which actually replanted.

VARIETIES OF COTTON PLANTING SEED RECEIVED
AND PLANTED IN EASTERN OKLAHOMA

Varieties Handled by Ginners

In Eastern Oklahoma for the year 1947, ginners handled 435,440 pounds of planting seed composed of 9 different varieties. D & PL 15, Rowden and Mebane constituted 90 percent of the total volume of planting seed.

The number of varieties remained the same in 1948, but there was an increase of 34,610 pounds (7.9 percent) in volume over 1947. Again D & PL 15, Rowden, and Mebane composed 85 percent of the total volume.

In 1949, there was 12 different varieties for a total of 581,634 pounds of planting seed. There was an increase of 24 percent in volume handled by ginners in 1949. The leading varieties handled were D & PL 15, Rowden, Stoneville 62, and Mebane. These four varieties accounted for 87 percent of the total volume handled (Table XIII).

There was a total of 496,252 pounds of planting seed received by ginners in 1950, composed of 14 different varieties. The varieties of D & PL 15, Rowden, Stoneville 62, Empire, and Bryant Rowden accounted for the greater portion of the total volume (Table XIV). Ginners also handled 127,072 pounds of non-certified quality planting seed (Table XV).

In each of the four years the volume handled increased. D & PL 15, and Rowden were the leading varieties handled in each year. The volume of the different varieties varied from year to year.

Table XIII

VARIETIES OF COTTON PLANTING SEED RECEIVED BY GINNERS
IN EASTERN OKLAHOMA, 1947-1950*

Variety	1949		Variety	1948		Variety	1947	
	Amount (lbs.)	Percent of Total		Amount (lbs.)	Percent of Total		Amount (lbs.)	Percent of Total
Rowden	165,016	28.37	Rowden	128,440	27.4	Rowden	139,940	32.1
D & PL #15	248,862	42.80	D & PL #15	229,430	48.8	D & PL #15	212,480	48.8
Stoneville #62	59,436	10.21	Stoneville #62	23,208	4.9	Stoneville #62	11,560	2.7
Mebane	41,984	7.2	Mebane	43,580	9.3	Mebane	42,980	9.9
Stoneville 2-B	12,880	2.2	Stoneville 2-B	12,880	2.7	Stoneville 2-B	12,880	3.0
Empire	16,596	2.9	Empire	13,200	2.8	Empire	3,200	.7
Bryant Rowden	20,352	3.5	Bryant Rowden	960	.2	Bryant Rowden	960	.2
Dorth Rowden	10,000	1.7	Dorth Rowden	10,000	2.1	Dorth Rowden	10,000	2.3
Northern Star	2,700	.5	Watson	8,352	1.8	D & PL #14	1,440	.3
Watson	2,848	.5						
Floyd's Mebane	1960	.2						
TOTAL	581,634	100 %		470,050	100 %		435,440	100 %
Percentage Increase		23.7 %			7.9 %			100 %

Source: Ginner Survey Schedule.

* Compiled from Ginner Survey Schedules.

Table XIV

VARIETIES AND AMOUNTS OF PURE COTTON PLANTING SEED HANDLED
BY GINNERS BY CONDITION IN EASTERN OKLAHOMA, 1950

Variety	Amount (lbs.)	Percent of Total	Condition ¹
Stoneville #62	101,600	20.4	RT
	4,900	1.0	RCT
	17,960	3.7	CT
	750	.2	RTD
D & PL #15	79,820	16.0	RT
	29,560	6.0	CT
	5,500	1.2	RTD
	500	.1	CTD
	3,000	.6	RCT
Rowden	57,020	11.5	RT
	66,440	13.4	CT
	21,960	4.4	CT
	13,400	2.7	RT
	500	.1	RTD
	400	.1	CD
Bryant Rowden	25,760	5.2	CT
	2,000	.4	RT
Watson Mebane	11,800	2.4	CT
Mebane	16,000	3.2	RT
	640	.1	CT
Stufflebeme Mebane	2,000	.4	RCT
Stoneville 2-B	7,500	1.5	RT
	2,100	.4	RCT
Cobbs Rowden	2,632	.5	CT
	2,000	.4	RCT
Northern Star	9,000	1.8	CT
	2,500	.5	RT
Hi-Bred	2,500	.5	RT
Watson	3,200	.6	RT
Stufflebeme Rowden	2,000	.4	RCT
	810	.2	RD
	500	.1	CRD
TOTAL	496,252	100 %	

¹ The symbols indicate the type of seed, breeding and treatment. CT, Certified Treated; RT, Registered Treated; CD, Certified Delinted or any combination thereof.

Varieties Planted by Farmers

In considering varieties, ginnerers in Eastern Oklahoma indicated that eleven factors are thought to be important. These factors were arrayed according to the number of ginnerers giving a particular reason as important. The factor given most was listed first and then the next factor and so on. The five most important factors considered by ginnerers in order of importance were: variety requested by farmer, gins good, grades good, big boll, and adaptability (Table XVI).

Table XV

VARIETIES AND AMOUNT OF GIN RUN COTTON PLANTING SEED HANDLED BY GINNERS IN EASTERN OKLAHOMA, 1950

Variety	Amount (lbs.)	Percent of Total	Condition
D & PL #15	67,672	52.9	GR
Rowden	24,000	18.7	GR
Mixed	23,700	18.5	GR
Stoneville #62	9,600	7.5	GR
Meband	2,000	1.6	GR
Empire	1,000	.8	GR
TOTAL	127,972	100 %	

Source: Ginnerers Survey Schedules

The reasons for farmers selection of a variety were determined by the same methods as for ginnerers. Farmers listed 14 factors as being important in choosing a variety. The reasons in order of importance were: big boll, yield, and adaptability (Table XVII).

Ginnerers and farmers indicate different reasons for choosing varieties, yet they come out with the same varieties.

The farmers surveyed planted only a small amount of the volume of seed handled by ginnerers in the area. Much of the seed came to a central storage

Table XVI

REASONS FOR GINNERS SELECTION OF COTTON PLANTING
SEED VARIETIES, 1950

Area No. 2	Seed re- quested by Farmers	Gin Good	Grades Good	Big Boll	Adapta- bility	Early Maturity	Yield	Less Insect Trouble	Lint Turnout	Price	Drought Resistant
TOTAL	19	13	13	11	12	9	7	6	5	4	3

Source: Ginnners Schedule.

Table XVII

REASONS FOR FARMERS SELECTION OF COTTON PLANTING
SEED VARIETIES IN EASTERN OKLAHOMA, 1950

Area No. 2	Big Boll	Yield	Adapta- bility	Staple	Gins Good	Lint Turn- out	Easy to get pickers	Early Matur- ity	Less Insect Trouble	Drought Resis- tant	Storm proof	Had on Hand	Grades Good	Ginner Recom- menda- tions
TOTAL	16	14	13	10	8	7	5	3	2	2	2	2	1	1

Source: Farmers Schedule.

place, for example, and then was shipped to other locations. Thus the seed actually planted will be different from those handled by ginners. Ginners furnished farmers with 57 percent of the total volume of seed planted, and of this volume 28 percent was non-certified seed. The remaining 43 percent was saved by farmers and either used themselves or sold to other farmers as planting seed.

Varieties Preferred and Planted

In Eastern Oklahoma the same procedure was followed in determining the varieties and condition of seed as in Western Oklahoma.

For the first planting farmers indicated they wanted 5,792 pounds of seed on 387 acres. They actually planted 3,818 pounds on 277 acres, a difference of 35 percent compared with the quantity of seed indicated. The three leading varieties of Rowden, Nebane and D & PL 15 composed three-fourths (75 percent) of the total volume preferred (Table XVIII).

There were six varieties planted as compared to eight varieties preferred. From information available the reason for the difference in number of varieties preferred and planted and the difference in volume could not be determined. Farmers replanted less than was anticipated as in Western Oklahoma. They replanted 2,859 pounds as compared to 4,422 pounds indicated as being intended for replanting (Table XIX).

In 1950, farmers in Eastern Oklahoma purchased 17,810 pounds of planting seed. Ginners furnished 12,592 pounds of the purchased seed and 73 percent were certified or better seed. The remaining 27 percent were non-certified or gin run seed. Other farmers in the area were the source of the other 5,218 pounds of the seed purchased. Individual farmers had on hand 4,382 pounds of planting seed, 427 pounds of this amount were certified or better seed which had been left over from the previous planting season (Table XX).

Table XVIII

VARIETIES & CONDITION OF COTTON PLANTING SEED
PREFERRED & PLANTED, FIRST PLANTING IN
EASTERN OKLAHOMA, 1950**

Variety	Varieties Preferred			Variety	Variety Planted		
	Amount (lbs.)	Intended Acreage	Condi- tion of Seed*		Amount (lbs.)	Intended Acreage	Condi- tion of Seed*
Rowden	300	14	RT	Rowden	300	14	RT
	1300	80	GRT		1200	70	GRT
	300	21	GR		150	21	RTD
Mebane	1300	80	RT	Mebane	90	10	RD
D & PL #15	300	30	RTD	D & PL #15	300	30	RTD
	544	40	RT				
	300	15	CT		250	15	CT
					584	40	GR
Floyds Mebane	500	35	RT	Floyds Mebane	500	35	RT
Hi-Bred	200	10	GRT	Hi-Bred	200	10	GRT
	256	12	RT		144	12	GR
Sunshine	200	10	RT				
Qualla	192	15	RT				
Coker 100 Wilt	100	25	RTD	Coker 100 Wilt	100	20	RTD
TOTAL	5,792	387			3,818	277	

Source: Survey Schedules -- Tables I & II, Farmers Schedules.

* Condition refers to seed being registered, treated, delinted, or gin run, as the case may be.

R denotes Registered seed

T denotes Treated seed

D denotes Delinted seed

GR denotes Gin Run seed

** Represents only those schedules that indicated seed wanted for second planting and those which actually replanted.

Table XIX

VARIETIES OF COTTON PLANTING SEED PREFERRED
AND PLANTED, SECOND PLANTING IN
EASTERN OKLAHOMA, 1950**

Variety	Variety Preferred			Variety	Variety Planted		
	Amount (lbs.)	Intended Acreage	Condi- tion of Seed*		Amount (lbs.)	Planted Acreage	Condi- tion of Seed*
Rowden	1,324	83	GR	Rowden	24	3	RTD
					125	7	RT
					600	50	GR
Mebane	1,300	80	GR				
D & PL #15	300	30	RTD	D & PL #15	300	30	RTD
	412	26	RT		412	36	RT
	300	15	CT				
					300	10	GRT
					80	5	GR
Hi-Bred	256	12	GR	Hi-Bred	246	13	GR
Sunshine	150	15	CT				
Coker 100 Wilt	150	49	RTD	Coker 100 Wilt	150	43	RT
Mixed	130	7	GR	Mixed	330	17	GR
Stoneville #62	100	5	RT				
				Qualla	192	15	RT
				Floyds Mebane	100	8	RT
TOTAL	4,422	322			2,859	237	

Source: Survey Schedules — Tables I & II, Farmers Schedules.

* Condition refers to seed being registered, treated, delinted, or gin run, as the case may be.

R denotes Registered seed.

T denotes Treated seed

D denotes Delinted seed

GR denotes Gin Run seed

** Represents only those schedules that indicated seed wanted for second planting and those which actually replanted.

Table XX

SOURCE OF SUPPLY OF VARIETIES OF COTTON PLANTING SEED RECEIVED
BY FARMERS IN EASTERN OKLAHOMA, 1950

Variety	From Gin		From Farmer		Seed		Total
	Gin Run	Certified or Better	Gin Run	Certified or Better	Gin Run	Certified or Better	
Roldo Rowden	700						700
D & PL #15	1,370	2,510	3,120		864		7,864
Empire		300				27	327
Stoneville #62	737	1,658	658				3,053
Hi-Bred	360		480		1,400		2,240
Rowden	420	2,590	540		1,232	400	5,182
Mebane		555			459		1,014
Northern Star			320				320
Coker 100 Wilt		100					100
Floyds Mebane		500					500
Sunshine		300					300
Qualla		192					192
Big Boll Rowden		200					200
Gin Run			100				100
Unknown		100					100
TOTAL	3,587	9,005	5,218		3,955	427	22,192

Source: Farmer Survey Schedules.

Gin Run Seed Handled

Information on gin run seed handled in Eastern Oklahoma for the period 1947-49 is shown in Table XXI.

In 1947 ginnerers handled 105,100 pounds of planting seed of non-certified quality (gin run). Three varieties were handled, D & PL 15, Rowden and Mobane. Of these three varieties D & PL 15 composed 90 percent of the total volume handled.

There was 151,400 pounds of gin run seed handled in 1948, composed of four varieties. D & PL 15, Rowden composed 85 percent of the total volume. The volume handled in 1948 increased by 44 percent over 1947.

In 1949 there was about a 4 percent increase in the quantity of gin run seed handled while the volume of certified or better seed increased about 24 percent. There was a total volume of 156,778 pounds of gin run seed handled by ginnerers. Farmers may have been planting better seed in order to obtain greatest returns during a period of high cotton prices and increased production costs.

In 1950, ginnerers handled 127,972 pounds of gin run seed, a decrease of about 18 percent from 1949. (Table XV) However more gin run seed was handled than in 1947. Six varieties were handled and D & PL 15, Rowden and a mixed variety composed over 90 percent of the total volume.

Ginnerers usually do not take orders from farmers to determine the amount of planting seed needed. They usually base their estimate on past experience in arriving at the volume that farmers will likely need to plant. In some cases ginnerers asked the farmers to estimate the quantity of seed they thought they would need the following season. It was understood by the farmer and the ginner that the farmer would be under no obligation to purchase the seed

Table XXI

VARIETIES, AMOUNT & PERCENT OF TOTAL OF GIN RUN
COTTON PLANTING SEED HANDLED BY GINNERS
IN EASTERN OKLAHOMA, 1947-1949

Variety	1949		Variety	1948		Variety	1947	
	Amount (lbs.)	Percent of Total		Amount (lbs.)	Percent of Total		Amount (lbs.)	Percent of Total
D & PL #15	103,484	66.0	D & PL #15	104,900	69.3	D & PL #15	94,900	90.3
Rowden	27,100	17.3	Rowden	24,100	15.9	Rowden	9,200	8.8
Stoneville #62	14,468	9.2	Stoneville #62	2,400	1.6			
Empire	10,766	6.9	Mebane	20,000	13.2	Mebane	1,000	.9
Floyds Mebane	960	.6						
TOTAL	156,778	100 %		151,400	100 %		105,100	100 %
Percent Change	3.55			44.05				

Source: Survey Schedules -- Table II -- Ginnors

even though he estimated the quantity he would need. Thus the ginners that followed this practice had some basis for determining the volume that would be required to meet the planting needs of the cotton producers of the immediate trade area.

From the data available it is apparent that there are areas of cotton production within which may be found characteristically different types of cotton, as shown by the varieties grown, production methods, type of harvesting, and buying and selling practices. Within a given area there are apparently differences in the degree to which particular varieties can be adapted to the prevailing conditions. For example a variety that is adapted to bottomland may not be adapted to upland. Consequently a number of varieties may be necessary to meet the conditions of physical planting requirements alone. If then, in addition to the physical problem of the adaptability and performance of variety as related to soil and climatic conditions, the impact of the mechanical stripper and harvester is considered, the extent of the problem from an economic point of view may be visualized. The farmer, in making a choice of the variety or varieties to be grown considers both the adaptability to physical conditions and variety performance in terms of adjustments necessitated by technological and economic change. (Appendix Tables IV, V).

MARKETING PRACTICES OF PLANTING SEED IN OKLAHOMA

Percentage of Seed by Month

The planting seed shipped into Oklahoma has been delivered at an earlier date for the past two years compared with the 1948-49 season and the years just prior to that date. This was likely due to the shortage of particular varieties of seed during the past two seasons. Since the greatest proportion of seed was purchased from out-of-state sources, ginners apparently thought it important to take delivery as early as possible in order to get the quality of seed desired and a quantity of the varieties of seed adapted to mechanical stripping. (Table XXII)

The volume of seed shipped in from out-of-state sources increased for the years 1945 through 1948. From 1948 to 1951 the volume decreased. The demand for some varieties was greater than the supply available from seed dealers, and too the demand in those states which furnish Oklahoma with seed, increased in like proportion due to expanded cotton acreage and the rapid increase in the number of mechanical strippers used in harvesting.

In 1945 the months of March, April and May accounted for approximately 87 percent of the total volume shipped in over a nine month period. The peak month was March with 39 percent, and the low was September with less than .05 percent.

The leading months in 1948 were February, March, and April. A total of 78 percent of the volume from out-of-state sources was received during this three month period. The percentage ranged from a high of 37 percent for

Table XXII

COTTONSEED SHIPPED INTO OKLAHOMA FOR PLANTING PURPOSES
BY MONTH AND CROP YEAR 1944-45 through 1950-51

Crop Year	Percentage of Total by Months ¹											Month un- Known	Total Quantity
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	
	Percent												Bu.
1950-51						2.9	41.3	30.0	15.9	8.8	1.1	-	146,224
1949-50					*	1.6	13.0	19.8	38.3	22.7	4.6	*	166,301
1948-49					.8	6.0	6.4	10.3	44.5	20.7	9.0	.3	199,317
1947-48				.7	2.8	4.5	12.4	29.0	36.8	11.8	1.6	.1	222,700
1946-47					1.5	18.5	19.1	31.3	15.6	7.8	5.3	.8	192,260
1945-46						2.0	7.4	25.9	44.2	17.3	3.2	*	155,429
1944-45			*		.1	9.0	2.8	9.3	38.7	27.0	11.1	2.0	132,064
Average			*	.1	.9	6.5	14.7	22.6	33.6	16.2	5.0	.4	173,470

Source: Compiled by the Department of Agricultural Economics, Oklahoma A & M College, from Oklahoma State Department of Agriculture cottonseed inspection records.

¹ Adjusted.

* Less than .05 percent.

March to a low of .1 percent for June. The total volume of 222,700 bushels were received over a nine month period.

In 1951 a total of 146,224 bushels were shipped into Oklahoma over a six month period. January, February and March were the three leading months, and comprised 87 percent of the total volume. During the month of January 41 percent of the seed from out-of-state sources were received. This was the first time during the period under study that January accounted for the greatest percentage of the total volume and very likely reflects the scarcity of and competition for planting seed of the major varieties adapted to machine harvesting.

Marketing Risk and Practices in Western Oklahoma

Variable weather condition during a particular planting season is one risk involved in the handling of cottonseed for planting purposes; the variation in soil type is another which further complicates the marketing problem. Certain varieties may be better adapted to certain soils than others. Thus in a particular area varieties adapted to a particular soil may not be adapted to other soils in the same area. Therefore, several varieties may be necessary for an area. For example farmers may be buying one variety for bottomland and another variety for upland. Farmers may have to plant only once in a favorable season, but in another season with unfavorable weather conditions, a farmer may have to replant one or several times. Thus there is a problem involving uncertainty and economic risk in estimating the farmers' need for planting seed which the seed dealer is faced with.

Seed Ordered and Planted by Farmers in Western Oklahoma

The date for planting cotton ranged from about the first of April to about the last of May; even so, approximately 77 percent of the farmers did not place orders at all for planting seed. Consequently only 11,800 pounds of planting seed was ordered of the total 31,844 pounds purchased. The 37 percent that was ordered and received was during the period November 1 to June 30. From the period of November 1 to March 31, 11 percent of the farmers ordered 53 percent of the total volume ordered. During the same period 4 percent of the farmers received 8 percent of the volume received. The majority of the farmers received 78 percent of the seed directly from ginners during the period April 1 to June 30. (Table XXIII)

Seed Ordered and Received by Ginners in Western Oklahoma

Approximately 52 percent of the ginners surveyed in Western Oklahoma ordered their planting seed well in advance of the planting season during the months October through February. The orders from October to February inclusive accounted for about 65 percent of the total volume of seed ordered in the 1950 season. During the two months period, March through April, the remaining 48 percent of the ginners ordered 35 percent of their planting seed.

The majority of the ginners receive approximately 83 percent of the total volume purchased during the months of March and April. The greatest volume was received during the month of April (Table XXIV).

The larger cotton farmers tend to order their planting seed in advance of the planting season. However only about one-fourth of the farmers ordered planting seed in advance of the planting season. Thus ginners assumed the risk in estimating and purchasing of seed needed by farmers for planting.

Table XXIII

FREQUENCY DISTRIBUTION OF ORDER AND RECEIPT DATES
OF COTTON PLANTING SEED ORDERED BY FARMERS
IN WESTERN OKLAHOMA, 1950

Area No. 1	No. of Farmers	When Needed	Date Ordered					Total	Nov. 1 Mar. 31	Date Received			As Needed	Total	
			Nov. 1-30	Dec. 1-31	Jan. 1 Feb. 27	March 1-31	April 1-30			May 1-30	Apr. 1-31	May 1-30			June 1-30
TOTAL	73	56	3	1	2	2	5	4	73	3	2	9	3	56	73
Percent		76.72	4.11	1.37	2.74	2.74	6.84	5.48	100	4.11	2.74	12.32	4.11	76.72	100

Area No. 1	No. of Farmers	Nov. 1-30	Volume Ordered					Total	Nov. 1 Feb. 27	Volume Received				Total
			Dec. 1-31	Jan. 1 Feb. 27	March 1-31	April 1-30	May 1-30			March 1-31	April 1-30	May 1-30	June 1-31	
TOTAL		3600	1400	750	500	4100	1450	11,800	1800	750	900	7000	1350	11,800
Percent		30.50	11.84	6.36	4.30	34.73	12.27	100	15.25	6.36	7.62	59.33	11.44	100

Source: Farmer Survey Schedules.

Since about 75 percent of the farmers do not receive their planting seed until planting time, the risk and problems involved in ownership of planting seed are shifted back to the ginner. The ginner in turn tries to shift the major portion of the risk back to the company supplying the seed or seed producers by ordering and receiving his seed just prior to or during the planting season. Ginners usually order what is estimated they will need for planting. Most ginners sold seed for cash, however, some were willing to sell a small amount and let the farmer make payment at harvest time; most ginners, however, required cash at time of delivery.

Amount of Risk

Ginners interviewed in Western Oklahoma handled 35 percent of the total volume of seed shipped into the area (Table VI, Appendix Table I).

To determine the total value of the seed handled by ginners in Western Oklahoma, the total volume handled of the various qualities was multiplied by the average price paid by ginners for each quality (Table XXV). The ginners interviewed handled an estimated \$87,107 worth of cotton planting seed.

The value of seed received by farmers was determined by multiplying the average price paid for each quality (Table XXVI). The total value of seed received and planted by farmers including seed of all qualities was estimated at \$4,437 for the farmers interviewed. Since the farmers interviewed represented 0.5 percent, the total value of seed received and planted by farmers in Western Oklahoma was estimated at \$221,875.

Buying Practices of Ginners

In Western Oklahoma, 94 percent of the ginners interviewed bought cotton on Smith-Doxey classification. Actually 100 percent of the ginners inter-

Table XXIV

FREQUENCY DISTRIBUTION OF SEED ORDER DATES AND RECEIPTS
OF GINNERS IN WESTERN OKLAHOMA, 1950*

Area No. 1	No. Ginners	<u>Dates Ordered</u>					Total	<u>Dates Received</u>				Total
		Oct. 1 Dec. 31	Jan. 1-31	Feb. 1-27	Mar. 1-31	Apr. 1-30		Jan. 1-31	Feb. 1-27	March 1-31	April 1-30	
TOTAL	47	10	7	7	14	8	46	4	2	14	26	46
Percent		21.7	15.2	15.2	30.5	17.4		8.7	4.3	30.5	56.2	

Area No. 1	Oct. 1 Dec. 31	<u>Volume Ordered</u>				Total	<u>Volume Received</u>				Total
		Jan. 1-31	Feb. 1-27	March 1-31	Apr. 1-30		Jan. 1-31	Feb. 1-27	Mar. 1-30	Apr. 1-30	
TOTAL	217,648	171,435	148,849	152,250	136,899	827,081	70,099	70,849	250,598	435,535	827,081
Percent	26.3	21.0	17.7	18.5	16.5	100	8.6	8.7	30.5	52.2	

Source: Ginners Survey Schedule.

* One schedule was not counted, ginner did not sell seed.

viewed bought on the Smith-Doxey classification¹; since 6 percent of the ginnerers did not buy cotton at all (Table XXVII).

¹ "Smith-Doxey" classification refers to the classing service of the United States Department of Agriculture through which groups of growers can have their cotton classed free, by complying with certain requirements.

Table XXV

AMOUNT OF SEED BY QUALITY RECEIVED BY GINNERS IN
WESTERN OKLAHOMA, 1950

Quality and Condition	Amount (lbs.)	Percent of Certified or Better Seed	Percent of All Seed	Average Price paid per 100 lbs.
Registered and Delinted	73,290	8.85	7.99	15.68
Certified and Delinted	6,399	.78	.69	14.28
Registered and Delinted	581,604	70.32	63.42	9.98
Certified and Delinted	158,812	19.21	11.31	9.84
Condition and quality unknown ¹	6,976	.84	.76	
TOTAL	827,081	100.00	90.18	

Source: Ginner Survey Schedules.

¹ Only the variety was known for some reason. The ginner did not know whether the seed was certified or registered.

Table XXVI

AMOUNT OF SEED BY QUALITY PURCHASED AND PLANTED
BY FARMERS IN WESTERN OKLAHOMA, 1950

Quality and Condition	Amount (lbs.)	Acres	Percent of Certified or Better Seed	Percent of All Seed	Percent Planted Acreage	Average Price Paid per 100 lbs.
Registered Treated and Delinted	100	18	.68	.07	.60	21.00
Registered and Delinted	800	62	5.44	.61	2.07	17.10
Registered and Treated	11,946	661	81.29	9.03	22.06	10.23
Certified Treated and Delinted	500	45	5.40	.38	1.50	16.32
Certified and Delinted	400	40	2.73	.30	1.33	14.25
Certified and Treated	950	40	6.46	.72	1.33	9.96
TOTAL	14,696	866	100.00		28.89	

Source: Farmers Survey Schedules.

Eastern Oklahoma

In Eastern Oklahoma the risk and practices involved in the handling of cotton planting seed are much the same as in Western Oklahoma. They are faced with the problem involving uncertainty and economic risk in estimating the farmers needs for planting seed.

Seed Ordered and Planted by Farmers

Farmers tend to order the greater portion of their planting seed just prior to or during the planting season. Thus the risk in marketing and adequate supply of planting seed is borne by the ginner. Almost 50 percent of the farmers ordered their seed as they needed them. During the period April 1 and May 31, 65 percent of the farmers that placed orders before needed, ordered 25 percent of the total volume (Table XXIX). During the period April 1 through May 31 farmers received about 83 percent of the total volume received.

Seed Ordered by Ginners

In Eastern Oklahoma 85 percent of the ginners ordered and received seed for planting purposes. The remaining 15 percent either sold no seed or sold only gin run seed they saved as planting seed. Slightly over two-fifths (23 percent) of the ginners placed orders only as the seed was needed from a central storage place. During the two months of March and April, 68 percent of the ginners received about 90 percent of the volume received. (Table XXX).

Ginners face a greater risk in the seed they hold than farmers since individually they handle a much larger volume of high priced seed. However, they minimize this risk as much as possible by delaying delivery to them as long as they can. Likewise the farmers shift risk back on to the

ginners by receiving planting seed just before and during the planting season. Payment of seed is usually made at the time of delivery, but some ginners extend credit to farmers.

Marketing Practices of Farmers

About 97 percent of the farmers in Western Oklahoma sold their cotton in the lint, and 1.36 sold cotton in seed, and 1.36 sold cotton both in the lint and seed.

Table XXVII

BUYING PRACTICE OF GINNERS IN WESTERN OKLAHOMA, 1950

Area No. 1	Grade and Staple (Smith-Doxey)	Did Not Buy	No. of Ginners
TOTAL	44	3	47
Percent	93.62	6.38	100.00

Source: Survey Schedules.

Table XXVIII

SELLING PRACTICES OF FARMERS IN WESTERN OKLAHOMA, 1950

Area No. 1	No. of Farmers	<u>Selling Practices</u>			<u>Basis upon which cotton is sold, Grade and Staple</u>	
		<u>Condition of Cotton</u>			<u>(Smith-Doxey)</u>	<u>Hog Round</u>
		In Seed	Both in Seed & Lint	In Lint		
TOTAL	74	1	1	72	60	14
Percent		1.36	1.36	97.28	81.08	18.91

Source: Farmers Schedules.

The selling practices of farmers in Western and Eastern Oklahoma vary greatly. About 80 percent of the farmers interviewed in Western Oklahoma

Table XXIX

FREQUENCY DISTRIBUTION OF ORDER AND RECEIPT DATES
OF COTTON PLANTING SEED ORDERED BY FARMERS
IN WESTERN OKLAHOMA, 1950

Area	No. of	<u>Date Ordered</u>						As Needed	Total	<u>Date Received</u>						Total
		June 1 Nov. 30	Dec. 1 Jan. 31	Feb. 1 Mar. 31	Apr. 1-30	May 1-30	June 1 Nov. 30			Dec. 1 Jan. 31	Feb. 1 Mar. 31	Apr. 1-30	May 1-31	June 1-30		
No. 2	Farmers															
TOTAL	48	2	3	3	5	12	23	43	1	1	3	16	24	3	48	
Percent		4.17	6.25	6.25	10.41	25.00	47.92		2.08	2.08	6.25	33.33	50.00	6.25		

Area	No. of	June 1	Dec. 1	Feb. 1	Apr.	May	As		Nov.	Dec. 1	Feb. 1	Apr.	May	June	
No.2	Farmers	Nov. 30	Jan.31	Mar.31	1-30	1-31	Needed	Total	1-30	Jan.31	Mar.31	1-30	1-31	1-30	Total
TOTAL		800	1872	1810	1138	3405	8785	17,810	320	288	1970	7662	7158	392	17,810
Percent		4.49	10.51	10.16	6.39	19.12	49.33	100	1.80	1.62	11.06	43.13	40.19	2.20	

Source: Farmers Survey Schedule.

Table XXX

FREQUENCY DISTRIBUTION OF SEED ORDER DATES AND RECEIPTS OF
GINNERS IN EASTERN OKLAHOMA, 1950*

Area	No.	Order as	<u>Date Ordered</u>					Total	<u>Date Received</u>				Total
			July 1	Jan. 1	Mar.	Apr.	May		Jan 1	Mar.	Apr.	May 1	
No. 2	Ginners	Needed	Dec.30	Feb.27	1-30	1-31	1-30		Feb.27	1-30	1-30	June 31	
TOTAL	26	5	5	6	3	2	1	22	4	8	7	3	22
Percent ordering		22.73	22.73	27.27	13.63	9.10	4.54		18.18	36.37	31.82	13.63	
Percent of													
Total ordering		84.61											

Area	<u>Volume Ordered</u>							<u>Volume Received</u>						
	July 1	Jan.	Feb.	Mar.	Apr.	May	Total	Jan.	Feb.	Mar.	Apr.	May 1	Total	
No. 2	Dec. 31	1-31	1-27	1-30	1-31	1-30		1-31	1-27	1-30	1-30	June 31		
TOTAL	162,000	60,952	71,100	162,234	27,800	12,166	496,252	33,300	45,050	228,554	159,528	29,820	496,252	
Percent	32.64	12.28	14.33	32.69	5.61	2.45	100%	6.71	9.07	45.06	32.15	6.01	100%	

Source: Ginners Schedules.

* Four Schedules in Sub-Area 11-D are not included. They either handled no seed or sold only seed saved at ginning time.

sold their cotton on the Smith-Doxey classification, while not a single farmer interviewed in Eastern Oklahoma sold on Smith-Doxey classification (Table XXVIII). The remaining 19 percent of Western Oklahoma farmers sold on the classification by ginner and cooperative receivers or "hog-round".¹

Amount of Risk

The ginner interviewed handled approximately 28 percent of the total volume of seed shipped into Eastern Oklahoma (Table XIV, Appendix Table II).

The total value of seed received by ginner was determined as in Western Oklahoma. The total value of seed handled was estimated at \$46,801. (Table XXXI). Only certified or better quality seed are included. On the base of the average price paid for cottonseed, in 1949* the value of non-certified seed was estimated to be approximately \$2,750.80. In 1949 the average price was used because the non-certified seed sold in 1950 was saved from the previous crop. The total value of seed handled by ginner amounted to \$49,551.

The seed received and planted by farmers was estimated to be \$1590, including both purchased and home-grown seed. The total value of all seed received and planted by farmers in Eastern Oklahoma was estimated to be \$79,527 as calculated from the basis of .05 of 1 percent of the farmers included in the sample. (Table XXXII).

The difference between the estimated values of seed handled by ginner and the value of the seed planted by farmers is due to the large amount of non-certified seed planted by farmers. Approximately 54 percent of the cotton planting seed planted by farmers were non-certified in quality whereas 80 percent of the cotton planting seed handled by ginner was certified or

¹ "Hog-round" is the practice of paying one price for all cotton in the seed and one price for all cotton in the line, without compensation for difference in quality.

* United States Cotton Statistics, United States Department of Agriculture, July 1951.

Table XXXI

AMOUNT OF SEED BY QUALITY RECEIVED BY GINNERS
IN EASTERN OKLAHOMA

Quality and Condition	Amount (lbs.)	Percent of Certified or Better Seed	Percent of All Seed	Average Price paid for 100 lbs.
Registered Treated and Delinted	6,750	1.4	1.1	18.56
Registered and Delinted	810	.2	.1	15.74
Registered and Treated	285,540	57.5	45.7	9.26
Registered Certified and Treated	16,000	3.2	2.6	19.45
Certified Treated and Delinted	500	.1	.1	17.68
Certified Registered and Delinted	500	.1	.1	20.20
Certified and Delinted	400	.1	.1	14.87
Certified and Treated	185,752	37.4	29.8	8.95
TOTAL	496,252	100%	79.6	

Source: Ginnery Survey Schedule, Table

Table XXII

AMOUNT OF SEED BY QUALITY PURCHASED AND PLANTED BY FARMERS
IN EASTERN OKLAHOMA, 1950

Quality and Condition	Amount (lbs.)	Acres	Percent of Certified or Better Seed	Percent of All Seed	Percent Planted Acreage	Average Price Paid per 100 lbs.
Registered Treated and Delinted	1,537	170	15.0	6.9	15.4	20.45
Registered and Delinted	700	80	7.5	3.5	7.3	19.35
Registered and Treated	6,000	301.5	57.9	26.6	27.3	9.90
Certified Treated and Delinted	595	36	5.8	2.7	3.5	19.20
Certified and Treated	1,400	65.6	13.8	6.4	6.0	9.45
TOTAL	10,232	655.1	100%	100%	54.5	

Source: Farmers Survey Schedules

better seed and sold for a much higher price (Table XXXI).

Buying Practices of Ginners

Eighty-nine percent of the ginners interviewed bought all their cotton hog-round and the remaining 11 percent bought on Smith-Doxey classification (Table XXXIV).

Selling Practices of Farmers

Farmers interviewed in Eastern Oklahoma sold 23 percent of their cotton on grade and staple basis, gin buyers classification and none on Smith-Doxey classification. The greater portion, 77 percent, sold their cotton hog-round. The method varied from selling all in seed to selling all the cotton in the lint. Over one-half or 54 percent of the farmers sold their cotton in the seed (Table XXXIII). The large amount of cotton sold in the seed probably is a major factor in accounting for a lack of interest in the Smith-Doxey program, even though most ginners agreed it was a good service.

Few farmers order their planting seed in advance of the planting season. Most farmers delay the ordering of seed until just prior to or during the time planting is in full progress. The majority of the farmers received their cotton planting seed during the main part of the planting season, April through May (Table XXX) and thereby forced the risks involved in the ownership of seed back onto the ginners handling the seed.

The majority of the ginners or 54 percent, ordered 89 percent of their planting seed prior to the cotton planting season. Ginners do not receive their cotton planting seed until just prior to and during the planting season. Ginners have a considerable amount invested in planting seed thus they try to minimize their risks and force the risk back to the seed producer

and dealers. One of the greatest risks the ginner faces is over estimating the demand for seed and thus having carryover.

The majority of farmers interviewed sold their cotton immediately after ginning. Over 54 percent sold all their cotton in the seed, and the majority of the farmers sold their cotton hog-round with no premium or discounts for quality.

Table XXXIII
SELLING PRACTICES OF FARMERS IN EASTERN
Oklahoma, 1950

Area No. 2	No. of Farmers	<u>Selling Practices</u>					
		<u>Condition of Cotton</u>		<u>Basis upon which cotton is sold</u>			
		In Seed	Both In Seed & Lint	In Lint	(Gin Buyer)	(Smith- Doxey)	Hog-Round
TOTAL	48	26	11	11	11	0	37
Percent		54.2	22.9	22.9	22.9	0	77.1

Source: Farmers Schedules.

Table XXXIV
THE BUYING PRACTICES OF GINNERS IN EASTERN
Oklahoma, 1950

Area No. 2	Grade and Staple (Smith-Doxey)	Hog-Round	No. of Ginners
TOTAL	3	23	26
Percent	11.54	88.46	100.00

Source: Survey Schedules.

Ginners bought about 10 percent of the cotton on the basis of quality and the other 90 percent hog-round. The practice may discourage farmers from producing improved varieties. However, if from growing improved varieties the yield is greater the farmers may actually receive some benefit.

SUMMARY AND CONCLUSIONS

Apparently, the total supply of cotton planting seed was sufficient to seed the Oklahoma cotton crop for the years under study, 1945-51. However, if a certain variety or particular varieties were desired, due to reasons of adaptability and performance on a farm or within an area, it was necessary to order well in advance of the planting season to be assured of delivery; otherwise, variety or quality substitution were sometimes made.

About 70 percent of the cotton planting seed shipped into Oklahoma originates in Texas. The states of Arkansas, Mississippi and Georgia supply the greater portion of the remainder, with the volume per state varying from year to year.

The number of varieties of cotton planting seed varies from year to year. In Western Oklahoma from four to six leading varieties accounted for about three-fourths of the total volume of planting seed. In Eastern Oklahoma the number of leading varieties varied from five to nine and usually accounted for over 70 percent of the total volume of planting seed shipped into the state. The study showed that the leading varieties in Western Oklahoma in order of importance were: Northern Star, Lankart 57, Lockett 140, Marvin L. S. Cluster, and Hi-Bred; in Eastern Oklahoma the leading varieties were: D & PL 15, Rowden, Stoneville 62, Mebane, Half & Half and Stoneville 2-3.

In selecting cotton seed for planting purposes ginnermen in Western Oklahoma preferred a good staple and early maturing variety. Next they considered adaptability, yield and seed requested by farmers. Farmers con-

sidered a high yielding, good staple variety most important, and then early maturity and adaptability. In Eastern Oklahoma ginner's preferred a variety because of farmers demand for the seed, ginning qualities, and grading qualities, while farmers considered a large boll, high yielding variety, adaptability and staple. Farmers in Eastern Oklahoma probably preferred a large boll high yielding variety because a large portion of the cotton is harvested by hand and sold in the seed. Thus staple length would tend to be less important than ease of picking and volume produced.

From both the ginner's and farmer's viewpoint, the most desirable variety of cotton, would be a high yielding, long staple variety with a good gin turnout, that would meet both the physical and technological conditions prevailing, but as yet, it seems the ideal variety has not been developed.

The farmers in Western and Eastern Oklahoma shift the risk of ownership of the cottonseed back onto the ginner as much as they can by waiting until the planting season to order and take delivery of seed. Only a small portion of the farmers ordered their seed in advance of the planting season. Then in turn the ginner's shifted the risk back to the seed dealers and seed producers by ordering the majority of their seed only one or two months before the planting season started.

The risk of handling planting seed is shifted back to the planting seed producer. A portion of the risk due to error in estimating the demand for planting seed likely could be eliminated through a system whereby the ginner requested the farmer to estimate without obligation the quantity of seed needed for the next planting season.

The majority of farmers in Western and Eastern Oklahoma sold their cotton immediately or shortly after ginning. Most farmers in Eastern Oklahoma sold cotton in the seed and on hog-round basis without classification. Most ginner's

bought cotton on hog-round basis. Whereas farmers in Western Oklahoma sold practically all cotton on the basis of grade and staple. Also a large portion of ginner's bought cotton on the Smith-Doxey classification. Thus farmers in Western Oklahoma received some compensation for differences in quality.

If the cotton market price based on difference in quality determined the amount of returns to the producer, in terms of net income, probably all varieties except the one that produced the highest quality would be eliminated. Then the quality of the cotton marketed and the price received would be the only economic determinates associated with the choice of variety produced. However, in addition to price and quality, other factors such as adaptability to available harvesting methods, income as related to volume and quality, and the possibility of advantages due to change through innovation are indicated to be factors that are considered by the farmer in determining the variety or varieties of cotton grown.

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APPENDIX TABLE I

Cottonseed Shipped Into District I for
Planting Purposes By State of Origin,
Crop Years 1945 Through 1951¹

Origin of Shipment State	Percentage of Total by Years ²						
	1951	1950	1949	1948	1947	1946	
	Percent						
Texas	96.0	90.8	80.1	92.8	84.4	88.4	84.0
Mississippi	—	3.9	3.7	3.2	—	.3	3.7
Georgia	2.5	3.4	9.6	3.5	6.2	8.3	10.8
Arkansas	1.5	1.9	6.6	.5	5.5	—	1.5
Tennessee	—	—	*	—	3.9	—	—
Alabama	—	—	—	—	—	3.0	—
S. Carolina	*	—	—	—	—	—	—
Total All States (Bu.)	78,804	80,803	84,082	117,964	91,273	71,793	84,477

Source: Compiled by the Department of Agricultural Economics, Oklahoma A & M College, from Oklahoma State Department of Agriculture Cottonseed Inspection records.

¹ See Figure I for the counties included in the District.

² Adjusted

* Less than .05 percent.

APPENDIX TABLE II

Cottonseed Shipped Into District 2 for
Planting Purposes by State of Origin
Crop Years 1945 through 1951¹

Origin of Shipment State	Percentage of Total By Years ²						
	1951	1950	1949	1948	1947	1946	1945
	Percent						
Texas	36.2	42.5	55.0	49.6	47.1	41.1	46.9
Arkansas	15.6	30.5	20.3	17.5	32.7	24.5	20.3
Mississippi	29.5	22.2	15.9	24.1	10.8	14.6	30.7
Missouri	7.8	4.1	6.1	2.9	1.9	1.8	—
South Carolina	—	.7	—	—	—	—	—
California	10.9	*	*	5.6	—	6.1	—
Georgia	—	—	1.7	.3	5.1	5.0	2.1
Tennessee	—	—	1.0	—	2.4	—	—
Alabama	—	—	—	—	—	6.9	—
Total All States (Bu.)	35,282	63,182	85,870	77,930	78,478	68,526	37,638

Source: Compiled by the Department of Agricultural Economics, Oklahoma A & M College, from Oklahoma State Department of Agriculture Cottonseed Inspection records.

¹ See Figure I for the counties included in the District.

² Adjusted

* Less than .05 percent.

APPENDIX TABLE III

Cottonseed Shipped Into District 3 for
Planting Purposes by State of Origin
Crop Years 1945 through 1951¹

Origin of Shipment State	<u>Percentage of Total by Years²</u>						
	1951	1950	1949	1948	1947	1946	1945
	Percent						
Texas	76.5	80.4	75.7	68.4	64.4	71.8	61.3
Mississippi	7.2	5.6	14.5	18.8	—	12.4	14.6
Georgia	3.9	5.6	5.5	4.8	6.7	13.7	3.8
Arkansas	1.9	5.1	4.2	8.0	18.1	2.1	20.1
Missouri	10.5	3.3	—	—	—	—	—
Tennessee	—	—	.1	—	8.0	—	—
Louisiana	—	—	—	—	2.8	—	*
New Mexico	—	—	—	—	—	—	.2
South Carolina	*	—	—	—	—	—	—
Total All States (Bu.)	32,138	22,316	29,366	26,806	22,509	15,110	9,947

Source: Compiled by the Department of Agricultural Economics, Oklahoma A & M College, from Oklahoma State Department of Agriculture Cottonseed Inspection records.

¹ See Figure I for the counties included in the district.

² Adjusted.

* Less than .05 percent.

APPENDIX TABLE IV

Cottonseed Shipped Into District I for Planting
Purposes by Variety, Crop, Years, 1945 through 1951¹

Variety ²	1951	1950	Percentage of Total by Years ³				
			1949	1948	1947	1946	1945
Percent							
Northern Star	40.7	28.3	40.9	26.8	33.8	50.8	50.5
Lankart #57	16.1	22.4	12.8	31.0	10.8	4.6	5.9
Lockett #140	21.4	21.1	16.0	17.7	31.0	21.3	15.8
Hi-Bred	2.5	3.8	8.8	3.6	5.5	8.0	4.5
Marv. L.S.Cluster	5.4	3.8	5.4	11.6	2.0	3.8	2.7
Qualla	.7	2.9	1.3	2.9	2.3	3.2	.9
Stoneville #62	1.8	2.3	—	—	—	—	—
Half & Half	2.7	1.3	.2	.5	.9	.2	.2
Macha	2.2	.2	.5	.1	—	—	—
D & PL #14	—	—	6.6	3.4	9.4	.4	5.2
Consolidated ⁴	*	—	—	*	.5	4.5	*
All Others ⁵	6.5	13.9	7.5	2.4	3.8	3.2	14.3

Total All
Varieties (Bu.)⁶ 78,804 80,803 84,082 117,964 91,273 71,793 84,477

Source: Compiled by Department of Agriculture Economics, Oklahoma A & M College,
from Oklahoma State Department of Agriculture Cottonseed Inspection
records.

* Less than .05 percent.

¹ See Figure I for the counties included in the district.

² Individual varieties are listed here as recorded in the Oklahoma State
Department of Agriculture Cottonseed Inspection records.

³ Adjusted.

⁴ Consolidated: Refers to cases where quality and variety for two or more
varieties could not be identified.

⁵ All others includes 17, 22, 19, 15, 19, 16, and 28 varieties (see foot-
note 2) for the years 1951, 1950, 1949, 1948, 1947, 1946, and 1945
respectively.

⁶ Calculated on basis of 32 pounds per bushel.

APPENDIX TABLE V

Cottonseed Shipped Into District 2 for
Planting Purposes by Variety, Crop
Years 1945 through 1951¹

Variety ²	Percentage of Total by Years ³						
	1951	1950	1949	1948	1947	1946	1945
	Percent						
D & PL #15	38.1	23.1	14.8	9.2	—	—	—
Stoneville #62	7.6	14.0	*	—	—	—	—
Empire Wilt Resist	—	9.4	.6	—	—	—	—
Dortch #1	4.2	8.7	—	—	.4	—	.9
Stoneville 2-B	2.5	5.6	13.2	6.6	8.1	2.8	20.8
Rowden	4.6	5.6	5.5	7.7	7.8	8.2	3.2
Northern Star	.8	5.1	3.5	3.3	6.8	5.2	8.4
Mebane	2.8	3.0	26.3	8.6	2.3	1.5	3.6
Hi-Bred	.2	2.7	2.3	*	4.6	4.3	*
Half & Half	7.4	1.9	2.7	1.0	1.0	.9	1.0
Watson Pedigreed	—	1.6	.2	—	—	—	—
Bluetag Rowden	—	1.4	5.0	6.1	9.0	3.7	1.5
Watson	1.3	.7	1.5	2.0	2.2	4.6	3.0
Floyd 8-G Mebane	—	—	4.0	6.2	2.6	7.7	3.1
D & PL #14	—	—	3.0	16.8	31.1	17.8	22.6
Roldo Rowden	—	—	.1	1.6	.5	10.3	6.6
Consolidated ⁴	14.9	7.1	2.3	5.9	5.8	13.6	3.8
All Others ⁵	—	—	—	—	—	—	—
Total All Varieties (Bu.) ⁶	35,282	63,282	85,870	77,930	78,478	68,526	37,638

Source: Compiled by Department of Agricultural Economics, Oklahoma A & M College, from Oklahoma State Department of Agriculture Inspection records.

* Less than .05 percent.

¹ See Figure I for counties included in this district.

² Individual varieties are listed here as recorded in the Oklahoma State Department of Agriculture Cottonseed Inspection records.

³ Adjusted.

⁴ Consolidated: Refers to cases where quantity and variety for two or more varieties could not be identified.

⁵ All others include 12, 23, 30, 22, 23, 24, and 28. Varieties (see footnote 2) for the years, 1951, 1950, 1949, 1948, 1947, 1946, and 1945 respectively.

⁶ Calculated on basis of 32 pounds per bushel.

APPENDIX TABLE VI

Cottonseed Shipped Into District 3 for
Planting Purposes by Variety, Crop, Year
1945 through 1951¹

Variety ²	Percentages of Total by Year ³						
	1951	1950	1949	1948	1947	1946	1945
	Percent						
Northern Star	19.8	23.1	10.1	16.3	19.4	33.3	10.8
Lankart #57	7.3	16.5	15.9	21.2	13.1	13.1	11.2
Lockett #140	33.7	13.4	22.9	5.9	4.5	.1	—
D & PL #15	7.8	10.8	20.6	8.3	—	—	—
Hi-Bred	4.9	7.2	4.3	4.8	5.6	12.3	—
Rowden	2.3	4.7	1.2	8.6	2.3	6.3	1.7
Stoneville #62	5.9	4.4	—	—	—	—	—
Half & Half	5.5	3.3	3.5	1.6	2.2	1.4	6.8
Marv. L.S.Cluster	.2	2.2	.3	1.1	8.0	3.3	3.1
Stoneville 2-B	.2	1.0	7.8	.2	.5	—	3.6
Watson	3.0	.8	1.1	4.3	2.2	.2	1.9
Mebane	2.9	.6	.8	2.5	2.6	2.7	7.1
Sunshine	.4	.6	.6	1.2	1.3	.8	4.4
Watson Rowden	—	—	2.3	2.4	.5	—	6.1
D & PL #14	—	—	.4	12.2	29.8	13.5	31.5
Consolidated ⁴	—	3.4	.5	.5	—	10.4	.6
All Others ⁵	6.1	8.0	7.7	8.9	8.0	2.6	11.2
Total All Varieties (Bu.) ⁶	32,138	22,316	29,366	26,806	22,509	15,110	9,947

Source: Compiled by Department of Agriculture Economics, Oklahoma A & M College, from Oklahoma State Department of Agriculture Cottonseed Inspection Records.

¹ See Figure I for the counties included in the district.

² Individual varieties are listed here as recorded in the Oklahoma State Department of Agriculture Cottonseed Inspection records.

³ Adjusted.

⁴ Consolidated: Refers to cases where quality and variety for two or more varieties could not be identified.

⁵ All others include 13, 18, 18, 14, 13, 14, and 20 varieties (see footnote 2) for the years 1951, 1950, 1949, 1948, 1947, 1946, and 1945 respectively.

⁶ Calculated on basis of 32 pounds per bushel.

APPENDIX TABLE VII

Cottonseed Shipped Into District I for Planting
Purposes by Month and Crop Year
1944-45 through 1950-51¹

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Percentage of Total by Months ²					Month Un- known	Total Quantity
							Jan.	Feb.	Mar.	Apr.	May	June	
							Percent						Bushels
1950-51						1.4	50.5	23.5	17.2	7.2	.2	*	78,804
1949-50					*	3.3	14.5	12.4	43.3	21.0	5.5	*	80,803
1948-49					2.0	6.6	9.9	13.6	39.6	18.5	9.5	.3	84,083
1947-48					4.8	4.3	13.7	26.6	37.0	12.4	1.2	*	117,965
1946-47					.4	21.0	22.2	35.0	13.9	5.9	9.9	1.7	91,272
1945-46						4.4	14.9	22.2	42.5	11.3	4.7		71,793
1944-45					.1	5.0	3.7	4.8	42.1	28.2	12.9	3.2	84,482
Average					1.2	6.7	18.1	18.8	33.5	14.8	6.2	.7	88,028

Source: Compiled by the Department of Agricultural Economics, Oklahoma A & M College, from Oklahoma State Department of Agriculture Cottonseed Inspection records.

¹ See Figure I for counties included in the district.

² Adjusted.

* Less than .05 percent.

APPENDIX TABLE VIII

Cottonseed Shipped Into Oklahoma for Planting
Purposes by Month and Crop Year
1944-45 through 1950-51

Crop Year	July	Aug.	Sept.	Oct.	Nov.	Percentages of Total by Months ¹						Month Un- known	Total Quantity
						Dec.	Jan.	Feb.	March	April	May	June	
								Percent					Bushel
1950-51						2.9	41.3	30.0	15.9	8.8	1.1		146,224
1949-50					*	1.6	13.0	19.8	38.3	22.7	4.6	*	166,301
1948-49					.8	6.0	8.4	10.3	44.5	20.7	9.0	.3	199,317
1947-48				.7	2.8	4.5	12.4	29.0	36.8	11.8	1.6	.1	222,700
1946-47					1.5	18.5	19.1	31.3	15.6	7.8	5.3	.8	192,260
1945-46						2.0	7.4	25.9	44.2	17.3	3.2	*	155,429
1944-45			*		.1	9.0	2.8	9.3	38.7	27.0	11.1	2.0	132,064
Average			*	.1	.9	6.5	14.7	22.6	33.6	16.2	5.0	.4	173,470

Source: Compiled by the Department of Agriculture Economics, Oklahoma A & M College, from Oklahoma State Department of Agriculture Cottonseed Inspection records.

¹ Adjusted.

* Less than .05 percent.

APPENDIX TABLE IX

Cottonseed Shipped Into District 3 for
Planting Purposed by Month and Crop Year
1944-45 through 1950-51¹

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Percentage of Total by Month ²					June	Month Un- known	Total Quantity
							Jan.	Feb.	Mar.	Apr.	May			
							Percent							
1950-51						1.9	22.1	47.2	15.4	11.9	1.5			32,138
1949-50						.1	1.6	25.0	28.1	36.1	9.1			22,316
1948-49						6.6	5.6	13.8	31.8	36.0	6.2			29,366
1947-48						7.4	17.0	18.8	33.8	16.0	6.8	2		26,806
1946-47						14.6	26.6	25.8	21.9	10.1	.1		.9	22,509
1945-46							1.5	38.5	46.8	11.8	1.4			15,110
1944-45						14.2	3.2	6.8	43.9	23.7	8.1		.1	9,947
Average						5.8	12.8	26.6	29.1	21.0	4.6	*	.1	22,599

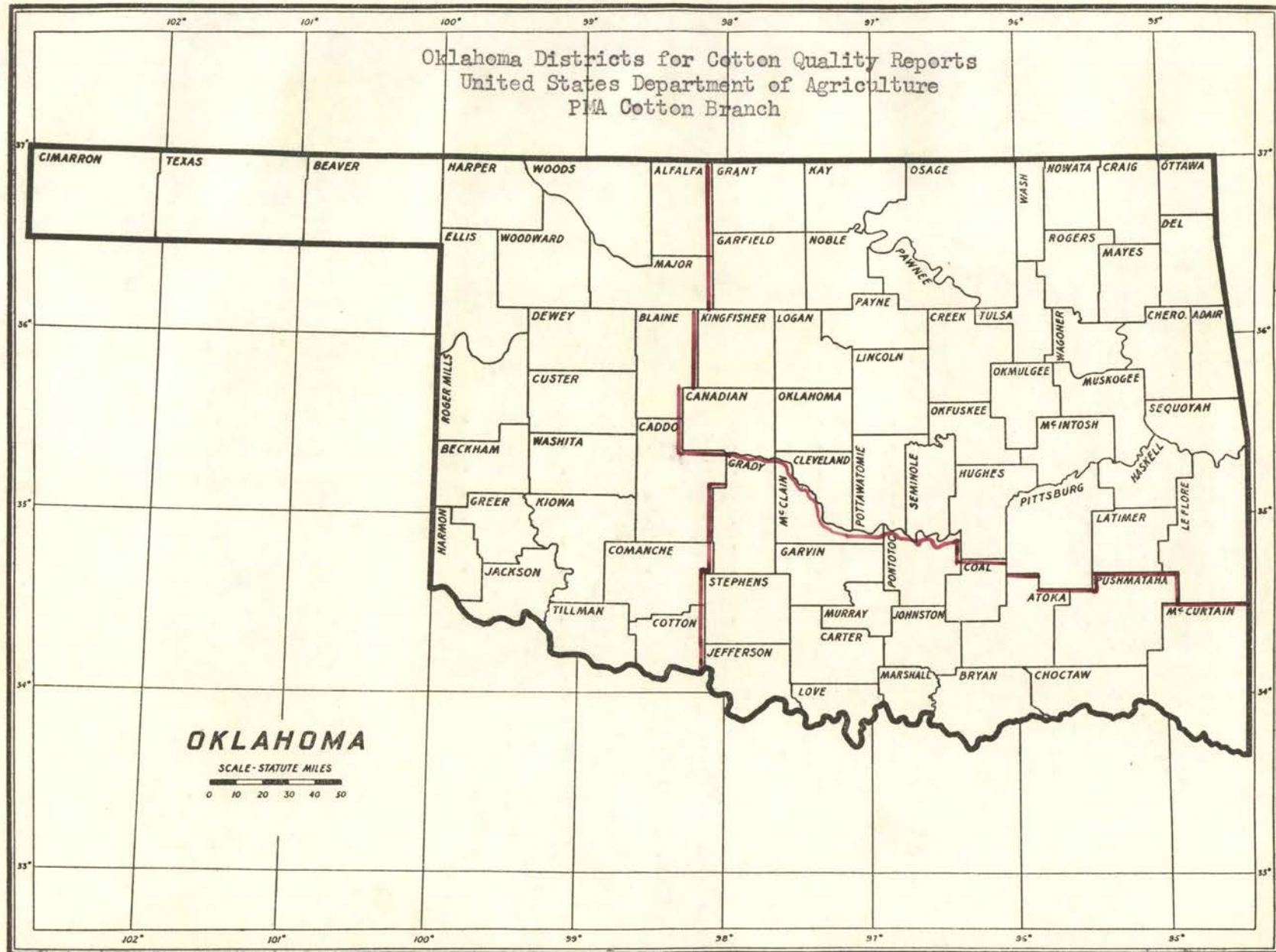
Source: Compiled by the Department of Agricultural Economics, Oklahoma A & M College, from Oklahoma State Department of Agriculture Cottonseed Inspection records.

¹ See Figure I for counties included in the district.

² Adjusted.

* Less than .05 percent.

FIGURE II



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The content and form have been checked and approved by the author and thesis adviser. Changes or corrections in the thesis are not made by the Graduate School office or by any committee. The copies are sent to the bindery just as they are approved by the author and faculty adviser.

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