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Marketing of Alabama Cotton

Methods & Problems

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Marketing of Alabama Cotton
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INTRODUCTION

THE DOMESTIC COTTON INDUSTRY is undergoing rapid changes that are placing a severe strain on an old and tradition-bound cotton marketing system. The existing system has evolved over a long transition period, from the "King Cotton" era through varying stages of extensive Government involvement, including acreage allotments, set aside provisions, marketing quotas, price supports, and the Commodity Credit Corporation (CCC) loan program. The current situation is markedly different from the past. A free-market oriented industry exists wherein farmers may produce as much cotton as they want. With no controls, production is shifting to geographic areas having a comparative advantage in producing cotton. Market prices are determined chiefly by free market forces, and the CCC is no longer the farmers' major market outlet or the merchants' and mills' ready cotton reserve.

The free market oriented system has given new importance to the functions and operations of spot markets, market news services, forward crop contracting, quality standards, classification and sampling, and warehousing-merchandising practices.

Similarly, new technology in harvesting, seed cotton storage, and bale packaging, coupled with new Government regulations on labor, health, safety and environment, are all having

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an impact on the cotton industry and placing new strains on an old marketing system.[1]

Marketing costs continue to increase and represent more than half of the total cost spread between the farm value of cotton and the value or price at textile mills.[2] A 13-year comparison between average cotton spot prices and average prices paid for cotton landed at mills revealed an average price differential of 3.6 cents per pound, table 1.

The competitive position of the Alabama cotton industry depends upon all aspects of production, marketing, and utilization. Efficiencies in one aspect can be offset by inefficiencies in others. For example, low production costs can be offset by high marketing costs. Greater efficiency in the performance of marketing services will result in reductions in the cost per unit of marketing cotton, thereby improving the competitive position of the Alabama cotton industry in the U.S. and world cotton markets.

OBJECTIVES

This report presents the results of a study designed to identify methods and problems of cotton marketing in Alabama. The basic objectives of the project were:

(1) To evaluate and present general Alabama cotton marketing characteristics.

(2) To determine methods and problems associated with assembling cotton for shipment from gins to domestic mills or export outlets.

(3) To determine more efficient methods for assembling, processing, and storing cotton.

PROCEDURE

This study is part of a regional cotton marketing project in which the Agricultural Experiment Stations of Alabama, Arkansas, Louisiana, Mississippi, South Carolina, and Tennessee participated. Similar research procedure and field schedules were used so that data obtained would be on a comparable basis for regional economic analysis.

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[1] U.S. Department of Agriculture, Economic Research Service. February 1977. Cotton and Wool Situation, Report CWS-9, Washington, D.C., p. 5.

[2] Chandler, Whitman M., Jr., and Edward H. Glade, Jr. July, 1976. "Cost of Merchandising U.S. Cotton 1974/75 Season, "U.S. Department of Agricultural Economics Research Service, CWS-6.

TABLE 1. COTTON PRODUCTION IN ALABAMA, PRICES PAID TO PRODUCERS, SPOT MARKET PRICES, AND PRICES PAID AT MILLS, UNITED STATES, 1964-1976[1]

Year	Alabama cotton production[2]	Average price per pound			Difference between landed mill and spot price
		Received by producers	Spot market price	Landed at mills[3]	
	1,000 bales	*Cents*	*Cents*	*Cents*	*Cents*
1964	887	31.1	30.7	29.1	(−) 1.6
1965	852	29.4	29.5	28.7	(−) .8
1966	460	21.7	22.8	28.5	5.7
1967	200	26.7	28.7	35.0	6.3
1968	396	23.1	24.5	30.2	5.7
1969	460	22.0	23.1	25.8	2.7
1970	507	22.9	24.3	27.4	3.1
1971	640	28.2	33.0	36.3	3.3
1972	567	27.9	35.6	39.3	3.7
1973	449	44.0	67.1	71.7	4.6
1974	522	43.0	41.7	46.5	4.8
1975	312	53.5	58.0	62.7	4.7
1976	349	66.4	70.9	75.9	5.0
Avg.	—	33.8	—	41.3	3.6

[1]Abridged from Cotton Price Statistics (periodical)
[2]Alabama Agriculture Statistics. 1977, p. 12.
[3]Average prices landed at Group 201 mills, prices at Alabama and Georgia mills are slightly lower.

A listing of all cotton gins, gin-warehouses, and warehouses in Alabama was obtained from cotton classing offices in Birmingham and Montgomery. Figure 1 gives the geographic locations of these facilities in Alabama. Eleven gins, fourteen gin-warehouses, and eight warehouses were randomly selected for study.

Personal interviews with managers of gin, gin-warehouse, and warehouse firms were conducted. The interviews were designed to obtain the following information: (1) the method of shipment of cotton from gins to textile mills or export outlets, (2) the volume of cotton that was shipped directly to textile mills versus that volume not shipped directly to mills, (3) handling procedures involved in moving cotton from gins to warehouses, along with handling and storage procedures inside warehouses, (4) cotton break-out equipment, facilities, and labor requirements at warehouses, (5) problems encountered at each stage of processing, handling, and marketing of cotton, and (6) an overall description of the handling and marketing of cotton from cotton gins to textile mills or export outlets.

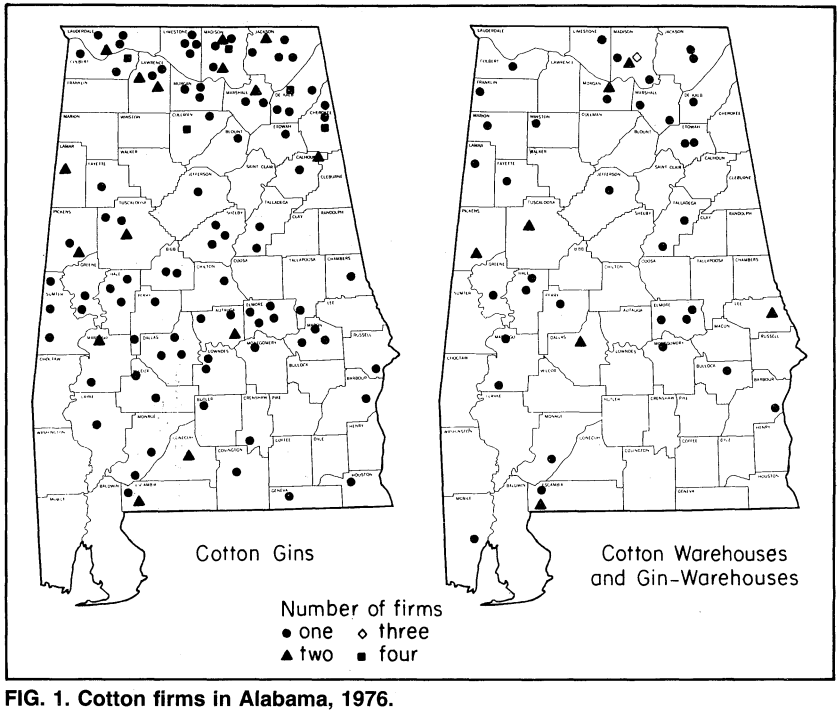

FIG. 1. Cotton firms in Alabama, 1976.

COTTON MARKETING ALTERNATIVES

Cotton marketed in Alabama typically moves from the farm to cotton gins, to a warehouse, and then to a textile mill or export outlet. The physical flow for cotton in Alabama is shown in figure 2.

After ginning, cotton may be transported to a nearby warehouse where it is stored, or it may be shipped directly to a domestic mill. If it is placed in a warehouse, it will later be shipped to a domestic mill, another warehouse, a reconcentration point, or exported.

Figure 3 shows the flow of ownership of most Alabama cotton. Comparison of figures 2 and 3 shows that ownership transfer occurs more often than actual bale movement. Mill buyers, ginners and local buyers, cotton brokers and commission firms, the CCC, cooperatives, or cotton shippers and merchants are alternative routes that producers may take to market cotton.[3] Each of these, in turn, will market cotton to domestic or foreign mills.

[3] The term cotton shipper and cotton merchant are used synonymously in this report.

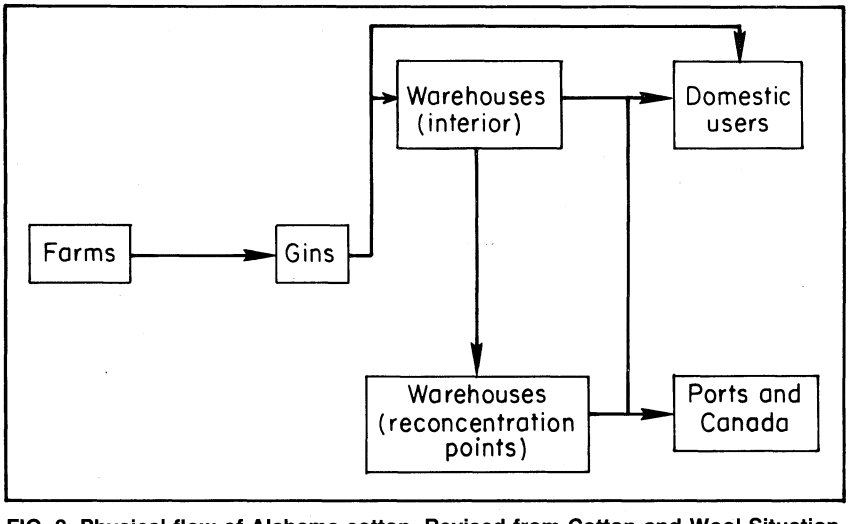

FIG. 2. Physical flow of Alabama cotton. Revised from Cotton and Wool Situation Report, CWS-3, United States Department of Agriculture, December 1975.

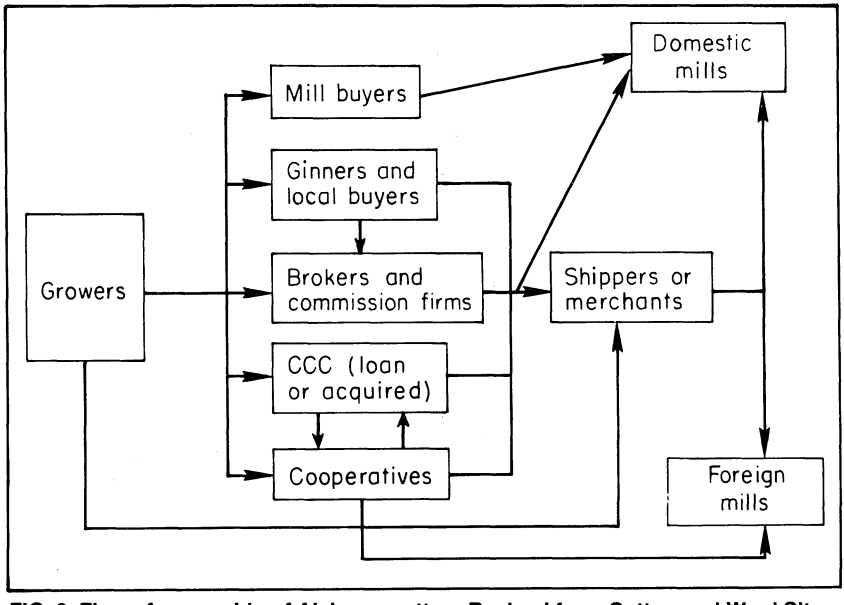

FIG. 3. Flow of ownership of Alabama cotton. Revised from Cotton and Wool Situation Report, CWS-3, United States Department of Agriculture, December 1975.

Producer Marketing

Producers in Alabama have or have had several alternative methods of marketing cotton. The following section presents some of the more commonly followed practices.

Commodity Credit Corporation

For approximately three decades, placing cotton in the Commodity Credit Corporation (CCC) was the predominant method of marketing cotton. Funds for price supports and for loans to cotton producers were administered through operation of the CCC. The Secretary of Agriculture had authority to set effective support prices and loan rates within a given range, as determined by Congress.

The rate established for CCC loans had a decisive effect on the choice among marketing channels for cotton. Except during World War II, when demand for cotton was unusually large, the effective level set for the CCC was near or above open market prices determined by supply and demand conditions. Volumes of cotton put under support loans varied from year to year.

TABLE 2. PERCENTAGE OF COTTON PRODUCTION PLACED IN THE COMMODITY CREDIT CORPORATION, UNITED STATES[1], 1959-1976

Production year	Percentage of production put in CCC	Production year	Percentage of production put in CCC
	Pct.		*Pct.*
1959	62.0	1968	40.7
1960	58.6	1969	37.2
1961	33.9	1970	23.7
1962	46.2	1971	11.9
1963	52.5	1972	14.5
1964	48.5	1973	13.9
1965	46.7	1974	21.5
1966	32.6	1975	8.5
1967	20.1	1976	3.8

[1]Abridged from Agricultural Statistics, United States Department of Agriculture, p. 61, Cotton: Price Support Operations.

By the mid-1960's, the CCC owned a year's supply of cotton and was paying a significant storage cost. Because of the great expense, public pressure was put on Congress and the Department of Agriculture to change the program. Important changes were made through passage of the Food and Agricultural Act of 1965, and its subsequent extension through 1973. Included in these changes was the requirement that producers set aside a percentage of allotted acres. For compliance with the program, growers received direct payments. Support price levels were set near the world price, and loan rates were set below the world price.

Operation of this program resulted in reduced production and a drop in the proportion of cotton going into CCC storage, table 2. New crops of cotton moved into domestic and world trade channels rather than into government storage. Grower incomes were maintained by direct payments and marketing practices were extremely different. Growers turned to spot markets, cooperatives, and forward crop contracting instead of relying almost entirely on CCC loans.

Spot Markets

Another way in which producers market their cotton is on the "Spot Market". This is a general term which is applied to major cotton marketing centers situated strategically throughout the cotton belt. Each market serves a fairly well-defined trading territory.

Spot markets such as Houston, New Orleans, and Galveston are deepwater ports and serve as the gateway through which

U.S. cotton moves to overseas markets. Others, including Memphis, Dallas, Greenwood, Little Rock, Augusta, Fresno, Lubbock, and Montgomery, are interior markets located near important areas of production and inland lines of transportation to mills or ports.[4] Principal agencies in these markets are cotton merchants or shippers, mill buyers, and cotton brokers.

A producer might use the CCC along with the spot market. When the CCC loan rate approximates market price, a loan might not be redeemed by the farmer. Cotton then becomes the property of the Government and is eventually sold into the spot market.

Another route by which cotton may be moved into the spot market is by direct sale to a local ginner who may act as an agent for cotton merchants or mill buyers.

Cooperatives

Some producers have formed cotton marketing cooperatives. Through production of a uniform, high-quality grade of cotton, producers have experienced an increased demand for their product, thus increasing the price received for cotton. Cooperative-owned cotton is grouped into uniform lots of truck load or railcar load size and sold by a marketing agent on a blended price basis at the marketing agent's discretion.

Forward Crop Contracting

A fairly new method of marketing cotton is that of forward contracting. With this method of marketing, producers sign a contract in advance of harvesting, in which they agree to deliver production from a designated acreage. The date of delivery, minimum quality to be delivered, and price to be received per pound are specified in the contract.

Most contracts are made between producers and cotton merchants, however, some are made between producers and local ginners. The primary advantage in forward contracting is that it provides protection for the producer against price declines. However, there is the disadvantage that the producers are not able to share in any price increases.[5]

[4] Ghetti, Joseph L., and Ron Cole. June, 1978. Charges for Ginning Cotton, Costs of Selected Services Incident to Marketing, and Related Information, 1977/78 Season, USDA, ESCS-26.

[5] Kohls, Richard, and W. David Downey. 1972. *Marketing Agricultural Products*, 4th Edition, The Macmillian Company, New York.

Gin Marketing

Most functions of a gin—cleaning, drying, ginning, and baling—are limited solely to the gin itself. From this point on, however, services performed in the marketing system for cotton can occur either at the gin or at a cotton warehouse.

Unless cotton is sampled automatically during the ginning process, the first step after a bale is packaged and weighed is for a sample to be cut from the sides of the bale. The sample is usually sent to the USDA cotton classing laboratory in Birmingham or Montgomery to be graded or "classed". Cotton is classed for grade and staple length with grade determined by color, foreign matter content, measure of fineness, and gin preparation. Staple length is determined by measurement of a typical portion of the fibers in the sample.

At the ginning facility, bales are also tagged for identification purposes. If the gin has warehouse facilities, the bales are stored until sold and a cotton merchant or textile mill representative arranges for movement.

Often a cotton ginner or gin-warehouseman actually buys cotton from producers. Cotton is then sold on the spot market, to a cotton merchant or directly to a textile mill buyer. In the 1977 season, growers sold 12 percent of their crop to ginners as baled lint—only about half the amount of 1976.[6]

In some cases a ginner or gin-warehouseman acts as a producer's agent and sells cotton. The ginner or gin-warehouseman contacts cotton merchants or mill buyers and advises them of the grades and quantities of cotton available. Merchants then tell ginners what price could be paid for these particular grades. If prices are deemed acceptable by the ginner, producers are contacted and release of those particular bales is authorized.

Warehouse Marketing

If cotton is not placed in a warehouse located at the gin, it is possibly transported to a local cotton warehouse. Warehouses serve as a point where truck loads of various grades may be assembled. Average duration of warehouse storage of cotton in Alabama is about 2 months.

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[6] Unpublished Master's Thesis. June 1977. *Contract Marketing of Cotton*, Michael Aster Davis, Auburn University.

When cotton reaches a warehouse, bales are normally reweighed, resampled, retagged, and warehouse receipts are issued for each individual bale. Weight, warehouse number, and the owner of each bale are recorded on the warehouse receipts. When bales are sold, warehouse receipts, not the actual bales, are exchanged. When a merchant or mill operator orders cotton shipped from a warehouse, warehouse receipts for the designated bales are cancelled. Handling, storage, and break-out charges[7] are then paid through the date of shipment by the holder of the warehouse receipts.

At the time cotton is sold to a cotton merchant or shipper, it is sometimes relocated. This enables a merchant to group like grades of cotton at one warehouse. Usually this takes place late in the season when cotton supplies at warehouses are limited. Also, cotton merchants could arrange for pickup of a few bales at several warehouses to get a truck-load lot. Merchants receive a considerable amount of the total cost spread between the farm value of cotton and the value or price when delivered to textile mills. This amount compensates for the services of grouping bales of like grades of cotton and for arranging transportation to textile mills. Shippers' average costs per bale for assembling and distributing United States cotton to Alabama and Georgia mills in the 1974-75 season were $23.93. These costs amounted to about 5 cents per pound based on an average bale of 480 pounds. Cotton purchased in the Southeast and delivered to Alabama and Georgia mills cost the shippers $15.05 per bale, or about 3 cents per pound, table 3.

COTTON HANDLING, STORAGE, AND TRANSPORTATION

Once a cotton bale comes off the gin press, it is generally weighed, tagged with a gin number and moved to a nearby loading area where it remains until it is moved into a warehouse. The gin tag contains a gin code number assigned by the Agricultural Marketing Service and a gin bale number assigned by the gin. The gin code number identifies the gin as to state, county, and classing office.

After accumulation of a truck load, (60-85 bales) cotton is manually loaded by either a hand-truck, electric hoist, or

[7] Break-out is a term used in the cotton industry referring to the removal of cotton bales from warehouse storage making them accessible for delivery.

TABLE 3. SHIPPERS AVERAGE COST PER BALE FOR ASSEMBLING AND DISTRIBUTING UNITED STATES AND SOUTHEASTERN COTTON, BY TYPES OF COSTS, 1974/75 SEASON

Region where purchased outlet to which shipped	Shippers average cost per bale in dollars										
	Buying and local delivery	Storage	Compression	Other warehouse services	Transportation	Cotton insurance	Financing	Selling	Miscellaneous	Overhead	Total
Southeast Region:											
Group 201 mills	0.81	1.91	—	1.47	2.56	0.16	1.77	0.58	0.18	1.93	11.34
Group 200 mills	.56	1.78	—	2.22	3.29	.06	3.21	.56	.06	1.17	12.90
Alabama & Georgia mills	1.00	2.00	—	0.00	6.20	.15	1.70	1.00	.50	2.50	15.05
All outlets	.79	1.89		1.53	2.67	.15	1.90	.55	.17	1.86	23.08
United States:											
Group 201 mills	1.07	1.71	3.40	3.25	7.54	0.23	3.11	0.85	0.50	2.27	23.94
Group 200 mills	1.00	1.55	3.50	3.39	8.12	.24	3.13	.86	.49	2.22	24.50
New England mills	.92	2.41	3.69	3.06	10.74	.24	3.87	.69	.37	2.51	28.49
Alabama & Georgia mills	1.08	1.40	3.57	3.32	7.07	.24	3.07	.90	.46	2.83	23.93
Other domestic	1.09	3.11	3.34	2.78	8.15	.34	7.95	1.68	.19	3.24	31.86
Total domestic	1.06	1.63	3.45	3.28	7.56	.24	3.16	.87	.49	2.40	24.14

Source: *Cotton and Wool Situation Report*, CWS-9, USDA, Economic Research Service, February 1977.

clamp-lift type truck. In 1976, only 9 percent of the cotton at gins was loaded by hand-truck, 19 percent was loaded by electric hoist and the remaining 72 percent was loaded with a clamp-lift truck. Over 90 percent of the firms surveyed indicated that they used two men in the loading operation at the cotton gin. Of the gins surveyed in Alabama, 73 percent used clamp-lift trucks for this movement of cotton from the gin press to a loading area, table 4. The remaining 27 percent moved cotton by hand-trucks.

Cotton baled at gin-warehouse facilities was handled in a slightly different manner from that at a gin not having warehouse facilities. Cotton was rolled out of the press and generally placed on a hand-truck. While on the hand-truck, it was weighed and tagged. This tag doubles as a gin and a warehouse number, and was used throughout the marketing and handling process as a means of identification.

TABLE 4. NUMBER AND PERCENTAGE OF GINS, AND GIN-WAREHOUSES AND WAREHOUSES, BY TYPE OF EQUIPMENT, SOURCE AND AMOUNT OF LABOR EMPLOYED IN HANDLING AND TRANSPORTATION OF LINT COTTON FROM GINS TO WAREHOUSES, ALABAMA, 1976

Item	Gin using each method		Gin-warehouses and warehouses using each method	
	Number	Percent*	Number	Percent*
Equipment (moving)[1]				
Clamp-lift truck	8	73	13	59
Hand-truck	3	27	3	14
Combination[2]	0	0	5	23
Forklift (no clamps)	0	0	1	5
Total	11	100	22	100
Labor Source				
Regular labor	4	36	12	55
Additional labor	7	64	10	45
Total	11	100	22	100
Labor Amount (men)				
One	0	0	3	14
Two	10	91	6	27
Three	1	9	6	27
Four	0	0	4	18
Five or more	0	0	3	14
	11	100	22	100
Equipment (loading)[3]				
Clamp-lift truck	8	72	18	82
Hand-truck	1	9	3	14
Electric hoist	2	19	1	5
Total	11	100	22	100

[1]Equipment used to move bales off the press to the loading area.
[2]Both hand-trucks and clamp-lift trucks were used.
[3]Equipment used to load bales into the means of transportation.
*May not sum due to rounding.

When a bale is tagged, a sample of cotton is taken. Most gin and gin-warehouse facilities use the traditional method of sampling, manually hacking a sample from both sides of the bale. Sampling in this manner causes a reduction of 3/4 to 1 pound in bale weight in addition to creating an easily contaminated, ragged looking bale. Sampling of a bale is frequently repeated, with the fees of $0.25-0.75 per bale representing a sizable part of the spread between grower prices and manufacturer prices.

Samples may be obtained by using other methods. Some warehouse facilities are equipped with samplers that automatically cut the sample from the side of a bale. This technique is more efficient than hand-cut samples, but still causes a lighter and ragged looking bale.

The most efficient way of obtaining samples is through the use of automatic cotton-bale samplers which draw a sample from the entire contents of a bale during the ginning process. In 1962, it was estimated that use of automatic samplers by ginners and marketing agencies in the U.S. would reduce overall marketing cost of cotton by $10 to $12 million.[8] However, only 8 percent of the gins and gin-warehouses in Alabama have adopted this sampling method. There is apparently some reluctance in the industry to accept automatic sampling techniques.

Several techniques are used for stacking cotton in the warehouse. Some warehouses stack bales flat or horizontally, down on the long side, while others stack the bales on the "head" or vertically. Usually, 2 to 5 bales are stacked on top of each other, figure 4.

Seventy percent of the warehouses surveyed stacked cotton bales vertically, 2 to 3 bales high, with two back-to-back rows, leaving two rows of cotton accessible from one aisle, table 5. Thirty percent stacked cotton horizontally, 4-5 bales high, with two rows of cotton accessible from one aisle. Both of these systems used identification tags arranged on the outer aisle side of each bale for easy identification. Both systems had numbered aisles and required location sheets to help find individual bales as they were called for by a shipping order.

[8] Sheperd, G. S. 1962. *Marketing Farm Products*, Fourth Edition, Iowa State University Press.

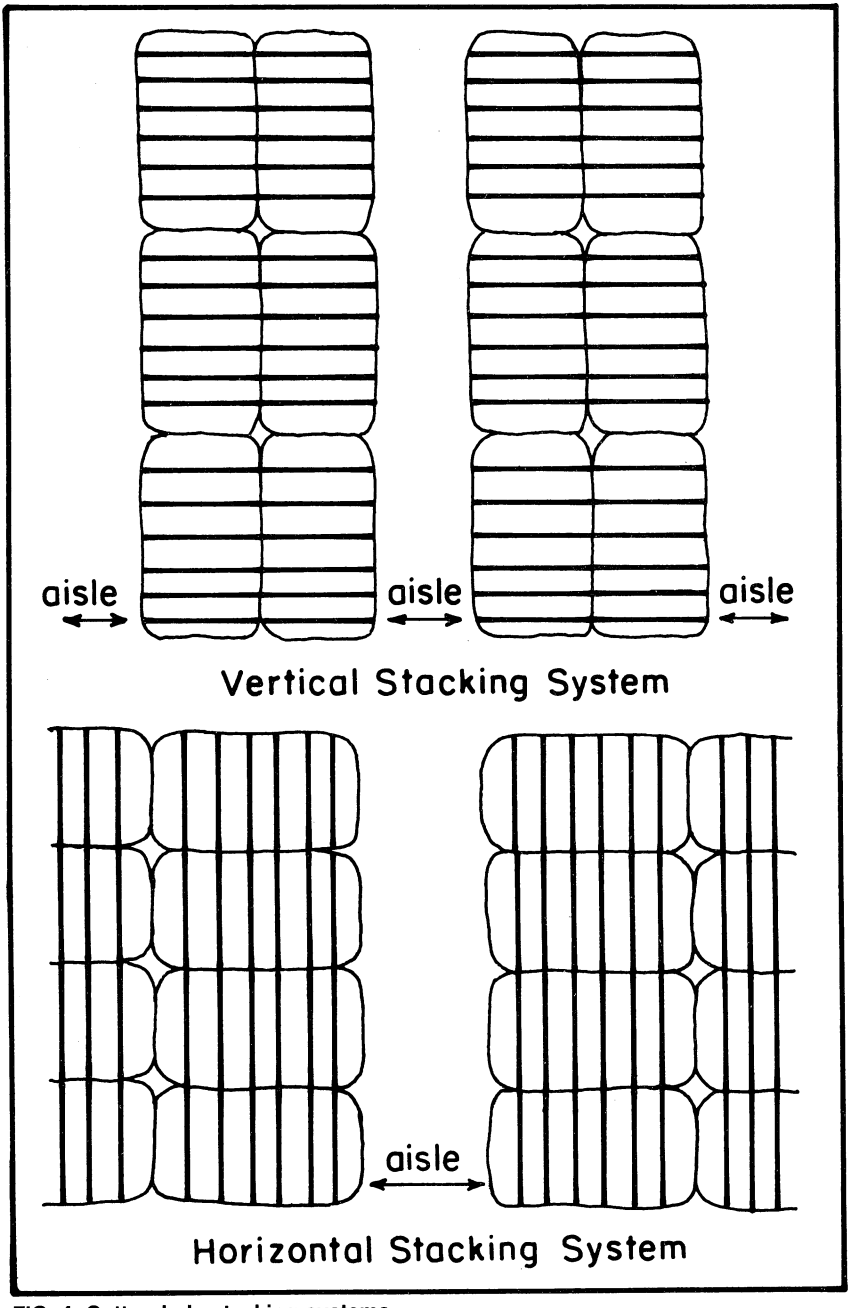


FIG. 4. Cotton bale stacking systems.

TABLE 5. COTTON BALE STACKING SYSTEMS, ALABAMA, 1976

System	Gin-warehouses using each method		Warehouses using each method	
	No.	*Pct.*	*No.*	*Pct.*
Vertically				
2-3 bales high, 1 aisle for two back-to-back rows	8	61	5	70
2-3 bales high, stacked in areas of the warehouse, no aisle	1	8	0	0
Horizontally				
2-3 bales high, stacked in areas of the warehouse, no aisle	1	8	0	0
4-5 bales high, 1 aisle for two back-to-back rows	1	8	2	30
4-5 bales high, stacked in areas of the warehouse, no aisle	2	15	0	0
Total	13	100	7	100

While cotton warehouse operators used only two different systems to stack cotton bales, operators of gin-warehouses used five different systems. Over 60 percent of the gin-warehouses in Alabama stacked cotton vertically, 2-3 bales high, leaving two rows of cotton accessible from one aisle, table 5. This stacking system also had identification tags arranged to facilitate breakout of cotton bales. Identification tags were placed so they faced the aisle and were easily read as the break-out crew moved down the aisles of cotton in a warehouse.

Of the gin-warehouse operators surveyed, 31 percent stacked cotton in warehouses by areas, leaving no aisle, table 5 and figure 5. Each warehouse and warehouse area was assigned a number. For example, bale No. 32018 would be located in warehouse No. 3, area No. 2, and would be bale No. 18. Bales were stacked randomly, one on top of another. When a shipping order arrived at the warehouse, many bales may have to be pulled out just to obtain the designated bale. A portion of the additional costs caused by this increased handling is passed on through cotton marketing channels. The "no aisle" method of stacking is the most inefficient method of stacking and handling cotton.

In Alabama, 65 percent of the gin-warehouses receiving cotton bales used a clamp-lift truck as the primary means of transporting bales, table 6. However, 74 percent of cotton warehouse operators interviewed indicated that they used a clamp-lift machine combined with either hand trucks or conveyors to handle cotton as it was received. The conveyor

system had automatic weighers, samplers, and an assembly line type process to check bales into the warehouse. A clamp-lift truck was used to remove bales from the conveyor and to stack them in the warehouse.

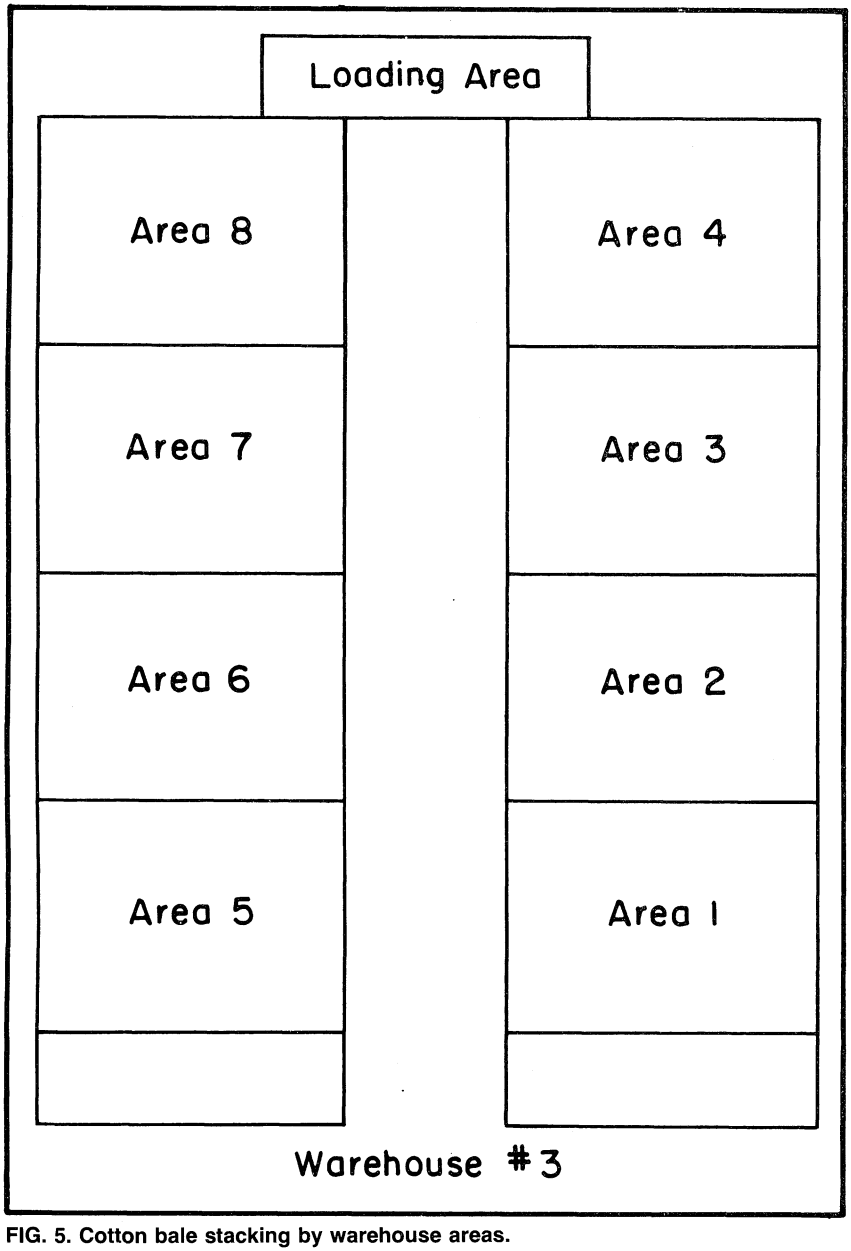


FIG. 5. Cotton bale stacking by warehouse areas.

TABLE 6. NUMBER AND PERCENTAGE OF GIN-WAREHOUSES AND WAREHOUSES, BY TYPE OF EQUIPMENT AND SOURCES AND AMOUNT OF LABOR USED TO HANDLE AND TRANSPORT COTTON BALES WITHIN COTTON WAREHOUSES, ALABAMA, 1976

Receiving	Gin-warehouses using each method		Warehouses using each method	
	No.	*Pct.**	*No.*	*Pct.**
Equipment				
Clamp-lift truck	9	65	1	13
Hand-truck	2	14	1	13
Combination[1]	2	14	3	37
Conveyor system[2]	0	0	3	37
Other	1	7	0	0
Total	14	100	8	100
Labor Source				
Regular labor	4	29	3	37
Additional labor	10	71	5	63
Total	14	100	8	100
Labor Amount (men)				
One	2	14	1	13
Two	6	43	0	0
Three	3	71	3	37
Four	1	7	1	13
Five	1	7	2	25
Eight	1	7	1	13
Total	14	100	8	100

[1]Both hand-trucks and clamp-lift trucks were used.
[2]A clamp-lift truck was used in conjunction with a conveyor.
*May not be exact due to rounding.

Seventy-one percent of the gin-warehouses and 63 percent of the warehouses used additional labor when receiving cotton into warehouses. Generally, receiving cotton bales required the labor of three or less men.

Cotton normally remained at gin-warehouses or warehouses until a shipping order was received, ordering that a particular bale or bales be shipped. All warehousemen interviewed indicated they had no knowledge of which mill had purchased cotton leaving the warehouse.

Cotton bales were broken out from the warehouse by various means. When a warehouse operator received a shipping order, bales were generally spotted (i.e., marked with a color coded tag), moved to loading areas with a clamp-type forklift, and later loaded onto the transportation vehicle. Bales were moved soon after spotting, or in some instances, movement was delayed until near the shipping date, depending on the number of orders received by the warehouse.

Over seventy-five percent of both warehouses and gin-warehouses used a clamp-lift type truck to load cotton bales onto the means of transportation, table 7. Whereas most labor

TABLE 7. NUMBER AND PERCENTAGE OF GIN-WAREHOUSES AND WAREHOUSES BY BREAK-OUT METHOD AND EQUIPMENT, AND SOURCE AND AMOUNT OF LABOR, ALABAMA, 1976

Break-out	Gin-warehouse using each method		Warehouse using each method	
	No.	*Pct.**	*No.*	*Pct.**
Removal of Bales				
Spotted, moved to aisles, moved to loading area, loaded	0	0	2	25
Spotted, moved to aisles, moved to loading area and loaded (same step)	1	7	0	0
Spotted, moved to loading area, loaded	10	71	5	63
Spotted, moved to loading area and loaded	2	14	1	13
Other	1	7	0	0
Total	14	100	8	100
Equipment				
Clamp-lift truck	11	79	6	75
Hand-truck	2	14	1	13
Combination	0	0	1	13
Other	1	7	0	0
Total	14	100	8	100
Labor Source				
Regular labor	13	93	8	100
Additional labor	1	7	0	0
Total	14	100	8	100
Labor Amount (men)				
One	2	14	0	0
Two	9	64	1	13
Three	3	21	5	63
Four	0	0	1	13
Five	0	0	1	13
Total	14	100	8	100
Transportation of Bales to shipping area				
Individual	12	86	5	63
Groups	2	14	3	37
Total	14	100	8	100

*May not be exact due to rounding.

for receiving cotton was additional hired help, over 90 percent of the labor used in breaking-out a shipment of cotton was full-time hired labor. Handling two or more bales simultaneously results in increased efficiency and reduces variable costs; however, only 14 percent of gin-warehouses and 37 percent of warehouses were taking advantage of this method in handling.

Once loaded, cotton bales are transported to a textile mill. Unloading at the mill was sometimes a problem to truckers. Usually a trucker had to meet a specific unloading time, which varied widely from mill to mill. If a trucker experienced a truck breakdown or some unexpected delay enroute, he might find

himself laying over at the mill until the next day or even over an entire weekend. Coordination and cooperation between shippers and mill operators could reduce the overall marketing costs of cotton. Delays in loading, unloading, and shipping dates added to the spread between the farm value and the manufacturers' cost of cotton.

COTTON MARKETING PROBLEMS AND POSSIBLE SOLUTIONS

Many problems exist in the marketing, handling, and transporting of cotton. Traditional methods of handling and marketing cotton have resulted in "built in" inefficiencies. It should be recognized that any lack of prompt, adequate, and economic marketing, warehousing, and transportation facilities and services results in increased costs and losses of sales of cotton here and abroad.

Problems that occurred in the early stages of the marketing and handling systems seemed to be intensified as cotton was moved through the various channels of the cotton industry. For example, tagging, weighing, and sampling of cotton bales seemed to create the need to retag, resample, and reweigh each bale every time it was relocated. Several problems in cotton marketing are listed in the following section with suggestions on how they might be alleviated in the future.

Labor Problems

Use of labor in ginning, handling, transporting, and storing cotton is seasonal. Employment of seasonal labor creates problems for the ginner, gin-warehousemen, and transporters of cotton. Most operators associated with cotton marketing agreed that it was difficult to find and keep acceptable labor. This problem affected the gin and gin-warehouse segment to a greater degree than it did warehousing. Warehouse labor seemed to be more full-time than seasonal. Operators of 45 percent of gins and 57 percent of gin-warehouses in Alabama reported problems in finding labor. This contrasted to only 13 percent of warehouse operators reporting similar problems, table 8.

Some gin-warehouse operators in north Alabama counties reported that a higher pay rate and use of part-time employees who worked evenings after their regular jobs had helped to

TABLE 8. NUMBER AND PROPORTION OF GINS, GIN-WAREHOUSES, AND WAREHOUSES WITH LABOR AND EQUIPMENT PROBLEMS, SPECIAL EQUIPMENT NEEDS, ADEQUATE FACILITIES, AND LACK OF ADEQUATE TRANSPORTATION, ALABAMA 1976

Types of problems	Facility					
	Gin		Gin-warehouse		Warehouse	
	No.	*Pct.*	*No.*	*Pct.*	*No.*	*Pct.*
Labor Problems:						
Labor available						
Yes	5	45	8	57	1	13
No	6	55	6	43	7	87
Total	11	100	14	100	8	100
Equipment Problems:						
Problems getting repairs						
Yes	0	0	0	0	0	0
No	11	100	14	100	8	100
Total	11	100	14	100	8	100
Special Equipment Needed						
Yes	0	0	0	0	0	0
No	11	100	14	100	8	100
Total	11	100	14	100	8	100
Adequate Equipment and Facilities						
Yes	10	91	13	93	8	100
No	1	9	1	7	0	0
Total	11	100	14	100	8	100
Lack of Adequate Transportation						
Yes	1	9	2	14	1	13
No	10	91	12	86	7	87
Total	11	100	14	100	8	100

ease the labor shortage. Two south Alabama gin-warehousemen stated they used work-release inmates from nearby prisons. Both reported a dependable, high-quality labor force by using these individuals.

Warehousing Problems

The demand by textile mills for delivery of new-crop cotton begins as soon as producers sell warehouse receipts to a cotton merchant or shipper. Many sales take place before or early in the harvest season. Consequently, warehousemen start to receive orders to break-out and deliver cotton when they are at the seasonal peak receiving cotton from the gins. Warehousemen readily admitted they had to give priority to getting producers' cotton into the warehouse where it was insured and protected from the environment, and to providing producers with warehouse receipts that enabled them to market cotton.[9]

The problem of receiving cotton has intensified over the last 20 years because the receiving season has been shortened by mechanized harvesting. The need for a larger work force and added confusion developed hand-in-hand with this problem. Cooperation among cotton shippers and warehousemen could help to improve the operation of both groups during this critical period.

Another warehousing problem occurs when shipping orders are received at the warehouse. For example, cotton merchants or shippers contract with a trucker to pick up a load of cotton. Truckers call the warehouse and arrange a mutually agreeable pickup date. Employees at warehouses break out the shipping order and place the cotton on a loading dock on or shortly before the pickup date. If the truck arrives at the warehouse on that date, there is no problem; however if the trucker fails to show up or is late, cotton placed on the dock for shipment might interfere with other orders waiting to be turned out. This caused some warehouse operators in Alabama to wait until a truck arrived before breaking out a shipment. In this event, truckers experienced serious delays and additional costs of transportation resulted. This problem could be solved by improved communication and coordination among shippers, warehousemen, and truck line operators. Lack of central

[9] National Cotton Marketing Study Committee Report.

control in the coordination of shipments resulted in a highly inefficient triangle.

There were problems within the warehouse alone. Some warehouse operators stacked cotton by areas in a warehouse, with bales stacked one on top of another at random within certain areas of a warehouse. When a shipping order arrived, it was sometimes necessary to shift, pull out, and later restack many bales in order to get a bale or bales that were to be shipped. Warehouses in which this practice was followed could become much more efficient if new stacking systems that promoted efficient break-out of bales from storage were employed. An aisle type stacking system has proven efficient to many gin-warehousemen and warehousemen in Alabama.

A problem that seemed of paramount importance was the repeated tagging, sampling, and weighing of each cotton bale every time it was relocated. Cotton bales were usually tagged at the gin to provide gin identification. Later, they were retagged to provide warehouse identification. Permanent tagging at the gin could reduce handling and marketing cost per bale.

Resampling bales resulted in increased handling and marketing costs. Also, a bale package became ragged, unattractive, and the contents were easily contaminated.

Reweighing of cotton bales may be necessary in many cases. Bale weight tends to fluctuate from the time cotton is ginned until the time it reaches the textile mill. Weight gain or loss, fluctuating as much as 2 to 4 pounds per bale, is due to moisture accumulation or reduction. Reweighing of bales could be lessened by controlling the moisture level in cotton at the ginning process. Cost of reweighing at the warehouse was approximately $.25 per bale at the time of shipment and $1.10 per bale per reweighing when the bale was returned to storage.

Transportation Problems

Most gin, gin-warehouse, and warehouse operators in Alabama who were interviewed indicated that they had no problems in arranging adequate transportation for shipment of cotton. The small percentage of those firms indicating problems with arranging transportation reported shortages of rail transportation, specifically 40-foot boxcars. There has been a downward trend in the number of rail cars in service in the

past years. Also, the trend in recent years has been away from the 40-foot boxcar to the 50-foot boxcar. Rail companies have made investments in new equipment, but most are building more covered hoppers and fewer boxcars.

Rail lines are trying to increase the availability of boxcars. In order to help solve this problem, users of rail service could load and unload cars promptly, release cars when emptied, and handle cars in such manner so as not to damage them.

Railroads have difficulty being competitive with truck lines since rail rates generally exceed truck rates. Some rail lines have attempted to compete more successfully by heavier loading of cars, but because of traditional trading of cotton in 100-bale lots, this effort has generally not been successful. Mill buyers and cotton merchants could work together to break the traditional 100 bale per lot trading. Increased capacity of the 50-foot boxcars would reduce overall shipping charges.

Movement of gin flat bales rather than universal density (UD) bales from the gin to the textile mill forces a trucker to haul fewer bales. A gin flat bale is 28 inches wide and compressed to 12-24 pounds per cubic foot density, while the UD bale is only 24 inches wide and compressed to 28 pounds per cubic foot. By loading a truck with UD bales, capacity could be increased by 25 bales, making it possible to reduce hauling rates per bale.

Gins in the Southeastern States generally have not converted to the UD bale presses. In Alabama, only three gin operators surveyed were using the UD press. One reason the UD bale press has not been adopted in the Southeast is because there has been no monetary incentive to encourage its use. No rebates have been given by shippers or warehousemen in Alabama to ginners who compressed bales to universal density. Monetary incentive could encourage use of this efficient method of compression.

Information and Record Keeping Problems

Many inefficiencies exist in the physical handling and movement of cotton. Additional inefficiencies were found in the bookkeeping systems used in keeping track of individual bales in a particular warehouse. Writing warehouse receipts, keeping location sheets on bales within the warehouse, and

finally, cancelling warehouse receipts when a bale was sold were burdensome tasks reported by cotton warehousemen.

A computerized data processing system could be used to help keep track of bales entering and leaving the warehouse. This would also be an aid to shippers. The system could be maintained to indicate the grades and staple lengths available at various warehouses. One data processing firm could handle information for several cotton warehouses and shippers' accounts. Individual warehouse firm shippers could be linked with the computer system and obtain information on how many and which bales are in a particular warehouse, what grades of cotton are stored in a given warehouse, what section of a warehouse a particular bale or bales is located, and finally, the computer could be programmed to cancel warehouse receipts. Considering that each Alabama cotton warehouse normally handles from 5,000-60,000 bales per year, savings resulting from a computerized record keeping system would be substantial. Reducing the record keeping task force, thus reducing variable costs, could reduce the overall handling and marketing cost of lint cotton.

SUMMARY

The movement of cotton from farms to domestic textile mills and foreign ports requires numerous marketing functions and many physical handling activities. Costs associated with these movements are substantial. Despite some cost reductions in the marketing system, merchandising costs continue to increase and represent more than half of the total cost spread between the farm value of cotton and the value or price at textile mills.

Most segments of the cotton industry realize there are problems in the marketing of cotton and are working to alleviate these problems. Cooperation, coordination, and communication among these segments could alleviate most of the serious problems.

Reducing the number of handling activities in the existing cotton marketing system could reduce total costs. Use of automatic lint sampling equipment and either universal or standard density gin presses could result in a more efficient system of physical movement of lint cotton. Also, while lint cotton is

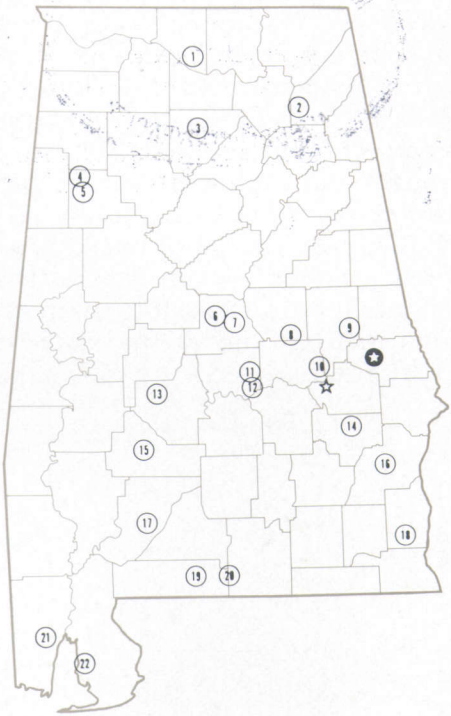
stored, physical handling of a cotton bale is needless and results in additional costs to be incurred per bale relocated.

Receiving and related services at cotton warehouses could be reduced if duplication of several steps in storing cotton could be eliminated. Warehouse stacking systems that make more efficient receiving and break-out of cotton bales possible needs to be used. Finally, a computerized information system could result in increased efficiency in the marketing and handling of lint cotton by cancelling warehouse receipts and keeping record of the location of bales within warehouses.

Reducing costs should make it possible to reduce prices of cotton products to consumers. Domestic cotton could then compete more successfully with synthetic fibers and foreign-grown cotton, and at the same time marketing efficiency would be improved.

Alabama's Agricultural Experiment Station System
AUBURN 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.
☆ E. V. Smith Research Center, Shorter.

1. Tennessee Valley Substation, Belle Mina.
2. Sand Mountain Substation, Crossville.
3. North Alabama Horticulture Substation, Cullman.
4. Upper Coastal Plain Substation, Winfield.
5. Forestry Unit, Fayette County.
6. 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. The Turnipseed-Ikenberry Place, Union Springs.
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. Solon Dixon Forestry Education Center, Covington and Escambia counties.
21. Ornamental Horticulture Field Station, Spring Hill.
22. Gulf Coast Substation, Fairhope.