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*Cotton-Marketing*

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**AN ECONOMIC ANALYSIS OF THE  
SALE OF COTTON ALLOTMENT  
ACROSS COUNTY LINES IN 1966**

**DALE M. HOOVER and R. CHARLES BROOKS**



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Department of Economics  
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## SUMMARY AND CONCLUSIONS

The sale of cotton allotments among producers has been of minor importance relative to programs allowing leasing, release and reapportionment and voluntary diversion under the domestic allotment program. Allotment sale is, however, a potentially important device in the reorganization of cotton allotment among producers and regions. This reorganization is important if farms are to grow to efficient sizes and if areas which have experienced the greatest growth in productivity are to increase acreage produced. The sale of cotton allotment among all producers within the state is of interest to owners of other allotments because this is the first time permanent transfer has been allowed and because allotment can be transferred across county lines.

The sale of cotton allotment was authorized in the Food and Agriculture Act of 1965. In 1966, slightly more than 4,700 acres of allotment were transferred across county lines. The sample obtained for this study included 578 contracts representing a little more than 4,000 acres of transferred allotment. Most of the transfer was from counties located in the Piedmont. The major receiving area was in the South Central portion of the state. Farmers in the Lower Coastal Plain area of the state sold some allotment but leased even greater quantities. Similarly, some allotment was purchased by farmers in the Northeast area but leasing was of greater importance in increasing allotment acreage. This pattern of transfer suggests that exchange of allotment tends to be concentrated in relatively nearby areas. The mean sales price reported by transferring farms was 13.8 cents per pound of projected yield. The mean reported by receiving farms was 12.7 cents per pound. The average reported price varied among four areas within the state, but the differences were not substantial. The mean prices per acre were \$51.44 and \$57.04 for transferring and receiving farms, respectively. The difference is due to higher projected yields on receiving farms.

There was little systematic variation in prices. A small time trend in prices was found to be statistically significant. Prices were a little higher late in the trading season. Farmers who purchased large quantities of allotment paid slightly more than farmers purchasing small amounts of allotment. This finding runs counter to the generally held notion that

large farmers have more market information and consequently "take advantage" of small farmers.

Receiving farms were five to six times as large as transferring farms on the average. There was great variation in size among the receiving farms. Information on a portion of the sample receiving farms indicates that farms with more than 100 acres of 1966 effective allotment were responsible for two-thirds of the total purchase of allotments across county lines in 1966. This suggests that purchase of allotment may be playing an important role in the increase of the number of efficient-sized farms. On the other hand, the proportion of effective allotment that was purchased declined as size of farm increased. Other allotment transfer programs are also important in aiding farms to grow.

Variation in the price paid per pound is an indication that the transfer market did not work perfectly. As the density of transfer increased, the variance in prices paid decreased. This result suggests that the performance of this market could be improved if central trading of allotment could be organized. The current system of contracting between producers in widely separated areas is time consuming and expensive. The development of a central allotment transfer market would probably require some enabling legislation but the amount and efficiency of transfer might be greatly increased.

# AN ECONOMIC ANALYSIS OF THE SALE OF COTTON ALLOTMENT ACROSS COUNTY LINES IN 1966

## INTRODUCTION

### Background

The lease and sale of cotton allotments were authorized in the Food and Agriculture Act of 1965 to facilitate the movement of small, unprofitable allotments to larger, more economical units of production. The sale of allotments without a simultaneous sale of land was a new experience for cotton producers and brought forth new choices and management decisions.

Release and reapportionment of cotton acreages had been possible for several years prior to the sale and transfer legislation but the earlier method of transfer dealt only with the current year of production and allotments were reapportioned by county and state ASCS offices without the releasing farmer knowing specifically who received his released allotment. Also, the only benefit received by the releasing farm was the protection of its acreage history.

Under the new legislation the transferring farmer deals directly with the receiving farmer and can sell his allotment or lease it for one or more years. This procedure allows the transfer of cotton allotments to take on a positive value in addition to the protection of acreage history on the transferring farm if the transfer is in the form of a lease. The release and reapportionment provisions of earlier legislation remain in effect. The major transfer provisions of the Food and Agriculture Act of 1965 are given in Appendix A.



The cost of producing cotton is influenced considerably by the size of allotment as evidenced in an earlier study based on a survey in 1965 of 5,200 cotton producers from North Carolina to California (Starbird and Hines, 1966). It was found that in the Southern Piedmont Region of North Carolina, South Carolina, and Georgia farmers with 5.0 to 14.9 acres had a cost of production of almost 44 cents per pound compared to about 28 cents on other farms in the region with allotments of 50 acres and larger (Table 1). The estimated average cost of production in the East Coastal Plains Region on farms of 50 acres and larger was 25 cents per pound or 40 percent below the estimate of 42 cents on farms of 5.0 to 14.9 acres in the same region (Starbird and Hines, 1966, p. 28).

Table 1. Estimated total cost per pound of producing cotton in the Southern Piedmont and East Coastal Plains Regions of North Carolina, South Carolina and Georgia, 1964<sup>a</sup>

Allotment size group	Region 1 <sup>b</sup>	Region 2 <sup>c</sup>
	(cents per pound)	
5.0 to 14.9 acres	43.8	42.0
15.0 to 49.9 acres	33.4	33.5
50.0 or more acres	27.8	25.1
Average for all allotments	32.7	30.7

<sup>a</sup>Source: Starbird and Hines (1966, p. 28).

<sup>b</sup>Southern Piedmont Region of North Carolina, South Carolina and Georgia.

<sup>c</sup>East Coastal Plains Region of North Carolina, South Carolina and Georgia.

There is a heavy concentration of small cotton allotments in North Carolina as indicated in the distribution given in Table 2. Eighty-five percent of the cotton allotments were ten acres or less in size and represented 47 percent of the acreage allotment in 1964. The transfer of cotton allotments under the Food and Agriculture Act of 1965 has

helped to reduce the number of total allotments but has also tended to increase the number of small allotments because of the diversion payment advantage given to the small farmers. Some producers sold portions of their allotment in order to meet the small farm requirements. Almost 88 percent of the cotton allotments in North Carolina were classified as small farms in 1966.<sup>1</sup>

Table 2. Size of cotton allotments in North Carolina, 1964<sup>a</sup>

Allotment size group (acres)	Number of allotments as percent of total		Acreage of allotments as percent of total	
	Each size group	Accumulated	Each size group	Accumulated
				(percent)
0.1 - 4.9	61.6	61.6	23.4	23.4
5.0 - 10.0	23.3	84.9	23.9	47.3
10.1 - 14.9	6.6	91.5	11.7	59.0
15.0 - 29.9	5.6	97.1	16.4	75.4
30.0 - 49.9	1.8	98.9	9.9	85.3
50.0 - 99.9	0.9	99.8	8.5	93.8
100.0 and over	0.2	100.0	6.2	100.0

<sup>a</sup>Source: Mimeographed releases of the ASCS, U. S. Department of Agriculture.

#### Purpose and Objectives of Study

The shift of cotton allotments into more economical units could have significant long-run effects on the cotton economy, especially in the types and rates of adoption of modern production and marketing technology. This study provides insights into the characteristics of

<sup>1</sup>Small farms under the Food and Agriculture Act of 1965 are farms on which the acreage allotment is ten acres or less, or on which the projected farm yield times the acreage allotment is 3,600 pounds or less, and the acreage allotment has not been reduced under the release and reapportionment provisions of earlier legislation.

buying and selling farms which should be of value in analyzing adjustments related to the transfer of cotton acreage.

Experience gained through the sale of cotton allotments will be watched closely by policy makers and could have significant influence upon future policies with respect to the sale and transfer of cotton allotments as well as for other commodities. This study contains information on individual producer decisions and should be of benefit to policy makers when analyzed in conjunction with aggregate studies of program results.

This study also provides market price information on the sale and transfer of cotton allotments. No regularly reported allotment sales prices are available as there are for agricultural commodities. Area estimates of allotment sales prices should be of value to buyers and sellers in making future decisions. Quantitative results of market behavior are provided in this study.

The specific research objectives of this study are:

1. To determine the pattern of allotment transfer among various geographic areas of the state as a means of supplementing aggregate data on net transfer provided by ASCS.
2. To estimate the mean value and variance of allotment pounds and acres by receiving (importing) and transferring (exporting) areas as a rough measure of the functioning of the transfer market.
3. To compare size of allotment and acres of cropland of transferring and receiving farms.
4. To estimate the magnitude of the impact that sales may have had on the distribution of allotment.

#### Designation of Sample Areas

Cotton is produced on a wide range of soil types, and cotton allotments are found on farms in 77 of the 100 North Carolina counties. Production is most concentrated in the northeastern and south central counties. For purpose of analysis the state was divided into two "acreage exporting" areas (referred to as the Piedmont and the Lower Coastal Plains areas) and two "acreage importing" areas (referred to as the Northeast and South Central areas). These areas are outlined in

Figure 1. The counties in each area are listed in Appendix D. It is interesting to note that the division utilized in this study is related very closely to the importance of cotton as a source of cash income in 1964. Cotton accounted for more than 10 percent of cash receipts in nearly every county in the Northeast and South Central areas. Only three counties in which cotton accounted for more than 10 percent were excluded from those two areas. Those counties were Anson, Cleveland, and Rutherford.

The number, size and amount of cotton allotment in each area are given in Table 3. Cleveland County accounts for 28 percent of the cotton acreage in the Piedmont (Area I). The remaining acreage in the Piedmont is distributed over a relatively large area. The other "acreage exporting" area is the Lower Coastal Plain with an average size cotton allotment of 4.7 acres.

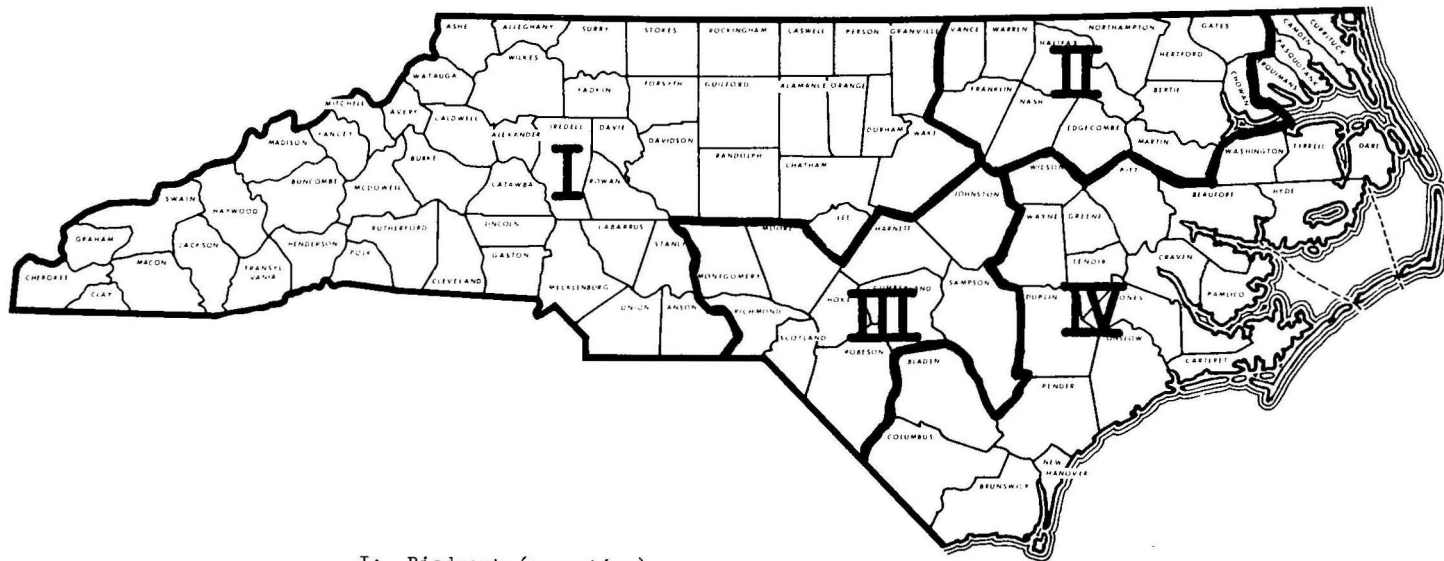
The two "acreage importing" areas are located between the two "acreage exporting" areas. The Northeast (Area II) has considerable acreage of peanuts and some flue-cured tobacco.

Cotton allotments in the South Central (Area III) average 9.4 acres in size and compete with flue-cured tobacco and soybeans.

#### Transfer of Acreages across County Lines

The Food and Agriculture Act of 1965 does not permit allotments to be transferred across state lines. Transfers across county lines within states are authorized provided that two-thirds of the farmers in a given county vote favorably in a county referendum. In a referendum held in November 1965, farmers in 55 counties in North Carolina voted to permit cotton allotments to be transferred outside the county, while farmers in 22 counties voted against across-county-line transfer. In May 1966, another referendum was held in the 22 counties originally voting negative with the result that one county reversed its earlier position. In May 1967, a third referendum was held in the remaining 21 counties with the result that three additional counties reversed their earlier positions.

The transfer of cotton acreage across county lines may occur through release and reapportionment or through sale, lease, or owner-to-owner transfer provisions. Prior to planting the 1966 crop there



- I: Piedmont (exporting)
- II: Northeast (importing)
- III: South Central (importing)
- IV: Lower Coastal Plain (exporting)

Figure 1. Areas used for summary analysis of sales of allotment across county lines

Table 3. Number, size and amount of cotton allotment in each area<sup>a</sup>

Area	Allotments	Allotment	Average size
	(number)	(acres)	
Piedmont	15,040	105,572	7.0
Northeast	16,500	126,917	7.7
South Central	18,557	174,063	9.4
Lower Coastal Plain	<u>11,172</u>	<u>52,629</u>	4.7
Total	61,269	459,181	7.5

<sup>a</sup>As of November 1, 1965, and reported by the Agricultural Stabilization and Conservation Service.

was a net transfer from counties in the Piedmont area of 5,433 acres or 5.1 percent of the total acreage in the area. The sale of allotments accounted for 54 percent of the net acreage transferred from the area. Had it not been for a net transfer of 729 acres into Cleveland County, the acreage decline would have been larger for Area I. These data are provided in Table 4.

The Lower Coastal Plain (Area IV) had an acreage decline of 11,038 acres or 20.9 percent of the total allotment. Release and reapportionment and lease provisions accounted for most of the net acreage transferred from this area. Allotment sales accounted for only 6 percent of the net transfer from Area IV.

In the Northeast (Area II), there was a net gain of 10,507 acres or 8.3 percent of the allotment assigned to the area before transfer took place. Most of the increase in acreage occurred through release and reapportionment and lease provisions. The purchase of allotments represented less than 5 percent of the net acreage transferred into Area II.

In the South Central counties (Area III), there was a net gain of 4,820 acres or 2.8 percent of the allotment. Release and reapportionment and allotment purchase accounted for most of the net transfer with lease accounting for only 376 acres.

Table 4. Across-county-line transfer of cotton acreages through release and reapportionment, lease, sale and owner-to-owner transfer prior to planting of 1966 crop<sup>a</sup>

Area	Release and reapportionment		Lease		Sale and owner-to-owner transfer		Summary of across-county-line transfers		
	Col. 1 <sup>b</sup>	Col. 2 <sup>c</sup>	Col. 3 <sup>d</sup>	Col. 4 <sup>e</sup>	Col. 5 <sup>f</sup>	Col. 6 <sup>g</sup>	Col. 7 <sup>h</sup>	Col. 8 <sup>i</sup>	Col. 9 <sup>j</sup>
	(acres)		(acres)		(acres)		(acres)		(percent)
Piedmont	1,151.5	---	1,352.3	---	2,929.5	---	5,433.3	---	-5.1
Northeast	---	3,471.0	---	6,578.1	---	458.1	---	10,507.2	+8.3
South Central	---	2,009.8	---	376.1	---	2,434.2	---	4,820.1	+2.8
Lower Coastal Plain	4,367.3	---	5,977.7	---	692.8	---	11,037.8	---	-20.9

<sup>a</sup>Source: Mimeographed releases of the ASCS, USDA.

<sup>b</sup>Net acreage turned in to state ASCS office over that received from state office.

<sup>c</sup>Net acreage received from state ASCS office over that turned in to state office.

<sup>d</sup>Net acreage leased to other counties over acreage leased from other counties.

<sup>e</sup>Net acreage leased from other counties over acreage leased to other counties.

<sup>f</sup>Net acreage sold or transferred by owner-to-owner transactions to other counties over acreage bought or transferred by owner from other counties.

<sup>g</sup>Net acreage bought or transferred by owner-to-owner transactions from other counties over acreage sold or transferred by owner to other counties.

<sup>h</sup>Net acreage transferred out of county.

<sup>i</sup>Net acreage transferred into county.

<sup>j</sup>Net transfer as a portion of allotted acreage.

## RESEARCH PROCEDURES

To transfer cotton allotment across county lines by sale in 1966, it was necessary to file an application for transfer with the ASCS offices in the two counties concerned. In addition, a copy of the application for transfer was filed with the state ASCS office to facilitate the transfer and the recomputation of allotments. This document is a public record and includes such basic data as the farmland, cropland and projected yield of both the transferring and receiving farm. In addition, it contains the information on the amount of allotment on the transferring farm before the sale took place. A copy of the application for transfer in 1967 is included in Appendix B. The application for the 1966 crop was identical to this document except it included items 12 to 17.

The number of allotment acres to be transferred was equal to the number of acres of allotment received by the purchasing farm except when the projected yield of the receiving farm was greater than 110 percent of the projected yield of the transferring farm. In that case, the acreage transferred was in proportion to the projected yield on the two farms. It was generally true that the projected yield on the receiving farm was substantially greater than the projected yield on the transferring farm. Thus, an adjustment on the acreage transferred was required. In these cases, projected production (projected yield times acres transferred) was the best measure of the resource transferred between farms.

On most farms 100 percent of the existing allotment was transferred on one contract. However, there were a number of cases where it was evident that more than one person had purchased allotment from a given farm. In these cases, it was impossible to determine with complete accuracy that number of allotment acres on the transferring farm. For example, if a farm leased acreage or sold it within the county and the adjustment occurred before the transfer across county lines, the reported farm allotment had been adjusted before the contract was filed with the ASCS office. It was not possible to establish from the application document the total number of acres on the farm initially for those cases where transfer occurred both within and between counties. Approximately 85 percent of the base acreage allotment on selling farms



in the sample was sold. Only a few selling farms retained some allotment. Even in those cases, transfer by lease contract or by sale within the county may have occurred.

The sample of contracts made available through the state ASCS office included a total acreage of 4051.0 acres transferred from farms. A state summary (U.S. Department of Agriculture, 1966, p. 51) indicates that 4754.7 acres were transferred across county lines. All sales including across county and within county transfers amounted to 6057.6 acres. Thus, the sample available to us represented 85 percent of the across-county-line sales and 67 percent of all allotments sold in 1966.

It was necessary to obtain the data on prices paid and received for cotton allotment directly from the participants since this was not a part of the public record. From the initial list of contracts a list of participating farms was prepared. Many farms had 3 to 15 contracts. In addition, it was necessary to group together farm numbers when a given manager was involved in more than one ASCS farm designation. From this master list, two survey procedures were used to obtain price information. For the smaller buyers (receiving farms) and all sellers (transferring farms) a mail survey was used. A copy of the survey form and a follow-up letter sent to receiving farms may be found in Appendix C. Similar letters were sent to transferring farms. A senior interviewer from the Department of Economics contacted the larger receiving farms. In general, less specific data were obtained by interview than by the mail survey. However, there is no possible way to check on the biases and memory errors that may have occurred in the price data collected by the two different procedures. The data from the two sources were pooled for the purpose of analysis.

Because both the receiving and transferring farms were contacted about each contract, it was possible to have a conflict in the estimate of the price per pound of cotton allotment transferred. In addition, it was very difficult to formulate a question for which the price data would be unambiguous. For example, data could have been obtained in terms of the price per acre on the transferring farm, the price per acre on the receiving farm, the total value for the total allotment, or the price per pound on the transferring farm and the price per pound on the receiving farm. The schedules were edited to establish a common price. It was determined beforehand that the price per pound of projected yield

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would be the most common element. This price item should be the same for both the transferring and receiving farm except for those cases in which the projected yield of the receiving farm was less than 110 percent of the projected yield of the transferring farm. Except for the cases in which the purchaser's projected yield was less than 110 percent of the projected yield of the seller, acreage transferred would equal the acreage received. However, the projected production (projected yield times acreage) would have been different because the projected yield on the two farms was different. In addition to this problem of the unit of exchange, there was considerable chance for error in memory. The transfer took place between November 1965 and January 1966, whereas the survey data were collected in the spring and summer of 1967.

The response to the survey was surprisingly high. Data on 201 contracts from transferring farms were received representing 34.8 percent of the transferring farms initially selected for study. Price responses were obtained on 256 contracts by receiving farms representing 44.3 percent of the receiving farms selected for study. After eliminating the overlapping data, price information was obtained on 364 contracts. This represents 63 percent of the 578 total, a very large proportion for a survey of the type utilized.

It was necessary to obtain additional information on the allotment situation of receiving farms. ASCS office managers at the request of the State ASCS staff compiled data on the total effective cotton allotment in 1966 as well as the tobacco and peanut allotment on the receiving farms. These data were not available on the contract used to transfer allotment. Somewhat fewer farms were identifiable when these data were compiled than in the original sample. Complete data were compiled on 129 of the 154 managerial units represented in the initial contract.

#### RESEARCH FINDINGS

Fifty-five counties in North Carolina participated in the sale and transfer of cotton allotment across county lines in 1965-1966. Geographically, participating counties ranged from Caldwell in the west to Perquimans in the east. More than 4,700 acres were transferred across county lines on more than 600 contracts. The analysis in this study is based on a sample of more than 4,000 acres transferred on 578 contracts

which were studied with the cooperation of the North Carolina ASCS office. The results in this section while based on a very large proportion of the total participation in the program represent only the contracts reported on in the study. The results reported probably represent the experience of the total number of participants in the acreage sales transfer program. However, it is possible that the contracts for farms in the sample differ from the contracts not available for study.

Geographic Dispersion of Sales and Purchases  
of 1966 Cotton Allotment

The activity in buying and selling of cotton allotment resembles very closely the activity in releasing and reapportioning cotton allotment under earlier programs. Utilizing the four areas defined earlier, the summary of transfers of allotment by sale across county lines can be found in Table 5. Nearly three-fourths of the transfer of allotment was from farms in the Piedmont with nearly five-sixths of the total gain in allotment going to the area in the South Central area. The only other area gaining substantial quantities of allotment was the Northeast.

Table 5. Out-of-county sales by transferring and receiving areas in terms of acreage transferred from selling farms (unadjusted for normal yield differences), acres and percentage of total acres obtained by receiving areas

Transferring area	Unit	Receiving area				
		Piedmont	Northeast	South Central	Lower Coastal Plain	State
Piedmont	acres	225.1	245.4	2562.3	10.7	3043.5
	percent	97.2	62.6	75.9	20.5	75.1
Northeast	acres	6.4	5.2		7.4	19.0
	percent	2.8	1.3		14.2	0.5
South Central	acres			301.1	16.0	317.1
	percent			8.9	30.7	7.8
Lower Coastal Plain	acres		141.7	511.7	18.0	671.4
	percent		36.1	15.2	34.6	16.6
State	acres	231.5	392.3	3375.1	52.1	4051.0
	percent	100.0	100.0	100.0	100.0	100.0

### Sales Prices by Geographic Areas

As reported earlier, sales prices were obtained on approximately two-thirds of the total number of contracts. Both the transferring and receiving farms were asked to report the price they paid or received for their allotment. Transferring farmers reported an average of 13.8 cents per pound while receiving farmers reported an average price of 12.7 cents per pound. These two prices may be looked upon as two estimates of the true price. Identical estimates were not expected but they could have been closer together.

Average prices by areas are reported in Tables 6, 7, and 8. A measure of the variability of prices by each of the four areas is reported in Tables 6 and 7. The measure of variability used is the standard deviation.<sup>1</sup> In this study the sample was not drawn randomly and the population is limited in size. Therefore the standard statistical test can only be used as rough approximations in judging the significance of the differences in area average prices.

Table 6. Average price received by transferring farms and standard deviations, 1966 cotton allotment sales across county lines

Transferring area	Number of observations	Price per pound transferred	Price per acre transferred
Piedmont	142	\$.135 (.034)	\$50.01 (12.13)
Northeast	3	\$.181 (.075)	\$81.44 (28.83)
South Central	8	\$.109 (.028)	\$44.85 (12.45)
Lower Coastal Plain	48	\$.149 (.043)	\$54.91 (20.01)
State	201	\$.138 (.038)	\$51.44 (15.44)

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<sup>1</sup>The standard deviation is the range within which the true mean will fall approximately two-thirds of the time when a randomly drawn sample from an infinitely large population is used to estimate the average for the group of participants.

Table 7. Average price paid by receiving farmers and standard deviations, 1966 cotton allotment sales across county lines

Receiving area	Number of observations	Price per pound received	Price per acre received
Piedmont	10	\$.074 (.044)	\$38.40 (19.87)
Northeast	49	\$.120 (.038)	\$61.35 (21.01)
South Central	194	\$.132 (.019)	\$56.73 (11.04)
Lower Coastal Plain	3	\$.146 (.111)	\$62.61 (41.68)
State	256	\$.127 (.029)	\$57.04 (15.35)

Table 8. Average prices reported by transferring and receiving farms, 1966 cotton allotment sales across county lines

Area	Number of observations	Prices per pound (dollars)
Piedmont	152	.131
Northeast	52	.124
South Central	202	.131
Lower Coastal Plain	51	.148
State	457	.132

The average area price per pound reported by transferring farms ranged from approximately 11 cents in the South Central area to 18 cents in the Northeast. On the basis of Duncan's multiple range test (Steel and Torie, 1960, pp. 107-114), this difference is probably significant and did not arise because the sample was small. On the other hand, differences in average prices among the South Central, Piedmont and Lower Coastal Plain areas could have arisen because of the sample size. This test suggests that small differences in the area averages might not have been found to exist if additional data had been available.

The range in prices reported by receiving farms was from 7.4 cents in the Piedmont to 14.6 cents in the Lower Coastal Plain. There were only a few contracts in both the Piedmont and Lower Coastal Plain. Thus, a larger sample might not have come up with the same estimate for the area average.

By pooling the reported prices of both receiving and transferring farms, overall area averages can be derived (Table 8). The differences among areas are smaller than when either the receiving or transferring farms were considered separately. On this basis the range is only 2.4 cents per pound with the Northeast having the lowest price (12.4 cents per pound) and the Lower Coastal Plain the highest price (14.8 cents per pound). The Piedmont and the South Central areas each averaged 13.1 cents per pound. This is in contrast to the extremely low values reported for each area (Tables 6 or 7). The pooled sales data are the best estimate of the average area prices.

Many of the respondents to the questionnaire on price data preferred to state the information in terms of dollars per acre rather than in cents per pound. It is possible that the transaction unit in purchasing allotment was measured in acres since the projected yield was relatively stable within a region. If it is true that the transaction unit is an acre, it is possible that the area variation in prices per acre should be considered rather than the variation in price per pound. The data on sales value per acre also appear in Tables 6 and 7 for the transferring and receiving farms. It should be noted, however, that the projected yields differ for transferring and receiving farms and that no direct comparison of the price per acre can be made between the two parties to the transaction. The mean price per acre of transferring farms is \$51.44; whereas, the mean price for receiving farms is \$57.04. This difference

is not surprising because the receiving farms had higher projected yields.

It is possible that the transaction unit in the mind of the buyers and sellers is an acre. If this is the case, the variation in acreage prices might be lower than the price per pound. The range in price per acre is from \$38.40 to \$62.61 for receiving farms and from \$44.85 to \$81.44 for transferring farms. The standard deviations for each area were high. The relative variation in prices per acre was as high or higher by area than it was for the price per pound. Therefore, it may be concluded that price per acre is not a better measure of market activity than price per pound.

#### Variation in Prices Paid

A second major measure of market operations in addition to the mean price paid per pound is the variation in price paid among different buyers and sellers. The better a market works, the lower one would expect the variation to be. It is possible that price variation plays a role and is significantly related to specific variables. However, in a market such as the cotton allotment transfer market where the commodity is a homogeneous pound of projected yield, it can be assumed initially that there is very little variation and that the price would tend to be very close to the same for all buyers and sellers. If there is a high variation in some areas and a low variation in others, it should be possible to examine the characteristics of the areas or of the transactions conducted in either area to explain why the market has worked relatively poorly. Stigler has put forth a hypothesis that the larger the market and the less price information is coordinated, the higher will be the variance observed (Stigler, 1961). This hypothesis is based on the notion that information is costly and that in the absence of either free information or high returns to that information, considerable variation may exist in prices paid and received.

Using the data on price paid per pound and the variation in each of the areas, it is possible to construct a coefficient of variation. For both the receiving and transferring price data, the coefficient of variation was lowest for the South Central area. It was relatively high in the Lower Coastal Plain. The low variation in the South Central

area is consistent with the notion that when trading is very active, as it was in this particular area, the information available to purchasers is somewhat improved and the variation about the mean price is reduced. By contrast, the high variation in prices paid was in the area which had a relatively low density of sales transactions. Thus, the results tend to support Stigler's cost of information hypothesis. In the absence of free price information made readily available to all buyers and sellers, one would expect the variance to be considerable and for it to be high in low density sales areas where the importance of cotton transactions is low.

#### Systematic Differences in Prices

It is often assumed that in cases where some of the buyers are larger than others, they may be able to purchase an item at a lower price than other buyers in the market. This notion in retail trade is based on the idea that the retailer is willing to pass along to the purchaser a savings from volume transactions. In the case of cotton allotment, the possible reasons for lower prices and big purchases are not as clear. Sometimes it is justified on the basis that large purchasers have some market power that they exercise over the small and more dispersed owners of allotment. To investigate this hypothesis, the correlation between the size of contract in acres and the price per pound was computed. There was no observable relationship between size of contract and the price paid. The result tends to reject the idea of market power.

It should be noted, however, that market power might not be related to the size of a given contract but to the size of the total purchases of a given farm. To check on this possibility, the mean prices paid by farmers purchasing different quantities of allotment were computed. It was found that farmers buying 10 or less acres paid an average of 11.7 cents per pound. Farmers buying between 10.1 and 30 acres of allotment paid 13.5 cents per pound and farmers purchasing more than 30 acres of allotment averaged 13.1 cents per pound. In contrasting this to the overall average price paid of 12.7 cents per pound, it can be seen that the larger farmers tended to pay more than small purchasers of allotment rather than less. This suggests that large farmers, in fact, did not



have any market power that they exerted over smaller holders of allotment. It may have been necessary for them to pay more per pound to obtain the quantity of allotment they wished to purchase. An alternative explanation is that they place a high value on shopping time.

#### Time Pattern of Allotment Purchase

The law providing for the transfer of cotton allotment specifies a seven-month June-to-December trading season. However, when the law was passed in late 1965, it was not possible to begin trading until about November 24. Therefore, the first purchase and transfer period was very short. Trading activity picked up slowly at first, reaching a peak in the period December 13 through December 22 and then trailed off slightly toward the end of the trading season (Table 9). It is conceivable that some of the variation in prices paid is related to the time in which the contract was written. This would be the case if there was a time trend in prices paid and received. To test this possibility, the price paid per pound on contracts was regressed on the day that the contract was signed. The time variable had a significant coefficient although the total variation explained was quite low. This regression is reported in Appendix E. Price tended to increase as the season progressed. The average price per pound of cotton allotment transferred increased one-half of a cent every eight days as the transfer season progressed. While the price trend was significantly different from zero, the variation in price paid per pound was still substantial after accounting for the time trend.

A number of counties allowed cotton allotment to be transferred into the county but not to be transferred out in the 1966 season. The price paid on 1966 contracts going into restricted counties was 12.2 cents per pound. This is about one-half of one cent per pound less than the state average. The two numbers are not statistically different from each other. If larger samples of sales contracts had been available, it is conceivable that the mean price paid in those counties allowing exports would not have been higher than in those counties prohibiting export of cotton allotment. There is no theoretical reason why one would expect to observe different prices, because all purchasers are essentially dealing in the same market.

Table 9. Time pattern of cotton allotment sales, 1965-1966

Period of sale	Number of contracts within the period	Percent of cumulative total by the end of the period
Nov. 24 - Dec. 2	18	3.1
Dec. 3 - Dec. 12	65	14.4
Dec. 13 - Dec. 22	190	47.2
Dec. 23 - Jan. 1	177	77.9
Jan. 2 - Jan. 11	128	100.0
Total	578	--

Land Characteristics of Transferring and Receiving Farms

Substantial difference in acreage of cropland and farmland between transferring and receiving farms was expected. The data presented in Table 10 indicate that receiving farms had five and one-half times as much farmland as the transferring farms and six times as much cropland. Differences concerning the size of cotton allotments were even more striking. The effective cotton allotment in 1966 on 129 receiving farms averaged 102.8 acres. This acreage includes the cotton allotment transferred under sales, lease and release, and reapportionment programs. By contrast, the average cotton allotment owned by transferring farms at the beginning of the 1966 season was 8.7 acres. Thus, average receiving farms had more than 11 times as much allotment as transferring farms.

Receiving farms also had larger projected yields. The average projected yield on receiving farms was 466 pounds as contrasted to 375 pounds for transferring farms. The projected yield of receiving farms was 27 percent greater than the projected yield of transferring farms. Thus, considerable adjustment in effective cotton allotment was made in transferring from low yield to high yield farms. Approximately 85.8 percent of the acreage transferred from farms was allowed to be planted on receiving farms. Acreage was adjusted in proportion to the projected

yields of the two farms in every case that the projected yield of the receiving farm exceeded the projected yield of the transferring farm by more than 10 percent.

Table 10. Average acreages for various land classifications for farms transferring and receiving cotton allotment by sales in 1966

Item	Transferring farms		Receiving farms	
	Number of observations	Average acreages	Number of observations	Average acreages
Farmland	539	152.4	152	857.8
Cropland	539	69.5	152	430.1
Cotton allotment owned	545	8.7	N.A.	N.A.
Cotton allotment transferred	586	7.0	152	22.5
1966 effective cotton allotment (all sources)	N.A.	N.A.	129	136.7

#### Allotment Characteristics of Receiving Farms

Data on allotment acreages of 129 receiving farms were obtained through ASCS as noted earlier. One of the primary concerns was to determine if the farms holding peanut allotment differed substantially from farms that did not have peanut allotment. An additional point of interest is to contrast farms with different quantities of effective cotton allotment. These data are presented in Tables 11, 12, 13, and 14. In all cases the allotment acreages reported represent the effective allotment allowed in 1966 after adjustments had been made for leasing, sales, release and reapportionment or other transfer programs. It should be noted that the data in Tables 10 through 14 on total effective cotton allotment include the cotton allotment transferred by sale.

Table 11. Average acreages of farms with peanut allotments which purchased cotton allotment out of county in 1966 by size groups

1966 effective cotton allotment class (acres)	Number of farms (no.)	Farmland (acres)	Cropland (acres)	Cotton allotment transferred from out of county (acres)	Total effective cotton allotment (acres)	Tobacco allotment (acres)	Peanut allotment (acres)
0 - 10.0	4	89.75	48.25	2.0	9.9	2.39	10.8
10.1 - 25.0	4	135.25	51.25	3.8	17.6	6.51	18.0
25.1 - 50.0	4	236.00	152.00	7.0	37.1	5.99	36.4
50.1 - 100.0	10	625.80	295.30	8.0	66.6	14.48	50.3
100.1 - 200.0	6	806.33	395.00	18.0	127.8	6.29	88.7
200.1 and over	4	4484.00	1744.00	45.6	341.4	72.24	262.1

Table 12. Average acreages of farms without peanut allotments which purchased cotton allotment out of county in 1966 by size groups

1966 effective cotton allotment class (acres)	Number of farms (no.)	Farmland (acres)	Cropland (acres)	Cotton allotment transferred from out of county (acres)	Total effective cotton allotment (acres)	Tobacco allotment (acres)
0 - 10.0	29	148.03	50.00	4.3	9.0	4.84
10.1 - 25.0	8	249.12	90.13	6.9	21.9	6.88
25.1 - 50.0	12	274.58	107.08	12.9	39.6	5.56
50.1 - 100.0	22	623.45	311.41	26.3	71.2	8.78
100.1 - 200.0	14	674.57	285.07	40.2	149.3	9.68
200.1 and over	12	3453.91	1918.91	102.7	469.6	49.70

Table 13. Characteristics of farms with peanut allotments which purchased cotton allotment out of county in 1966 by size groups

1966 effective cotton allotment class (acres)	Total effective cotton allotment as a percentage of cropland (percent)	Tobacco allot- ment as a percentage of cropland (percent)	Peanut allot- ment as a percentage of cropland (percent)	Total allot- ment of a percentage of cropland (percent)	Allotment pur- chased out of county as a per- centage of total allotment (percent)
0 - 10.0	20.62	4.94	22.38	48.04	20.1
10.1 - 25.0	34.39	12.69	35.18	82.26	21.4
25.1 - 50.0	24.39	3.94	24.00	52.33	18.9
50.1 - 100.0	22.55	4.90	17.05	44.50	12.0
100.1 - 200.0	32.35	1.59	22.45	56.39	14.1
200.1 and over	19.58	4.14	15.03	38.75	13.4

Table 14. Characteristics of farms without peanut allotment which purchased cotton allotment out of county in 1966 by size groups

1966 effective cotton allotment class (acres)	Total effective cotton allotment as a percentage of cropland (percent)	Tobacco allotment as a percentage of cropland (percent)	Total allotment as a percentage of cropland (percent)	Allotment purchased out of county as a percentage of total allotment (percent)
0 - 10.0	17.98	9.68	27.66	47.6
10.1 - 25.0	24.33	8.46	32.79	31.4
25.1 - 50.0	36.94	5.20	42.14	32.5
50.1 - 100.0	22.88	2.82	25.70	37.0
100.1 - 200.0	52.38	3.39	55.77	26.9
200.1 and over	24.47	2.58	27.05	21.9

Farms with large acreages of effective cotton allotment in 1966 were responsible for a major share of the transfer by sale across county lines. Two-thirds of the total allotment sold across county lines was onto farms which had more than 100 acres of effective allotment in 1966 after transfer. The 12 largest farms in the area outside of the peanut area had more than 100 acres of allotment transferred per farm. It should be noted that such a large transfer is possible only when a given managerial unit has more than one ASCS farm number. If anything, the data on acreage transferred per farm are understatements of the transfer of cotton allotment to large farms because it is not possible to specify the managerial unit in every case in which more than one farm number was managed or owned by a single individual or company.

Despite the importance of large farms in the total transfer of cotton allotment by sales across county lines, it should be noted that the out-of-county purchase of allotment as a percentage of the total allotment in 1966 declined as the size of the farm increased. These data reported in Tables 12 and 13 show that the purchase of out-of-county allotment was most important proportionally to the small farms both in the peanut producing area and in all other areas. For example, farms with 10 acres or less of 1966 effective cotton allotment transferred by sale 20 percent of their total allotment in the peanut producing area whereas the largest farming class transferred 13.4 percent of their total allotment by sales in 1966. In the other producing areas the smallest farms transferred 47.6 of 1966 effective allotment by sales while large farms in the same areas only transferred 21.9 percent by sales. Thus, despite the importance of the large farms in transferring purchased allotment, out-of-county purchases were proportionally more important to small farms. It is possible that in-county purchase, leasing of allotment and release and reapportionment provisions are concentrating allotments among the large farmers, but it is not possible to establish this from the data available in the study.

#### FACTORS DETERMINING SALES VALUE

The best estimate of the mean sales value of cotton allotment in 1966 is between 12.7 cents and 13.8 cents per pound as estimated from the receiving and transferring farms. For purposes of discussion,



assume that 13 cents per pound is the best estimate available from the 1966 season. What forces determined this value? Why was the price not lower or why was it not higher than 13 cents? A careful analysis of the price would involve a consideration of the alternatives of both the transferring and receiving farms. As in other markets, both the buyer and the seller affect the market price and the activities of each should be considered.

Transferring farms had a number of alternatives in 1966. First, they could have used the cotton allotment on their own farms, or they could have rented their land and the cotton allotment to neighboring farms for operation. Second, they could have released the acreage to the county and state committees for reapportionment to other farmers who wished to expand their cotton production. In 1966 this alternative was followed by 4,504 farms releasing 14,155 acres of cotton allotment. Third, farmers could have held their allotment and diverted as much as program provisions would have allowed. Diversion payments could have been made on 35 percent of the acreage on farms of more than 10 acres of cotton allotment in 1966 and up to 70 percent of the allotment for small farms with less than 10 acres of effective allotment. Diversion payments were made at the rate of 10.5 cents per pound of projected yield in 1966. Fourth, transferring farms could have leased or sold their allotment to other producers.

Decisions about these alternatives had to be made at different times. For example, the lease and sales program was open between November and December of 1965 for the 1966 production season. Release and reapportionment followed later in the year, and the decision to produce or to lease the land idle or to divert it came even later. Nevertheless, the programs were announced in time for farmers to choose among them and it can be assumed that, other things equal, farmers would utilize their allotment in the way that would produce the most revenue for them. This would suggest that little or no land would be in the release and reapportionment program. Farmers would either divert acreage under the provisions of the voluntary program or sell and lease acreage they did not wish to produce. If diversion was considered an alternative, lease and sales rates would have been at approximately the rate offered under the diversion program assuming no opportunity return for

diverted land. This was clearly not what occurred in 1966 nor did it occur in 1967. The sales price was less than twice what a person could receive through diverting the maximum quantity of his acreage on farms with less than 10 acres of effective allotment. Stated another way, if a farmer had diverted his maximum acreage in 1966 and 1967, he would have realized more income than he did from the sales price of the diverted acreage in 1966. In addition, he would be left to dispose of the allotment in some profitable manner after the 1967 season.

Why did transferring farms offer so much allotment at such a low price? Unfortunately, no clear answer is available to this question from the data utilized in this study. Several hypotheses can be advanced. First, perhaps information on the alternatives was not clear to the sellers. In the first year of any program, many farmers fail to utilize the full amount of information made available by ASCS which they need to make clear decisions. Second, the cost of transactions may be very high. Thus, a farmer who has a small allotment may not seek out the information necessary to choose the highest return. He simply takes the first offer made to him for his allotment. In this case, the initiative is taken by the receiving farm and the transferring farm simply takes the best price under the contract which requires little or no time to complete the transaction. Third, some farmers may not have viewed the diversion program as a legitimate alternative to either release and reapportionment or sale of their allotment. The diversion program represents payments for underproduction. As a result, the program may be equated in the mind of some owners to welfare payments or the dole. Thus, the nonpecuniary returns from diversion, the closest financial alternative to sales, might have been discounted heavily by some farmers.

Receiving farms cannot be expected to pay more than they are required to pay by the sellers. It is important, therefore, to determine what receiving farms could afford to pay. The alternatives open to the receiving farms and their financial incentives to purchase can be seen by looking at a hypothetical example of a purchasing farm in 1966. Consider a farm that has a projected yield of 480 pounds per acre. Suppose that the operator buys enough cotton allotment at 13 cents per pound to increase the effective acreage allotment by one acre. This purchase costs him \$62.40. Under the provisions of the voluntary

program in 1966, the farmer had to divert 12.5 percent of his effective allotment to qualify for support payments. This amounts to diverting 60 pounds at 10.5 cents to receive a remuneration of \$6.30. Assuming a farmer diverted a maximum 35 percent, he could receive an additional \$11.34 for diversion of 22.5 percent of his 480 pounds of projected yield. If the remaining 65 percent of the acre were produced and 312 pounds of cotton were marketed, it is possible for the farmer to pay for the entire allotment in the first year. A net return of slightly more than 14.3 cents per pound after taking care of production costs, including an opportunity cost for the land, would have been required to pay for the allotment in 1966. The returns to production and diversion to pay for the allotment in 1966 can be summarized as follows:

Required diversion of 12.5 percent of effective allotment	
(60 lbs. x 10.5 cents per pound)	\$ 6.30
Voluntary diversion of 22.5 percent of effective allotment	
(108 lbs. x 10.5 cents per pound)	\$11.34
Returns over all costs on production	
(312 lbs. x 14.35 cents per pound)	<u>\$44.77</u>
Total	\$62.41

Returns from produced cotton probably were not this high for most farmers. Thus, except under the best conditions, somewhat more than one year was required to pay for the allotment by a producing farmer.

Consider an alternative circumstance in which the farmer simply used the expanded acreage to divert the maximum 35 percent. In such a case, the entire acre purchased through the program might be diverted and 10.5 cents received for each pound of projected yield. In this case, diversion payments in the first year and a third of the diversion payments in the second year would be sufficient to have remunerated the purchaser for his expenditure assuming his diverted land had no real production alternative. Under such a circumstance, a large amount of allotment transfer by sale would have been expected. Of course, it must be remembered that the purchase program is hardly compatible with release and reapportionment which allowed some farmers to expand their effective allotment free. The release and reapportionment program has made allotment a virtually free good. In contrast, the sales and lease programs will operate only when cotton allotment is scarce.

### Future Transfer

The total amount of allotment purchased in 1967 was much reduced over what it had been in 1966. In North Carolina sales mounted to 1,522 acres in 1967 as compared to slightly over 6,000 acres in 1966.<sup>1</sup> Farmers who purchased allotment in 1966 were probably surprised to see a large quantity of allotment released and reapportioned after they had purchased or leased their allotment earlier in the year. In 1967 many farmers who might otherwise have purchased allotment probably waited to see how much allotment would become available to them without charge. The total amount of acreage released and reapportioned in 1967 in North Carolina exceeded 36,000 acres, more than twice the amount that had been released and reapportioned in 1966. There were more forces at work than simply a reduced demand for the purchase of allotment. Some allotment not heretofore available for release and reapportionment became available in 1967.

The same phenomena occurred nationally: reapportioned allotment acreage in 1967 exceeded the 1966 amount. At the same time the amount of allotment sold, leased or diverted also increased. It would appear that the amount of allotment becoming available for redistribution among farms was increasing. If this is true, the allotment transfer program may be expected to increase in importance in the future.

### The Sales Market for Cotton Allotment

Transferring cotton allotment under the current sales program is very expensive. The cotton allotment is widely dispersed and held in small quantities. The individuals concerned indicate to the ASCS office that they are willing to sell their allotment and the quantities and names are advertised in ASCS offices across the state. Individuals who wish to purchase the allotment must then personally contact the owner and arrive at a price with him. Then each of the two parties must sign the contract and file it with the ASCS office. This system is roughly analogous to the procedure of farmers bringing produce to town and selling

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<sup>1</sup>All data in this section are from mimeographed releases of the ASCS, USDA.

it directly to the consumer. Small quantities are involved in each transaction, and a personal contact exists between the buyer and the seller. This system is so costly that perhaps many farmers who might otherwise wish to purchase allotment do not enter the market.

To increase the functioning and efficiency of the transfer market, an alternative might be developed which allows the use of a broker. One person might specialize in gathering information and bringing the buyer and seller together so that personal contacts initially are not required. Such a system seems to be utilized informally in the transfer of tobacco allotment in some counties. In this case, the contract is sufficiently valuable that the broker receives a payment based on the number of pounds in the contract. While an infinite variety of market organizations might be used to facilitate cotton transfer, one simple and potentially efficient system is suggested below.

Suppose that cotton producers organized under a cooperative to which they assign the right of attorney for cotton allotment. Also, assume that the contract assigns the cooperative the authority to establish a price which it will advertise and maintain for one week starting with a high price at the first of the season and gradually working down through the season. This pricing procedure is widely known as a Dutch-clock pool. It is used for flue-cured tobacco sales in Canada (MacGregor, and Klosler, 1966). Sellers willing to participate in the program might assign allotments to the pool at the beginning of a week when the announced price is known. Any sales during that week would be apportioned among the persons contributing cotton allotment to the pool. The next week the price would be lowered one cent. Additional bidders would be encouraged by the reduction in price to come into the market. Again the sales would be apportioned among the people who were in the pool that week. Any owner would be empowered to withdraw his allotment at the end of any marketing week. Thus, if a man were willing to sell his allotment at 15 cents but not 14 cents a pound, he could assign the cooperative the right to sell for those weeks before the asking price was put at 14 cents. He would benefit in proportion to the allotment sold at 17, 16, and 15 cents a pound, but he would not be forced to transfer further if he did not wish to leave his remaining allotment in the pool. Under such a system, the pool would be exhausted eventually. In that week, the allotment desired by the bidders would exceed the allotment supplied by owners. The

allotment would have to be apportioned among the bidders so that each one could participate according to the quantity of his bid.

As an example, suppose that 125,000 acres representing 50,000,000 pounds of projected production were offered for sale at the start of the season. The marketing organization would open the bidding at two or three cents above the average price observed in the previous trading year. Perhaps few bids would be received the first week. Most purchasers might hold off, waiting for the lower price they had observed in the previous year. Those operators who were most interested would put in a bid removing some of the pool of allotment. At the end of the week, some owners might remove allotment from the pool if they had decided to produce cotton themselves. Bidders might take 2,500,000 pounds and owners withdraw 500,000 pounds for their own use. The pool would stand at 47,000,000 pounds. As the asking price was reduced by one cent at the start of the next week, some more farmers might put in bids. In the second week perhaps 10,000,000 of the pounds would be purchased leaving 37,000,000 pounds. As the price approached the level most buyers expected to clear the market, many bids would come in. Before long the market would be cleared of allotment. Some operators might hold back hoping others would do the same thing so that the price would be depressed. However, there would be no easy way for buyers to collude to depress the price. The bidder who holds back would find that others bid off the quantity of allotment they desire. Hold-outs would be threatened with the possibility of getting no allotment. The market price resulting from the Dutch-clock system would probably be very close to that obtained under the current system, but most of the variation in price from contract to contract would disappear. Private transactions would be allowed but the efficiency of a central clearing house would probably greatly facilitate allotment transfer. The costs of the organization might be deferred through a small charge per pound of projected production.

The important attribute of this kind of transfer procedure is that it would end the necessity of making individual contracts. Of course, it would require some enabling legislation to allow some agency to take power of attorney for allotment for one week at a time. The legislation would also have to remove the necessity for individual

signatures on contracts. It should be noted that similar pools are conducted for the sale of lambs in the state by the North Carolina Department of Agriculture.

Any one of a number of agencies might be empowered to coordinate the sale of allotment. The same agency could organize the leasing market also. The Commodity Credit Corporation and the Agricultural Stabilization and Conservation Service are examples of two federal agencies which would conceivably be in charge of the transfer activity. The North Carolina Cotton Promotion Association is an example of a nongovernmental organization which might be empowered to perform the service. The North Carolina Department of Agriculture is still another agency which might operate the transfer market.

#### Sales across State Lines

No allotment program currently allows the transfer by sales or lease of allotment across state boundaries. Thus, the geographic extent of the market is limited. If operators in other states could afford to pay more for allotment than is currently being paid, allotment owners in the low price state would benefit from expansion of the sales area. Why then is there a restriction on the movement of allotment?

Probably the primary objection to sales across county lines can be found in the fact that ginners and suppliers of fertilizer and seed are located in one particular place and would find it difficult to follow their customers if they moved from one state to another. Thus, not all persons would gain from the transfer across state lines. If there were no losers, the opposition to allotment mobility would decline. One manner in which losses could be wiped out would be to provide for indemnity of losses which exist or are created by the movement of allotment out of an area. U. S. Government policy is experimenting with such a device in foreign trade. If the tariff cuts made as a result of the Kennedy round of trade negotiations result in business losses, the U. S. Treasury is in a position to pay an indemnity. If such a provision were provided for input suppliers and ginners in the cotton industry, much of the opposition to allotment mobility would probably decline. If all participants in the system could be made to be gainers, then greater mobility and greater efficiency would probably be brought

about. It should be noted that there is not great pressure now for transfer across state lines and probably there will be none until and unless terms of the release and reapportionment program are changed. However, when the time comes, if the losers are fully acknowledged and if provisions are made to compensate them, it seems highly possible that the allotment transfer programs can be made more flexible.



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Appendix A  
Transfer Provisions of Food and  
Agriculture Act of 1965

The Food and Agriculture Act of 1965 provided for the transfer of cotton allotments through owner transfer from one farm to another owned by the same individual and through sale and lease from one farm to another when owned by different individuals. Transfers were to be exercised during the calendar years of 1966-1969 and all transfers were to be for the period of years agreed upon by the parties to transfer. This means that it is possible for two holders of cotton allotments to agree on a lease contract of cotton allotment for a period longer than four years even though the authority for permitting lease contracts was authorized for a period of four years.

Transfers may be made from one farm to another subject to the following conditions:

- (a) No allotment shall be transferred to a farm in another state or to a person for use in another state;
- (b) No farm allotment may be sold or leased for transfer to a farm in another county unless the producers of cotton in the county from which transfer is being made have voted in a referendum within three years of the date of such transfer, by a two-thirds majority of the producers participating in such a referendum;
- (c) No transfer of an allotment from a farm subject to a mortgage or other lien shall be permitted unless the transfer is agreed to by the lienholder;
- (d) No sale of a farm allotment shall be permitted if any sale of cotton allotment to the same farm has been made within the three immediately preceding crop years;
- (e) The total cotton allotment for any farm to which allotment is transferred by sale or lease shall not exceed the farm acreage allotment (excluding reapportioned acreage) established for such farm for 1965 by more than one hundred acres;
- (f) No cotton in excess of the remaining acreage allotment on the farm shall be planted on any farm from which the allotment (or part of an allotment) is sold for a period of five years following such sale, nor shall any cotton in excess of the remaining acreage allotment on the farm be planted on any farm from which the allotment (or part of an allotment) is leased during the period of such lease, and the producer on such farm shall so agree as a condition precedent to the Secretary's approval of any such sale or lease;

- (g) No transfer of allotment shall be effective until a record thereof is filed with the county committee of the county to which such transfer is made and such committee determines that the transfer complies with all transfer provisions; and
- (h) Transfer records may be filed with county committees only during the period beginning June 1 and ending December 31.

Appendix B  
Application for Transfer of Upland Cotton Allotment

**APPLICATION FOR TRANSFER OF UPLAND COTTON ALLOTMENT**

O P E R A T O R  O W N E R	FARM NO.	TRANSFERRING FARM	FARMLAND	CROPLAND	O P E R A T O R  O W N E R	FARM NO.	RECEIVING FARM	FARMLAND	CROPLAND
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**FARM ALLOTMENT DATA**

1. TYPE OF TRANSFER REQUESTED		FROM (County):		TO (County):					
SALE <input type="checkbox"/> LEASE <input type="checkbox"/> BY OWNER TO ANOTHER FARM OWNED OR CONTROLLED BY HIM <input type="checkbox"/>									
2. FOR TEMPORARY TRANSFERS (Years)			3. CROP YEAR EFFECTIVE		4. DATE EXPIRES				
DETERMINATION OF YIELD RATIO (for acreage adjustment) →		5. PROJECTED YIELD OF TRANSFERRING FARM (Pounds)		6. PROJECTED YIELD ON RECEIVING FARM (Pounds)					
		7. ITEM 6 - 5 (If more than 110% adjust)							
8. NO. OF ALLOTMENT ACRES ON TRANSFERRING FARM		9. NO. OF ALLOTMENT ACRES TO BE TRANSFERRED		10. ALLOTMENT REMAINING ON TRANSFERRING FARM					
				11. ADJUSTED ACREAGE TRANSFERRED					
12. MINIMUM ALLOTMENT DATA (Col. 1 - ASCS-156)		13. TWO PRIOR ALLOTMENTS (Col. 8 - ASCS-156)				14. PLANTED & CONSIDERED PLANTED (Col. 12 - ASCS-156)			
		YEAR ACRES		YEAR ACRES		YEAR ACRES		YEAR ACRES	
		19		19		19		19	

**HISTORY DATA**

HISTORY	19	19	19	19	19
15. Transferring Farm					
16. Adjusted for Receiving Farm					
17. Pooled					

**CERTIFICATION OF PERSON TRANSFERRING COTTON ALLOTMENT (TRANSFEROR)**

*I wish to transfer the acreage of upland cotton shown in item 9 from the above-identified farm. I understand that this acreage may be adjusted for differences in productivity, and that the transfer is subject to the conditions prescribed under 7 U.S.C. 1344a and the regulations of the Secretary. I further understand that the transfer may be cancelled if the applicable conditions are not met. I agree that no upland cotton shall be planted on my farm in excess of the allotment established for each of the five years following the date this transfer by sale is approved, or for the period of the lease if this transfer is by lease. I certify that all holders of mortgages or similar liens on my farm are listed below and they have agreed to this transfer as indicated by their signature.*

<b>AGREEMENT OF LIENHOLDER OR MORTGAGEE TO TRANSFER</b>		<b>SIGNATURE OF TRANSFEROR</b>	
SIGNATURE	DATE	OPERATOR	DATE
SIGNATURE	DATE	OWNER	DATE

**CERTIFICATION OF PERSON RECEIVING COTTON ALLOTMENT (TRANSFeree)**

*I understand that the transfer is subject to the conditions prescribed under 7 U.S.C. 1344a and the regulations of the Secretary, and that the acreage may be adjusted for differences in productivity. I further understand that the transfer may be cancelled if the applicable conditions are not met. I also understand that the acreage allotment transferred is subject to the applicable acreage allotment and marketing quota regulations.*

SIGNATURE OF TRANSFeree	DATE
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**ACTION OF COUNTY COMMITTEES**

TRANSFERRING COUNTY	SIGNATURE	DATE
APPROVED <input type="checkbox"/> DISAPPROVED <input type="checkbox"/>		
RECEIVING COUNTY	SIGNATURE	DATE
APPROVED <input type="checkbox"/> DISAPPROVED <input type="checkbox"/>		

Appendix C  
Letters Used in Data Collection

NORTH CAROLINA STATE UNIVERSITY

AT RALEIGH

School of Agriculture and Life Sciences

Department of Economics  
Box 5368 Zip 27607

February 8, 1967

Dear Sir:

We would like your help in studying the 1966 transfer program for cotton allotment in North Carolina. It is important for policy administrators and farmers to understand how well the program has worked in its first year of operation. We are undertaking a study of the sales of allotments with the assistance and encouragement of the state ASCS office. The objective of our study is to obtain information which has not been available through ASCS files.

On the back of this letter we are asking you to give us some information about the allotment you purchased before January 15, 1966, and which was available to you for production this last crop year. This information will be handled in a confidential manner. No information on individual farms will be released to individuals or agencies. The questions relate only to the cotton allotment you purchased and not to any you may have transferred under a lease from another farmer or produced on another farm. If you purchased allotment from more than one farmer, please match price and seller.

We are contacting all those who participated in allotment transfer by sale across county lines. It will only take a minute of your time to complete the form on the back of this page and return it in the enclosed stamped envelope. Your participation will be greatly appreciated.

Sincerely,

Dale M. Hoover  
Associate Professor of Economics

R. Charles Brooks  
Extension Associate Professor  
of Economics

(over)



(Enclosure in Initial Letter)

Purchased from: \_\_\_\_\_

I paid \$\_\_\_\_\_ per pound of 1966 cotton allotment transferred to my farm.

or

I paid \$\_\_\_\_\_ per acre on the basis of acreage actually transferred to my farm after ASCS adjustment for yield differences.

Purchased from: \_\_\_\_\_

I paid \$\_\_\_\_\_ per pound of 1966 cotton allotment transferred to my farm.

or

I paid \$\_\_\_\_\_ per acre on the basis of acreage actually transferred to my farm after ASCS adjustment for yield differences.

Purchased from: \_\_\_\_\_

I paid \$\_\_\_\_\_ per pound of 1966 cotton allotment transferred to my farm.

or

I paid \$\_\_\_\_\_ per acre on the basis of acreage actually transferred to my farm after ASCS adjustment for yield differences.

What do you think the price per pound has been for 1967 transfers? \$\_\_\_\_\_

How many acres did you purchase for 1967 transfer? \_\_\_\_\_

NORTH CAROLINA STATE UNIVERSITY

AT RALEIGH

Department of Economics  
Box 5368 Zip 27607

School of Agriculture and Life Sciences

February 24, 1967

Dear Sir:

Recently we sent you a questionnaire about the 1966 transfer program for cotton allotment sold under the provisions of the transfer program. We hope you will return the form in the stamped return envelope we provided you. Your response will be treated confidentially.

It is our hope that this information will help to better the entire cotton industry in North Carolina. We will look forward to receiving your reply soon. Your cooperation will be greatly appreciated. If you have already mailed your form, please disregard this letter.

Sincerely,

Dale M. Hoover  
Associate Professor of Economics

R. Charles Brooks  
Extension Associate Professor  
of Economics

Appendix D  
Counties Making up Areas Used for Summary Analysis  
of Allotment Sales

Area I (Piedmont): Alamance, Alexander, Anson, Burke, Cabarrus, Caldwell, Catawba, Chatham, Cleveland, Davidson, Davie, Durham, Forsyth, Gaston, Granville, Guilford, Iredell, Lee, Lincoln, Mecklenburg, Orange, Person, Polk, Randolph, Rowan, Rutherford, Stanley, Union, Wake, Wilkes, Yadkin.

Area II (Northeast): Bertie, Edgecombe, Franklin, Gates, Halifax, Hertford, Martin, Nash, Northampton, Vance, Warren.

Area III (South Central): Cumberland, Harnett, Hoke, Johnston, Montgomery, Moore, Richmond, Robeson, Sampson, Scotland.

Area IV (Lower Coastal Plain): Beaufort, Bladen, Brunswick, Camden, Carteret, Chowan, Columbus, Craven, Currituck, Duplin, Greene, Hyde, Jones, Lenoir, New Hanover, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Pitt, Tyrrell, Washington, Wayne, Wilson.

Appendix E

Regression of Price Paid on a Variable Representing Time

The model used is as follows:

$$Y_i = a + b X_i + e_i$$

where:

Y = price paid in cents per pound

X = date on the contract, numbering continuously from one for the first date of allotment sale

a = constant term

b = rate of change in price per day as the transfer period progressed

e = random variable associated with each observation

The results were:

$$\hat{a} = 11.0$$

$$\hat{b} = 0.061$$

$$R_2 = .04550$$

The standard error of  $\hat{b}$  was 0.017. The "t" ratio of 3.480 leads to the conclusion that  $\hat{b}$  is significantly different from zero at the .01 probability level. There were 256 observations.

## **Agricultural Experiment Station**

North Carolina State University  
at Raleigh

*R. L. Lowmorn*, Director of Research

Bulletins of this station will be sent free to all citizens of the state who request them.