

*Lease and Sale*

**TRANSFERS OF  
COTTON  
ALLOTMENT**

*in Selected  
Alabama Counties*

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# CONTENTS

	<i>Page</i>
OBJECTIVES OF STUDY .....	4
DESCRIPTION OF THE AREAS .....	5
METHOD OF STUDY .....	5
Sample Size .....	5
Assembly of Data .....	7
TRANSFERS OF COTTON ALLOTMENT .....	7
The Criterion for Equating Transfers .....	7
Allocated and Final Allotments in the Sample .....	8
Estimated Lint Price Needed to Grow Cotton .....	9
1970 Market Price for Cotton Lint .....	10
Sale and Lease Transfer Prices of Allotments .....	11
Reasons for Purchase or Lease .....	14
Crops Replaced by Cotton .....	15
Crops Replacing Cotton .....	15
Farmer's Opinion of 1971 Cotton Program .....	16
FARM CHARACTERISTICS INFLUENCING COTTON YIELDS .....	16
Crops Grown .....	16
Livestock Production .....	19
Mechanization on Farms .....	20
Equipment .....	20
Custom Work .....	21
Shifts in Cotton Production .....	21
Cotton Varieties and Seed Quality .....	22
Weed Control and Cultivation .....	22
Types and Applications of Fertilizers and Fungicides .....	23
Insecticide Applications .....	23
North and South Owners .....	24
Leasing Land .....	24
Non-Agricultural, Off-Farm Employment .....	24
Family Labor .....	25
Hired Labor .....	25
SUMMARY AND CONCLUSIONS .....	25
Summary .....	25
Conclusions .....	27
REFERENCES .....	29

# *Lease and Sale Transfers of Cotton Allotment in Selected Alabama Counties*

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COTTON PRODUCTION has played a dominant role in the economic development of the State of Alabama, being grown as a fiber product prior to statehood and as far back as the late 1700's. One of the first reports of cotton production was by Colonel Benjamin Hawkins in 1799 (10). He reported that Robert Grierson, a trader in the Mississippi Territory, upon recommendation of the agent for Indian Affairs had started producing cotton and manufacturing cotton cloth. Grierson used green-seed cotton because the weather was too cold to grow black-seed cotton. He hired Indian women to help with the gathering and spinning of the cotton he grew. As cotton production increased in the Mississippi Territory a cotton gin was established in 1804 by Abraham Mordecai at the junction of the Coosa and Tallapoosa Rivers. At this strategic point cotton was transported to the gin by Indian canoes (8).

In 1821 Alabama produced 45,767 bales of cotton, each bale weighing approximately 437 pounds (13). The greatest total production in the State's history was 1,748,000 bales in 1914 and the most acres harvested was 3,833,000 in 1911 (22). The estimated

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number of bales of cotton produced in Alabama from 1820 to 1971 is presented by 10-year intervals (13):

<i>Year</i> <sup>1</sup>	<i>Bales</i>
1821.....	45,767
1834.....	197,692
1841.....	381,315
1848.....	518,706
1866.....	264,000
1871.....	431,000
1881.....	700,000
1891.....	1,012,000
1901.....	1,101,000
1911.....	1,715,000
1921.....	579,000
1931.....	1,415,000
1941.....	790,000
1951.....	909,000
1961.....	617,000
1971.....	640,000

<sup>1</sup> Three of the 16 intervals were not available, so 1834 replaces 1831, 1848 replaces 1851, and 1866 replaces 1861. Records for 1821 through 1848 report bales as equivalent to 437 pounds, on the average, whereas records for 1866 through 1971 are for 500-pound equivalent bales.

Government cotton programs regulating acreage of cotton that can be planted have played a major role in recent history of cotton production in Alabama. The 1965 provision that allows transferring of cotton allotment from one county to another has had an important bearing on regional cotton production within the State. This allotment transfer program was the subject of an Auburn University Agricultural Experiment Station economic project reported here.

## **OBJECTIVES OF STUDY**

The general objective of this study was to provide data on the lease and/or sale transfers of cotton allotments in selected counties in Alabama.

Specific objectives were:

- (1) To determine the amount and direction of cotton acreage allotment transfers in selected Alabama counties.
- (2) To determine sale and lease transfer prices of cotton acreage allotments.
- (3) To investigate prior use of the land by farmers receiving additional cotton acreage and subsequent use of land by farmers releasing cotton acreage in the selected counties.
- (4) To determine the influencing characteristics of farms re-

ceiving and farms releasing cotton acreage allotments, their similarities and differences.

## **DESCRIPTION OF THE AREAS**

The geographic areas of Alabama considered in this study are commonly known as the Wiregrass Area and the Tennessee Valley Area. Counties selected were Madison, Limestone, Lawrence, and Colbert in the Tennessee Valley and Houston, Geneva, Pike, and Coffee in the Wiregrass (shaded areas of map, page 6).

Soils of the Tennessee Valley Area are of limestone origin, with fertility above average for the State. The area has a topography ranging from nearly level to generally rolling, which is adaptable to mechanization. A large percentage of the area is open and used to grow row crops. Productivity of the soil is enhanced by a rainfall of 50 to 56 inches annually, but rainfall distribution during the year is such that relatively dry periods often occur during the growing season. The growing season ranges from 200 to 220 days (11).

In the Wiregrass Area, the relief of the agricultural portion varies from 2 to 10 per cent in slope. Soil types vary from gray to red sandy loams to loamy sands. Although these soils are generally deficient in some plant nutrients, good crop yields can be made with proper fertilization and improved management practices. The average annual rainfall is 51 inches, with an average of 13 inches from April through June and 16 inches from July through September. The growing season in the Wiregrass Area ranges from 240 to 255 days (11).

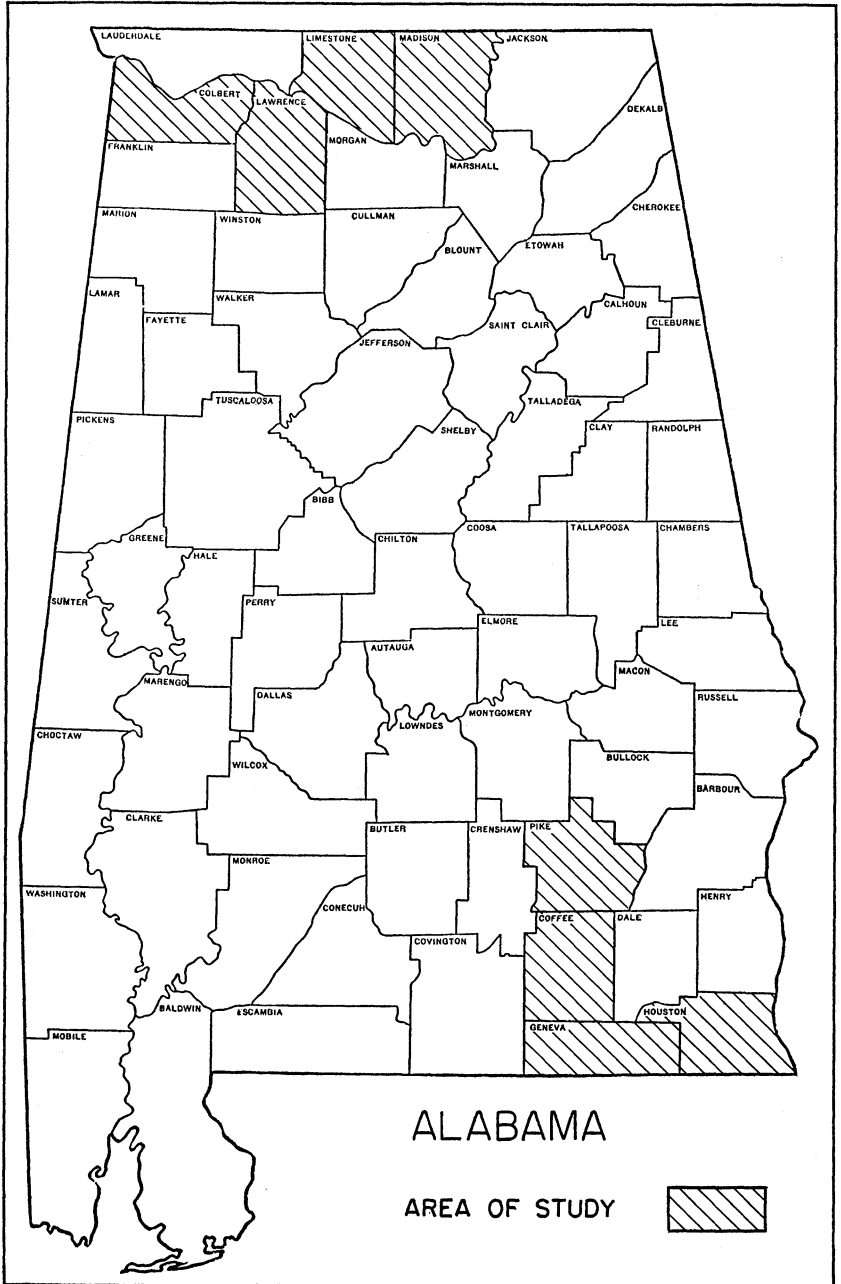
## **METHOD OF STUDY**

The study counties were selected by reviewing State Agricultural Stabilization and Conservation Service records. The four northern counties gained the greatest number of cotton allotment acres and the four southern counties released the most allotment acres.

### **Sample Size**

The total number of farms in each county was obtained from Agricultural Stabilization and Conservation Service records. Each county's percentage of the total number of farms in each study area was found, and these percentages were used to determine the number of farms to be sampled in each county.

The sample selected consisted of 134 farmers in northern Ala-



**Shaded areas identify the counties in northern and southern Alabama where the study of cotton allotment lease and sale transfers was carried out.**

bama gaining cotton allotment acres and 134 farmers in southern Alabama giving up cotton allotment. The criterion for selection required farm ownership and a transaction of 20 acres or more for the 1971 crop year. Forty-nine of the operators in each area were included as substitutes to replace those who might not be located during the time of the interviews.

### **Assembly of Data**

A questionnaire developed for the data collecting was administered by interviewers, who collected 153 of the completed questionnaires. The completed questionnaires were classified into two groups, north owners and south owners, which had 76 and 77 questionnaires, respectively.

Comparisons in the study were made between northern and southern Alabama farms. A farm was considered to be all agricultural enterprises managed and operated by the person interviewed. Even if management was shared with two or more persons, only one questionnaire was administered.

## **TRANSFERS OF COTTON ALLOTMENT**

Transferring cotton allotment out of a county was permitted for the first time in 1966. Eight counties in Alabama allowed transfers the first year. From 1966 to 1970 the decision concerning the transfer of cotton allotment was made by a referendum of county farmers. In 1970 nine counties allowed transfers. County Agricultural Stabilization and Conservation Service committees were given the right to determine county transfer policies for 1971. This change in policy resulted in an additional 29 counties, making a total of 38 counties allowing transfers in 1971.

### **The Criterion for Equating Transfers**

When cotton allotment acres are sold or leased they are transferred in the form of total pounds of projected yield. This means that a farmer receiving cotton allotment divides his projected yield into the total pounds transferred to determine the number of acres he is allowed to plant as a result of the transfer. Therefore, if a farmer with a higher projected yield bought or leased cotton allotment from a farmer with a lower projected yield, there would be a reduction in total cotton acres which could be planted in the State. In 1971, 132,035 cotton allotment acres were sold or leased which, when figured on total projected yield basis, equated to 54,751 cotton allotment acres gained by the buying

and/or leasing farmers. The difference, 77,284 acres, was the reduction in total State cotton allotment acres as a result of moving allotment from low yield farms to high yield farms (1).

### Allocated and Final Allotments in the Sample

The four northern counties in the study received 40,028 acres of the total cotton allotment transferred in 1971, up from 19,902 acres in 1970, Table 1 (1). The four southern study counties released 40,454 acres. Madison County had the largest gain, 4,746 acres in 1970 and 13,022 acres in 1971, and Limestone gained 1,662 acres in 1970 and 8,994 in 1971. Lawrence County showed considerable gains, 6,108 acres in 1970 and 10,859 in 1971. Colbert County had the smallest allocation of the four counties but acquired a sizable gain of 7,386 acres in 1970 and 7,753 acres in 1971.

A reduction in cotton acreage was found for all four southern counties for the years 1970 and 1971. There was one major difference between 1970 and 1971, however. Houston and Geneva counties did not permit out-of-county transfers in 1970 and their reductions in acreage were small, 117 and 733 acres, respectively. These reductions reflected the transfers of cotton allotment within the county and resulted from application of the transfer formula. In 1971 the Agricultural Stabilization and Conservation Service county committees permitted out-of-county transfers for these two counties and they released 10,208 and 10,057 acres, respectively.

TABLE 1. ALLOCATED, FINAL COTTON ALLOTMENT, ACRES GAINED AND RELEASED FOR SELECTED ALABAMA COUNTIES, 1970 AND 1971

County	Allocated 1970	Final allotment 1970	Gained or released	Allocated 1971	Final allotment 1971	Gained or released
	Acres	Acres	Acres	Acres	Acres	Acres
<b>Northern Alabama</b>						
Madison.....	62,421	67,167	+ 4,746	41,197	54,219	+13,022
Limestone.....	55,836	57,498	+ 1,662	36,644	45,638	+ 8,994
Lawrence.....	41,175	47,283	+ 6,108	29,936	37,195	+10,259
Colbert.....	22,528	29,914	+ 7,386	15,022	22,775	+ 7,753
TOTAL.....	181,960	201,862	+19,902	119,799	159,827	+40,028
<b>Southern Alabama</b>						
Houston.....	27,569	27,452	- 117	18,194	7,986	-10,208
Geneva.....	21,069	20,336	- 733	13,853	3,796	-10,057
Coffee.....	18,519	3,852	-14,667	12,325	1,411	-10,914
Pike.....	15,674	2,139	-13,535	10,425	1,150	- 9,275
TOTAL.....	82,831	53,779	-29,052	54,797	14,343	-40,454



Pike and Coffee counties released 13,535 and 14,667 acres, respectively, in 1970 and 9,275 and 10,914 acres in 1971. Approximately the same number of farmers released cotton both years. The four largest releasing counties gave up 29,052 acres in 1970 and 40,454 acres in 1971 (1).

### Estimated Lint Price Needed to Grow Cotton

All farmers were asked to state the selling price per pound of lint (including government payments) they needed to retain cotton as a farm enterprise. There was a marked difference in the responses recorded between the northern and southern Alabama farm owners. The price reported by northern farmers ranged from 30¢ to 40¢ as indicated below:

<i>Price/pound of lint</i>	<i>Number of farms reporting</i>
30¢.....	9
33¢.....	4
35¢.....	28
40¢.....	35

In contrast, the prices required by southern farm operators ranged from 40¢ to 60¢ per pound of lint, with 12 saying they would never grow cotton again regardless of price as shown below:

<i>Price/pound of lint</i>	<i>Number of farms reporting</i>
40¢.....	39
45¢.....	11
50¢.....	11
60¢.....	4
Never—regardless of price.....	12

Northern farmers said they would grow cotton at a price between 30¢ and 40¢ per pound of lint, whereas the southern farmers stated a need of 40¢ or more. Northern Alabama cotton producers think they have an economic advantage over southern area growers, and this conclusion agrees with findings from two cost and return studies (7,12).

All farmers in the northern group were growing cotton. In 1970 the average price paid for cotton in Alabama, including the support payment, was 37¢ per pound (4). Therefore, the cost-return factor made cotton production a profitable enterprise in northern Alabama and contributed to the expansion of production in the area.

The 1970 price of 37¢ per pound was below the needed price stated by southern farmers. This economic return factor was the major reason given by farmers surveyed for discontinuing cotton

production. Only two farmers in the southern group were growing cotton when surveyed. The others had discontinued cotton production over a period dating back to 1958, as shown below:

<i>Year of last production of cotton</i>	<i>Number of farmers reporting</i>
1958.....	1
1961.....	1
1963.....	2
1965.....	6
1966.....	8
1967.....	7
1968.....	7
1969.....	9
1970.....	34
1971.....	2

### **1970 Market Price for Cotton Lint**

All northern farmers surveyed reported their market price for cotton, which ranged from 18¢ to 26¢ as shown below:

<i>Market price/pound lint</i>	<i>Number of farmers reporting</i>
18¢.....	1
19¢.....	1
20¢.....	4
21¢.....	12
21½¢.....	4
22¢.....	10
22½¢.....	2
23¢.....	19
23½¢.....	8
24¢.....	8
24½¢.....	2
25¢.....	3
26¢.....	2

The modal (most frequent) class of 19 received 23¢, giving these producers a gross return of 38¢ including government support payment (18). This fell within the range of estimated needed price.

Thirty-four southern farmers ceased cotton production in 1970. Two were still producing cotton in 1971, making a group of 36 farmers reporting the 1970 market price received. The price range was 17¢ to 25¢ as noted below:

<i>Market price/pound lint</i>	<i>Number of farmers reporting</i>
17¢.....	2
18¢.....	11
19¢.....	7
20¢.....	5
21¢.....	4
22¢.....	1
23¢.....	1
24¢.....	2
25¢.....	3

The modal class of 11 received a market price of 18¢, which gave these producers about 33¢ per pound including government payments. This was 5¢ per pound of lint below the northern modal class return price and 7¢ lower than the minimum estimated as necessary to make cotton production comparative with other enterprises. These data again support the findings that northern Alabama has an economic advantage in cotton production over southern Alabama, and agree with the stated reasons why southern farmers are releasing allotments.

Farmers further reported that many gins flourished in southern Alabama when cotton was the major crop (22). With the reduction of cotton acreage, however, many gins needing repair and/or modernizing ceased operation. The survey revealed that Pike and Coffee counties had no gins operating during the 1970 ginning period. Farmers in these counties had to transport cotton to adjacent counties for ginning, thereby increasing labor and transportation cost and reducing net income. Although Geneva and Houston counties still had gins, Geneva County had lost a major portion of its operating gins between the 1970 and 1971 ginning periods. The northern Alabama counties had a reduction of one gin during the 1970-71 ginning period because it burned. No new gins had been established as indicated below:

<i>County</i>	<i>Number of gins</i>	
	<i>1970</i>	<i>1971</i>
<b>Southern</b>		
Coffee.....	0	0
Geneva.....	5	2
Pike.....	0	0
Houston.....	6	5
TOTAL.....	11	7
<b>Northern</b>		
Lawrence.....	13	13
Limestone.....	18	17
Madison.....	20	20
Colbert.....	6	6
TOTAL.....	57	56

### **Sale and Lease Transfer Prices of Allotments**

Two types of agreements were found in the transfer of cotton allotments: (1) outright final sale of the allotment, and (2) transfers for limited lease periods with the lessor retaining his future cotton allotment right. The policy operating in the counties where transfers were allowed permitted each individual

farmer to decide if he wished to retain, sell, or lease his cotton allotment.

Thirteen northern farmers bought cotton allotments during 1966 to 1969. The purchase price ranged from a low of 11¢ per pound of projected yield to a high of 25¢. The most frequently reported price paid was 15¢ as indicated below:

<i>Purchase price/pound of projected yield, 1966-69</i>	<i>Number of farmers reporting</i>
11¢-----	1
12¢-----	3
15¢-----	4
16¢-----	1
23¢-----	1
24¢-----	2
25¢-----	1

During the 1970-71 period the average purchase price was 7¢ less than the average paid during 1966-69. The nine farmers who bought cotton allotments in the 1970-71 period paid a low of 6¢ per pound of projected yield to a high of 10¢. The most frequently reported price was 10¢ as noted below:

<i>Purchase price/pound of projected yield, 1970-71</i>	<i>Number of farmers reporting</i>
6¢-----	1
9¢-----	1
10¢-----	7

No farmer surveyed in southern Alabama sold any of his cotton allotment.

The average drop of 7¢ from 1966-69 to the 1970-71 period may be attributed to two factors:

(1) The market price paid for cotton (3,4) in 1966 was 20.6¢. The price rose to 25.7¢ in 1967, then showed a decline to 23.6¢ for 1968 and 21.1¢ in 1969, and had a minimal rise to 21.9¢ in 1970. These prices reflect a downward trend from the first to the second period.

(2) The second factor was the release of large acreages of cotton for possible out-of-county transfer by the 29 counties which entered the transfer market in 1971. This was the first time a large number of allotments were available. The purchasers surveyed indicated they set the price, which was accepted by the seller, rather than the seller setting the price.

Although outright sale was an option of transfer, the majority of farmers interviewed named leasing as the preferred transfer method. In 1971, 9 farmers in northern Alabama bought allotments and all 76 northern farmers leased allotments to increase

their cotton enterprises. Five cents was the most frequently reported leasing price paid per pound of projected yield, with 43 of the 76 reporting they paid this price. Leasing prices ranged from a low of 3¢ to a high of 6¢ per pound as shown below:

<i>Leasing price/pound of projected yield, 1971</i>	<i>Number of farmers reporting</i>
3¢ .....	6
3½¢ .....	1
4¢ .....	21
4½¢ .....	4
5¢ .....	43
6¢ .....	1

Northern farmers cited two reasons, both of economic importance, why they favored leasing contracts over purchased allotments: (1) They could maximize returns for resources utilized by leasing cotton allotments, which enhanced the return by permitting year-to-year flexibility. (2) Supporting a leasing procedure over a purchase contract permitted the farmer to take advantage of the Federal tax deduction structure. Expenses incurred through a leasing contract could be deducted as an operating expense against Federal income taxes, whereas purchase cost of allotments was not a deductible item in the year in which the allotment was bought.

Southern Alabama farmers also favored leasing over the sale of allotments, and no southern farmer surveyed sold his allotment. They stated that by leasing they retained control of the allotment and the history of their cotton allotment was kept current in the Agricultural Stabilization and Conservation Service county files. The purchase price offered was considered too low by these farmers.

Of the 77 southern farmers, 72 leased their cotton allotment on an annual basis and 5 leased for a longer period. The longest leasing period reported (by one farmer) was for 5 years. Leasing rate for this owner was at a fixed price of 5¢ per pound annually of projected yield.

The 72 farmers leasing on an annual basis received prices ranging from a low of 4¢ to a high of 6¢ per pound of projected yield as noted below:

<i>Leasing price/pound of projected yield, 1971</i>	<i>Number of farmers reporting</i>
4¢ .....	14
4½¢ .....	1
5¢ .....	55
6¢ .....	2

The largest number, 55, received 5¢ per pound of projected yield and the next largest group, 14 farmers, received 4¢. The range between the highest and lowest per pound price was small, 2¢.

### Reasons for Purchase or Lease

Increasing the profit margin was the major reason given by north owners for leasing cotton allotments. Improving efficiency of equipment was another important reason, as presented below:

<i>Reason for leasing</i>	<i>North owners reporting</i>	
	<i>Number</i>	<i>Per cent</i>
Increase profits.....	55	73
Increase equipment efficiency.....	19	25
Increase labor efficiency.....	1	1
Low corn yields.....	1	1

Increasing acreage was thought to increase net returns by reducing per acre costs, according to the farmers interviewed. With high investments in harvesting and transporting equipment, the farmers wanted larger acreages to reduce per acre expenses.

Factors associated with yield, profit, and labor supply were cited by south owners as reasons for leasing out their cotton allotments, as presented below:

<i>Reasons for leasing out</i>	<i>South owners reporting</i>	
	<i>Number</i>	<i>Per cent</i>
Lack of profit.....	27	34
Weather and insect conditions.....	24	31
No available labor.....	22	29
Lack of equipment.....	3	4
No ginning facilities.....	1	2

The surveyed farmers who reported making no profit said their production costs were comparable to other areas but their yields had been low since 1967. Those reporting weather and insect problems said unfavorable weather resulted in heavy infestations of insect pests that reduced yield and depressed returns to a low profit or loss status.

Lack of labor was reported to be because owners would not pay the competitive pay scale for labor to work cotton. Low yield and high cost were the reasons given for not obtaining the necessary labor to produce a cotton crop.

### Crops Replaced by Cotton

Four crops were reported replaced by cotton in northern Alabama, but corn was by far the major one, as noted below:

<i>Crop replaced</i>	<i>North owners reporting</i>	
	<i>Number</i>	<i>Per cent</i>
Corn.....	38	50
Soybeans.....	17	22
Wheat.....	11	15
Pasture.....	6	7
Cotton.....	4	6

The shift away from corn can be partially explained by the fact that corn yields in northern Alabama were only moderate and most of the corn produced was used locally as feed. Corn production yields a much lower return to northern Alabama farmers than does cotton production.

Availability of harvesting equipment explains why soybeans were replaced less than corn. More north owners had soybean combines than corn pickers, so they continued to grow soybeans and use available machinery. Wheat was replaced by cotton because double cropping of wheat is not usually possible on cotton land. There is too much overlap in production periods.

The reported replacement of cotton with cotton occurred because these north owners had their cotton allotment acres reduced. To maintain their cotton acreage allotment, these farmers had to acquire additional cotton allotment acres as replacement.

### Crops Replacing Cotton

Corn was the leading crop of the seven used by south owners to replace cotton, as shown below:

<i>Crops replacing cotton</i>	<i>South owners reporting</i>	
	<i>Number</i>	<i>Per cent</i>
Corn.....	32	42
Peanuts.....	14	18
Pasture.....	9	12
Wheat.....	8	11
Soybeans.....	6	8
Sorghum.....	5	7
Rye.....	2	2

Changes in the feed grain program in 1971 partially explain the heavy replacement of cotton with corn.

Peanuts are southern Alabama's most profitable crop, on a per acre basis, so the shift to this crop is not unexpected. Peanuts

are produced under government control, however, and increases reported by individual farmers were made possible by buying or leasing peanut allotments from other farmers. Wheat, soybeans, sorghum, and rye grown as replacement for cotton were generally planted double-crop with another crop. Permanent pasture, of course, does not lend itself to such double cropping.

### **Farmer's Opinion of 1971 Cotton Program**

When surveyed farmers were asked if they liked or disliked the 1971 cotton allotment program, 87 per cent of the north owners favored the present cotton program. However, many northern farmers stated they were not completely satisfied with the set-aside provision because they were required to maintain set-aside acres as idle land with no means of income from these acres during the cotton crop season. Particularly affected by this provision were farmers whose winter livestock feed requirements were high, for example dairy farmers needing silage for winter feeding.

Thirty-nine per cent of the south owners gave no statement because of unfamiliarity with the program. Forty-one per cent were not satisfied with the 1971 cotton program because of the method used to obtain their projected yields.

## **FARM CHARACTERISTICS INFLUENCING COTTON YIELDS**

### **Crops Grown**

Annual farm crop production data were utilized to obtain averages of crop yields for 1970 and 1971. Per acre yields were determined on the basis of the number of acres planted and were reported for the year the crop was harvested.

Cotton production was still an important enterprise in southern Alabama in 1970, with 34 south owners growing 1,441 acres. In 1971, however, production of cotton had essentially ceased in the area. Forty-three of the south owners reported they had produced cotton but stopped before 1970. The farmers further reported that in the foreseeable future they did not intend to plant cotton, and that the decrease of 1,432 acres was due to the implementation of the sale/lease policy.

Northern Alabama producers made an average yield of 676 pounds of lint per acre in 1971, which was 368 pounds higher than the 308-pound yield reported for southern Alabama pro-



ducers, Table 2. The low southern yield can be attributed mainly to poor management. The 676 pounds per acre that northern Alabama producers averaged in 1971 was 50 pounds higher than the 1970 average. This increase was attributed mainly to weather and management. The average number of acres planted per northern farm in 1971 increased 60 over the 1970 average, while southern owners showed a 37-acre decrease. Only two southern farmers were growing cotton in 1971.

For both the 1970 and 1971 crop seasons, a higher percentage of south owners reported planting corn than did north owners. South owners planted an average of 34 more acres of corn per farm planting in 1970 than did northern Alabama planters, but the north owners averaged 11 bushels of corn per acre more. South Alabama farmers reported all their corn in 1970 was harvested as grain while approximately one-fifth of the north owners harvested their crop as silage.

Sixty-six south owners averaged planting 127 acres of corn in 1971 with an average yield of 57 bushels; the 35 north owners averaged 60 acres of corn and produced an average of 51 bushels per acre. In 1971 the north owners reduced corn acres planted

TABLE 2. AVERAGE ACRES AND YIELDS AND NUMBER OF FARMERS PLANTING COTTON, CORN, SOYBEANS, PASTURE, AND PEANUTS FOR SELECTED ALABAMA AREAS, 1970 AND 1971

Crop	North owners		South owners	
	1970	1971	1970	1971
<b>Cotton</b>				
Average acres/farm .....	262	322	42	5
Average yield/acre, lb. ....	626	676	302	308
Number of farmers with crop .....	76	76	34	2
<b>Corn</b>				
Average acres/farm .....	93	60	127	127
Average yield/acre, bu. ....	39	51	28	57
Number of farmers with crop .....	33	35	69	66
<b>Soybeans</b>				
Average acres/farm .....	164	164	88	63
Average yield/acre, bu. ....	26	28	27	27
Number of farmers with crop .....	53	47	8	15
<b>Pasture</b>				
Average acres/farm .....	255	258	326	324
Number of farmers with crop .....	57	57	69	70
<b>Peanuts</b>				
Average acres/farm .....	0	0	66	68
Average yield/acre, lb. ....	0	0	2,106	2,316
Number of farmers with crop .....	0	0	65	68

by an average of 33 acres per farm while the south owners reported no change in average acreage. North and south owners estimated 12 to 29 bushels higher yield for 1971, respectively, because of good weather conditions.

Soybeans is an important secondary crop in northern Alabama and is becoming more important in the southern part of the State. In 1970 and 1971 north owners planting soybeans averaged planting 164 acres. Although there were six fewer northern Alabama soybean growers in 1971 than in 1970, 62 per cent of the north owners planted soybeans. The region's 876-acre reduction in soybeans was a direct result of the increase in cotton acreage. In contrast only eight south owners grew soybeans in 1970, planting an average of 88 acres. This number increased to 15 producers in the 1971 crop season growing an average of 63 acres. This shift was attributed to the cotton acreage change. The average soybean yield in both areas was 27 bushels per acre with no significant difference expected between the 1970 and 1971 crop seasons.

Average acreage planted in permanent pasture and the number of north and south owners maintaining pasture showed little change from 1970 to 1971. The south owners averaged 66 more acres of pasture per farm than did north owners. There was a significant difference, however, between the number of south and north farmers maintaining pasture as noted in Table 2. Seventy of 77 south owners had established pastures, as compared with only 57 of 76 north owners. Twelve per cent of the south farmers reported that some row crop land made available by leasing out cotton had been planted in pasture. In contrast, 7 per cent of north owners reported converting some pasture to cotton land as allotments were gained.

In the northern Alabama area, fescue and fescue and white clover were maintained most often in permanent pasture. Sericea lespedeza was the most common hay crop, followed by common lespedeza. The southern Alabama area maintained bahia most often in permanent pasture, with peanut hay as the major hay crop and Coastal bermudagrass second.

Peanuts was the most important row crop reported in southern Alabama during the 1970 and 1971 crop seasons. No peanuts were produced commercially in northern Alabama. This crop was grown under an allotment program administered through the county Agricultural Stabilization and Conservation Service offices. There were 65 south owners growing peanuts in 1970,

planting an average of 66 acres. The number increased to 63 in 1971 and average acreage went up 2, to 68 acres per farm. The most important increase reported was in the yield per acre, going from an average of 2,106 pounds per acre peanuts in 1970 to 2,316 pounds in 1971. This difference of 210 pounds per acre gave south owners a substantial increase in their profit margin.

Ten crops other than cotton, corn, soybeans, pasture, and peanuts were reported to be grown in the areas studied. Sorghum, barley, millet, and oats were grown in both areas, but by only a few farmers. South owners were the only farmers harvesting commercial vegetable crops.

### **Livestock Production**

Two main livestock enterprises reported by north and south owners were hogs and cattle. Five north owners reported a dairy enterprise with an average of 79 cows per herd in 1971. Three in northern Alabama had commercial chicken operations under contracts with feed companies. The contracting companies determined production procedures to be followed.

Nineteen north owners had hog operations in 1970 with an average of 163 market hogs produced plus breeding stock (designated as hogs per farm in the following discussion). With high feed costs and low market prices during the first half of 1971, 3 of the owners terminated hog operations and the remaining 16 reduced volume to an average of 149 hogs per farm.

Hog production was more popular in southern Alabama. There were 33 south owners producing an average of 172 hogs per farm in 1970, but this was up to 35 producers and 190 hogs per farm in 1971. This increase in production resulted from the reduction of cotton acreage and the higher production of corn. The increased corn production caused feed costs to be lower, resulting in a more favorable hog/corn ratio.

North owners also reduced the average size of their beef cattle herds, and nine farmers terminated their beef operations. In 1970, 65 north owners had herds averaging 174 animals. The herd averages were reduced to 164 animals in 1971, and there were only 56 north owners having herds. Reduction in cattle numbers resulted from an increase in cotton production by the north owners who needed additional capital and land, which was realized by the liquidation of cattle.

In contrast to northern Alabama, beef cattle production increased in southern Alabama between 1970 and 1971: from 62 owners with 187 head per herd to 64 herds averaging 182 animals. Interest in beef cattle production was reported by southern Alabama farmers as replacement for cotton production.

### **Mechanization on Farms**

Mechanization had occurred on all farms sampled. Farmers in both areas studied used one or more tractors, although a small amount of hand weeding, hoeing, and hand harvesting of cotton was reported. Harvesting of the major crops grown — cotton, peanuts, soybeans, and corn — generally was accomplished mechanically. Forty-four north owners owned one or more two-row cotton pickers — 27 had one, 15 had two, and 2 reported having four such pickers.

Sixty out of 76 north owners interviewed owned harvesting equipment for their major crop, cotton. Forty-six of the 77 south owners owned harvesting equipment for their major crop, peanuts. Forty-one per cent of southern Alabama farmers stated they were not allotted enough acres of peanuts to afford to own harvesting equipment and had to rely on custom picking or renting harvesting equipment. Both areas were comparable in the amount of mechanization used in crop production.

### **Equipment**

All farmers participating in the study owned tractors, with the majority in both north and south areas having two to four tractors, as shown below:

<i>Number of tractors</i>	<i>Number reporting</i>	
	<i>North owners</i>	<i>South owners</i>
1.....	7	9
2.....	16	38
3.....	17	9
4.....	14	14
5.....	8	4
6 or more.....	14	3

Regardless of number owned, both north and south owners identified two or three tractors as being the preferred power source for their farms. Preferred tractors were the most powerful and generally the most recently purchased. In general, north owners had more powerful tractors than south owners. Among the northern Alabama farmers, 40 named tractors in the 81 to 90 drawbar horsepower range as their most powerful, as compared

with only 11 south owners. Largest tractors owned by 57 south owners were 60 drawbar horsepower or less, as shown below:

<i>Horsepower rating</i>	<i>Number reporting</i>	
	<i>North owners</i>	<i>South owners</i>
21-30.....	0	8
31-40.....	6	9
41-50.....	1	19
51-60.....	13	21
61-70.....	1	3
71-80.....	3	2
81-90.....	40	11
91-100.....	8	0
101 and over.....	4	3

The reason north owners had more powerful tractors than south owners can be partially explained by the variation of soil types between the regions. Northern Alabama soils create greater resistance against plowing and tillage equipment than do the sandy loam soils of southern Alabama. Thus, more powerful tractors are needed in northern Alabama for soil preparation and cultivation.

Tillage and planting equipment used with tractors were found to be the size recommended by dealers. Dealers in the areas surveyed verified that farmers generally were following dealer's recommendation.

### **Custom Work**

Some farmers in the selected northern and southern counties were found to engage in custom work. This was more prevalent in northern Alabama, centering on cotton picking and soybean combining. Eighteen north owners custom picked cotton, 14 combined soybeans, and 11 engaged in both operations.

Southern Alabama farmers concentrated their custom work on harvesting soybeans and peanuts, with seven reporting combining soybeans and five harvesting peanuts. Only one farmer reported both combining soybeans and harvesting peanuts. Both north and south farmers reported doing custom work as a means of increasing harvesting equipment efficiency. This aided in the purchase and replacement of the equipment.

### **Shifts in Cotton Production**

Major cotton production has gradually shifted from southern to northern Alabama. This trend, observed since 1916 (5), became a rapid rise between 1970 and 1971 leaving little production in southern Alabama and expanded production in northern Alabama (1).

Agricultural Stabilization and Conservation Service records also showed that cotton production was shifting within the northern Alabama region. Some 52 per cent of the farmers with cotton acreage allotments sold or leased some or all of their allotment acres to other farmers within the area. These records also indicated that northern Alabama farmers who increased their 1971 cotton acreage already had larger cotton allotments than those from whom they obtained, by purchase or lease, the additional acres. This shift of cotton allotment acres indicated that cotton production in northern Alabama is being carried on by fewer farmers with larger acreages of cotton.

### **Cotton Varieties and Seed Quality**

The shift of cotton farming from southern to northern Alabama caused a change in cotton varieties planted. Those varieties grown on the warm sandy coastal plain area did not produce maximum yield in the clays of northern Alabama. Stoneville 213, Rex Smoothleaf, and Deltapine 16 were planted by 30, 23, and 11 north owners, respectively, but no southern Alabama farmer reported planting them. In southern Alabama (prior to 1971) 62 owners had planted a Coker variety; however, no north owner reported planting Coker 100.

An important factor in good cotton production is establishing a uniform stand, not the quantity of cottonseed planted per acre (5). Ninety-nine per cent of the farmers in both Alabama regions planted seed which had been treated and delinted by one of the standard processes.

Of the 76 north owners, 39 stated they saved their seed from year to year and bought certified seed every 3 years; however, none of the 39 bought certified seed in 1971. Thirty-two north owners stated they planted certified seed in 1971, with the remaining five planting uncertified seed.

South owners did not save seed for future planting but purchased certified seed when they grew cotton. This accounts for the fact that southern Alabama farmers reported planting certified seed 100 per cent of the time against 42 per cent of northern Alabama farmers.

### **Weed Control and Cultivation**

All 76 of the north owners and 59 of 77 south owners used weed control chemicals the last year they grew cotton. The north

owners used both preplant incorporated herbicide and surface applied pre-emergence — 57 farmers applied preplant incorporated herbicide, 49 used surface applied pre-emergence, and some farmers applied two or more different types. Preplant incorporated herbicide was the only type used by 55 of the 59 south owners applying chemical weed control. Only ground methods of application were used in both Alabama regions. Rate of application per acre was in accordance with manufacturers' recommendations.

In addition to the chemical weed control, weeds were controlled by cultivation. On the average north owners cultivated their cotton five times and south owners four times. This similarity was the result of the chemical weed control program.

### **Types and Applications of Fertilizers and Fungicides**

All farmers in the study used fertilizers, but grades used varied widely. Twenty-eight north owners applied 13-13-13, 25 applied 8-24-24, and the remaining 23 reported using 10 different grades according to their individual needs.

The analyses most frequently applied in southern Alabama were 4-12-12 and 8-24-24, used by 32 and 21 south owners, respectively. Data indicated that most farmers applied fertilizers according to the needs revealed through soil testing.

Fungicides were used by north owners to ensure good germination of seed and, therefore, more uniform stands. No south owners reported using in-furrow fungicides when they grew cotton.

### **Insecticide Applications**

Method of applying insecticides was influenced by the weather. In wet periods applications were by air; in dry periods ground applications were possible and were used generally.

During the 1971 crop season the range of applications by north owners was from 1 to 8, with one farmer reporting 12 applications. The largest number of northern area farmers applied insecticides five times. Southern Alabama farmers generally made 12 or more applications to cotton. The rate of application per acre in both areas was in accordance with manufacturers' recommendations.

The larger number of insecticidal applications used on cotton by southern farmers increased their cost of production. Low yields were obtained and net returns on cotton were low or non-

existent. In contrast northern farmers had low insecticide costs and high yields, which contributed to added profits for them.

### **North and South Owners**

When age, education, and years of growing cotton were examined by use of a test for homogeneity (chi square), no difference was found at the 5 per cent level of significance between the north and south groups as classified. Age, education, and years of growing cotton for Alabama farmers averaged 48 years, 10 years, and 22 years, respectively.

### **Leasing Land**

Fifty-nine north owners and 37 south owners leased land to increase the size of their agricultural enterprises. The north owners used the additional acres to grow cotton. Three north owners had leasing contracts extending for more than 1 year, whereas all south owners who leased additional land did so on a year-to-year basis. The data indicated that 18 south owners leased out land, as compared with only 6 northern farmers. The land leased out by both southern and northern farmers was used for pasture or used under a share rental arrangement. The share crop system of leasing out land was more common in northern than in southern counties sampled, with the cash-lease system predominating in the south.

### **Non-Agricultural, Off-Farm Employment**

Non-agricultural, off-farm jobs were classified as either full-time or part-time employment. Full-time employment was defined as off-the-farm employment for 30 or more hours a week for 9 or more months a year. Persons working off-farm less than this were considered to be employed part-time.

Sixteen south owners reported they had full-time, off-farm jobs in 1971. These farmers stated that economic conditions were such that they were unable to derive an adequate level of living from their farming enterprise. Eight north owners who reported off-the-farm, full-time employment gave the same reasons as those reported by the south owners. Part-time employment data showed that 11 north owners and 9 south owners held part-time, off-farm jobs in 1971. Members of this group reported they were individually engaged in a variety of occupations and for irregular periods. No consistent pattern was observable, nor was the specific need for the additional economic support stated.



**Family Labor**

Forty-five north owners and 23 south owners had family members working on the farm. The largest category of family labor supply was sons of the farm owners, with 36 per cent of north owners and 48 per cent of south owners having sons working full-time. The remaining farmers in both areas had family labor on a part-time basis. Many family relationships appear in the data for these part-time workers. Farmers reported that family members were available on an emergency basis or when the work load was heavy, such as at harvest time.

**Hired Labor**

Forty-nine north owners and 35 south owners had one or more full-time employees working on their farm. However, only 1 south owner employed as many as four full-time workers as compared with 15 in northern Alabama, as shown below:

<i>Full-time employees</i>	<i>Number reporting</i>	
	<i>North owners</i>	<i>South owners</i>
1.....	12	20
2.....	14	11
3.....	8	3
4.....	4	1
5.....	7	0
6 or more.....	4	0

Most of the employees were hired as equipment operators or general farm laborers, with only two reported as farm managers (one from each area). Housing, farm products, and necessities were supplied full-time employees by 48 of the 49 north owners and by 31 of 35 south owners.

Sixty-one north owners and 39 south owners hired part-time labor during the year. This labor was hired by the day and was generally not used longer than a week.

**SUMMARY AND CONCLUSIONS**

**Summary**

The general objective of this study was to provide data on the lease and/or sale transfers of cotton allotments in selected counties in northern and southern Alabama.

The counties selected were Madison, Lawrence, Limestone,

and Colbert in the Tennessee Valley and Houston, Coffee, Pike, and Geneva in the Wiregrass Area of the State.

Farmers in the southern counties selected sold or leased 74 per cent of their cotton allotment, represented by 40,454 allotment acres, in 1971. Cotton growers in the selected northern counties bought or leased 40,028 allotment acres, which represented 25 per cent of cotton allotment acres they planted. Average prices for buying and leasing were 10¢ and 5¢ per pound of projected yield, respectively.

The total number of cotton allotment acres sold or leased in Alabama in 1971 was 132,035. When figured on a total projected yield basis, this equated to 54,751 cotton allotment acres gained by the buying and leasing farmers. The four northern counties studied received approximately 73 per cent of these acres.

A total of 153 farms was studied, 76 from the Tennessee Valley Area and 77 from the Wiregrass Area. The farmers interviewed owned their own farms and had transactions of 20 acres or more of cotton allotment for the 1971 crop year. Northern Alabama farmers were designated as north owners and those in southern Alabama were designated as south owners. The two groups were similar on the basis of average age, years of formal education, and number of years growing cotton.

The Tennessee Valley Area and the Wiregrass Area were about equally mechanized. The main difference was that the northern owners planted an average of 322 acres of their highest return crop (cotton) while their counterparts in southern Alabama planted an average of 68 acres of the highest return crop (peanuts). This indicated the difference in acreage allotments for cotton and peanuts as controlled by the government. The largest cotton allotment acreage found in the study — 900 acres — was in the north, while the largest peanut allotment acreage was 178 acres.

The addition of 40,028 cotton allotment acres to the four counties in northern Alabama produced a shift in crop production. Climate and soil were suitable for corn production in that area, but north owners' yields were only moderate and corn use generally was limited to feeds. Thus, more corn acres were given up than for any other crop. Soybeans was second in acreage replaced and pasture was third. The four counties in southern Alabama gave up 40,454 cotton allotment acres. South owners replaced their cotton primarily with corn followed by peanuts and wheat.

## Conclusions

The conclusions drawn from the study were:

(1) Cotton production in selected counties had shifted from southern to northern Alabama with the Wiregrass Area releasing 40,454 allotment acres and the Tennessee Valley Area studied gaining 40,028 acres in 1971.

(2) Low yield was the reason for the shift away from cotton production, which made the crop uneconomical for southern Alabama farmers.

(3) The reason for the northern Alabama shift to cotton production was high yields that made cotton production economically efficient in that area.

(4) Northern and southern Alabama farms had about the same degree of mechanization, with owners using modern equipment for crop production according to the manufacturers' recommendations in 1971.

(5) In 1971, the average leasing price of cotton per pound of projected yield was 5¢, the average sale price per pound of projected yield was 10¢.

(6) Corn was the crop most frequently replaced by cotton in northern Alabama and the crop most often planted to replace cotton in southern Alabama in 1971.



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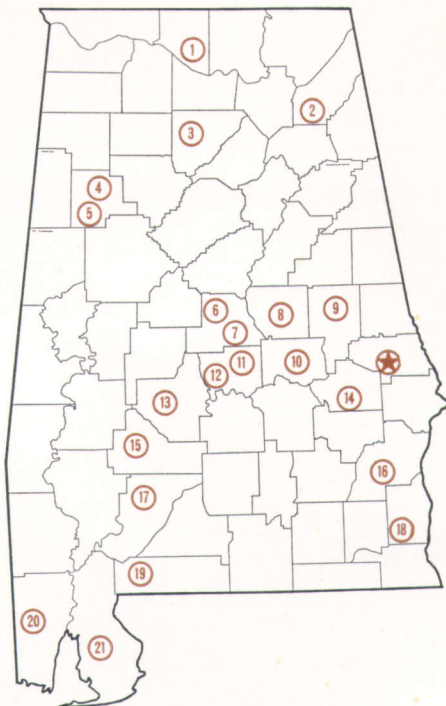
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## AGRICULTURAL EXPERIMENT STATION SYSTEM OF ALABAMA'S LAND-GRANT UNIVERSITY

With an agricultural research unit in every major soil area, Auburn University serves the needs of field crop, livestock, forestry, and horticultural producers in each region in Alabama. Every citizen of the State has a stake in this research program, since any advantage from new and more economical ways of producing and handling farm products directly benefits the consuming public.



### Research Unit Identification

★ Main Agricultural Experiment Station, Auburn.

1. Tennessee Valley Substation, Belle Mina.
2. Sand Mountain Substation, Crossville.
3. North Alabama Horticulture Substation, Cullmar.
4. Upper Coastal Plain Substation, Winfield.
5. Forestry Unit, Fayette County.
6. Thorsby Foundation Seed Stocks Farm, Thorsby.
7. Chilton Area Horticulture Substation, Clanton.
8. Forestry Unit, Coosa County.
9. Piedmont Substation, Camp Hill.
10. Plant Breeding Unit, Tallassee.
11. Forestry Unit, Autauga County.
12. Prattville Experiment Field, Prattville.
13. Black Belt Substation, Marion Junction.
14. Tuskegee Experiment Field, Tuskegee.
15. Lower Coastal Plain Substation, Camden.
16. Forestry Unit, Barbour County.
17. Monroeville Experiment Field, Monroeville.
18. Wiregrass Substation, Headland.
19. Brewton Experiment Field, Brewton.
20. Ornamental Horticulture Field Station, Spring Hill.
21. Gulf Coast Substation, Fairhope.