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# Alabama's Grain Marketing System in the 1980's



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*Information contained herein is available to all  
regardless of race, color, sex, or national origin.*

# ALABAMA'S GRAIN MARKETING SYSTEM IN THE 1980's<sup>1</sup>

James L. Stallings<sup>2</sup>

## INTRODUCTION

**A**LABAMA'S GRAIN MARKETING system has changed markedly over the last 20 years or more, going from mostly family-owned country elevators and feed mills to collection stations and feed manufacturers for large vertically integrated poultry and other operations (4,5,6). Two large soybean processing plants in the northern part of the State provide the protein ingredient for the poultry operations. These two recently have processed more soybeans than are currently produced in Alabama, necessitating importing soybeans into the State. A corn processing plant established in Decatur in recent years has increased imports of corn above what would have been required for only grain-consuming animals and a few other minor uses for corn. The total number of grain-handling firms in Alabama decreased considerably between 1970 and 1985, table 1.

Even without the corn processing plant, Alabama has been a deficit state for feed grains for many years, especially since the poultry industry grew to use large amounts of feed grains. Research on production and utilization of different grains in this project has indicated that Alabama has produced less than 30 percent of the feed grain, mostly corn, needed over the past 20 years (3). This has ranged over

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<sup>1</sup>This bulletin represents the reporting, on a local basis, of Alabama's contribution to a regional project involving 11 states in the Southeast and the Corn Belt. This regional effort has been a continuing series of 5-year projects, mostly surveys of grain handling firms, involving Alabama since the late 1950's and early 1960's. This bulletin is mostly a reporting of the results of the survey conducted in the most recent 5-year project, along with some results from previous projects and from some secondary data.

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TABLE I. NUMBER OF GRAIN-HANDLING FIRMS IN ALABAMA  
BY TYPE OF FIRM AND SELECTED YEARS

Type of firm	Number of firms, by year		
	1970 <sup>1</sup>	1977 <sup>2</sup>	1985
Country elevators . . . . .	26	51	55
Feed mills or processors . . . . .	182	100	80
Terminal elevators . . . . .	10	13	8
Processors (soybeans, corn, etc.) . . . . .	3	5	3
Integrated poultry operations . . . . .	25	25	24
Public grain elevator . . . . .	1	1	1
TOTAL . . . . .	247	195	180

<sup>1</sup>Cavanaugh, Jon E. and James L. Stallings. 1972. The Feed Grain Market for Alabama. Ala. Agr. Exp. Sta. Bull. 425.

<sup>2</sup>Headley, Leo M. and James L. Stallings. 1980. Grain Firms and Grain Movements in Alabama in 1977. Ala. Agr. Exp. Sta. Bull. 523.

the years from a low of about 10 percent to a high of about 70 percent. Most of the imported feed grain came from Illinois and Indiana, with lesser amounts from other areas.

The Public Grain Elevator in Mobile, owned by the State of Alabama, has played a part in the Alabama grain marketing system during this time also. However, even though providing an additional market for Alabama grains, it has mostly exported grain coming in from outside Alabama. Alabama grain exported through Mobile mostly comes from the southern half of the State, and these exports increase the quantity of feed grains that must be imported from out of state for local use. The northern half of Alabama typically exports little through Mobile and requires even more import of feed grains and soybeans to fuel its poultry industry and the soybean and corn processing plants located there. So far, the newly completed Tennessee-Tombigbee waterway has played little part in the grain marketing system of Alabama or in the volume of grain business through the port of Mobile.

## METHOD OF STUDY

The nature of Alabama's grain market in the 1980's was mostly determined through a 2-page questionnaire to grain firms in Alabama as required by the regional project mentioned earlier. This questionnaire covered the calendar year 1985 and included such information as the type of firm, some measures of size, mode of transportation and origin of grain received, and other information.

Three criteria were used in selecting the sample: storage capacity, total grains handled, and tons of feed produced. A current directory of grainhandling firms, in which these three characteristics of firms

are kept up-to-date, provided a basis for choosing samples for questionnaires. Firms were first arrayed from largest to smallest based on these three criteria and cumulative percentages were computed for each. Firms representing 50 percent of each criteria were chosen as a mandatory 100 percent sample, which included 17 of the 180 firms in Alabama who handled grain (certain other firms such as brokers and home offices were not included). This indicates a concentration of 50 percent of the activity in less than 10 percent of the firms. Information from these 17 firms was considered absolutely essential and was obtained by several means, including mailed questionnaire, phone contact, and personal contact. Some data were estimated from previous surveys and other grain industry contacts when all else failed. All other firms were mailed questionnaires with the remainder of the sample consisting of whatever number was returned. The multiplier (expansion factor to estimate State totals) for the 17 large firms representing over 50 percent of the activity was 1 (100 percent), while the multiplier for the remainder of firms was 4 (25 percent of the remaining firms were returned). Of the 180 grain handling firms in Alabama, 59 were included in the sample, table 2.

TABLE 2. NUMBER OF GRAIN HANDLING FIRMS IN ALABAMA AND SAMPLE BY TYPES, 1985

Type of firm	Estimated number in Alabama	Number in sample
Feed manufacturer or feed mill . . . . .	80	20
Country elevators. . . . .	55	20
Integrated poultry or livestock . . . . .	24	8
Terminal elevators . . . . .	8	4
Soybean processors . . . . .	2	2
State docks . . . . .	1	1
Other or misc. . . . .	10	4
TOTAL. . . . .	180	59

## RESULTS

### Production-Utilization Balances

Of interest to users and to those in the marketing system over time is how much of each grain can be obtained locally and how much will have to be imported from out of state. Except for soybeans during the late 1970's and early 1980's and grain sorghum in recent years, Alabama has been in the past, is now, and will probably continue to be a deficit state in almost all the grains used (3). Except for speaking of trends, no attempt will be made in this publication to delve into the reasons for this deficit situation.

## Corn

In 1985, domestic production of 24.4 million bushels of corn in Alabama represented only 27.0 percent of domestic use for feed manufacturing and use, seed use, and processing, table 3. This is close to the 29-30 percent average over a recent 20-year period reported in previous 5-year projects. While feed for the poultry industry accounts for a large part of domestic use, a corn processing plant in Decatur in recent years has also taken an increasing amount (13.6 million bushels, or 14.1 percent, in 1985) of corn, causing the deficit to be larger than it would be for livestock and poultry use alone. Shipment of Alabama-produced corn to ports for foreign export amounted to only 3.1 million bushels (3.2 percent of the total 96.7 million bushels disappearance in 1985), and some of this represents transshipments of out-of-state corn which is difficult to identify. Also, shipment to out-of-state points from Alabama was only 3.3 million bushels (3.4 percent of total disappearance), and this was more than offset by similar amounts coming in from these same states.

## Wheat

While wheat production in Alabama in 1985 was down from its peak of 15.2 million bushels in 1983, it still represented a large increase from the 1 to 2 million annual production figures of the 1960's and 1970's. This is soft red winter wheat, which is mostly used as a feed ingredient. In spite of increased production in recent years, production in 1985 still represented only 76 percent of domestic use; over 8 million bushels were imported from out of state, table 3.

TABLE 3. PRODUCTION-UTILIZATION BALANCE SHEET FOR CORN, SOYBEANS, WHEAT, GRAIN SORGHUM, AND OATS, ALABAMA, 1985

Item	Quantity, thousands of bushels				
	Corn	Wheat	Soybeans	Grain sorghum	Oats
Carry-in Jan. 1, 1985 <sup>1</sup> . . . . .	9,864	3,350	15,787	2,543	414
Production, 1985 <sup>1</sup> . . . . .	24,375	12,800	27,810	12,650	1,435
Imports from out of state <sup>2</sup> . . . . .	72,947	8,180	31,560	2,213	1,873
Total supply, 1985 . . . . .	107,186	24,510	75,157	17,406	3,722
Feed manufacturing and use <sup>2</sup> . . . . .	76,350	10,342	—	11,270	2,025
Seed use <sup>1</sup> . . . . .	84	635	1,090	87	224
Processing <sup>2</sup> . . . . .	13,642	5,869	40,931	141	82
Shipments to ports <sup>2</sup> . . . . .	3,118	3,382	10,181	485	—
Shipments to other states <sup>2</sup> . . . . .	3,314	2,178	4,590	176	635
Estimated disappearance 1985 . . . . .	96,688	22,406	56,792	12,159	2,966
Carry-out Jan. 1, 1986 <sup>1</sup> . . . . .	10,498	2,104	18,365	5,247	756
Production/domestic use, percent . . . . .	27.0	76.0	66.2	100.1	61.6

<sup>1</sup>USDA figures (1, 2, 7).

<sup>2</sup>Estimated from Auburn University survey and USDA figures (1, 2, 7).

### *Soybeans*

Like wheat production in Alabama, soybean production was down in 1985 to 27.8 million bushels, table 3, from its peak of 53.75 million bushels in 1979. This has dropped even further beyond the 1985 survey year to 14.5 and 11.5 million bushels in 1986 and 1987 (estimated), respectively (2). Considering that 40.9 million bushels were needed for crushing alone in 1985, this meant that more soybeans were imported from out of state in 1985 than were grown in the State, and this deficit is expected to increase.

As with corn, some soybeans (10.2 million bushels, or 17.9 percent, of the estimated disappearance of 56.8 million bushels in 1985) were shipped to ports for export overseas. However, these mostly came from south Alabama and, as with corn, some represented trans-shipments which came from out of state.

The large crush of soybeans in Alabama, and the necessity for large imports, is required to provide a feed ingredient for an expanding poultry industry in Alabama, especially broilers, which increased from 285.1 million produced in 1965 to 561.8 million in 1985 (1).

### *Grain Sorghum*

Grain sorghum production has increased dramatically in the last 20 years, from 0.3 million bushels in 1965 to 12.6 million in 1985, table 3. Unlike other grains, however, domestic use has virtually equaled production, with most of it utilized locally in Alabama as an ingredient in feed manufacture.

### *Oats*

Oats are primarily required as an ingredient in certain kinds of feed manufacturing and have not been an important crop produced in Alabama. While 1.4 million bushels were produced in Alabama in 1985 and 1.9 million imported from out-of-state, table 3, much of the domestic production was used locally. That used by feed manufacturers was mainly imported from out of state. Alabama is a deficit state in oats and will probably continue to be because oats represent a needed ingredient in certain specialized types of feed.

## **Origin-Destination Patterns**

Because the Southeast, including Alabama, is generally a deficit area in most grains, especially feed grains, there has always been a concern whether the several 5-year regional projects in which Alabama has participated since the 1950's provided adequate data about the origin of needed imports of the different grains. Most previous

surveys have attempted to identify the origins of each grain by state of origin and mode of transportation. Some studies even tried to detail out-of-state receipts by month and by sub-regions of specific Corn Belt States. The 1985 two-page survey, on which the data in this bulletin are based, was relatively simple, involving mostly origin by states and mode of transportation. However, it was also possible to break down receipts by type of firm within Alabama for different states of origin and destination and by mode of transportation.

### General Origins

Because of the unique relationship between the deficit Southeastern States and the surplus Corn Belt States, the several 5-year regional projects have usually included two or three of the Corn Belt States (Illinois, Indiana, and Ohio) and seven to nine of the Southeastern States.

As can be seen from table 4, 67.1 million bushels (54.5 percent of the total of five out-of-state grains coming to Alabama in 1985) came from Illinois and Indiana. Corn comprised 54.7 million bushels, or 81.5 percent, of this 67.1 million bushels. Soybeans were the primary import into Alabama from the surrounding states of Mississippi, Tennessee, Kentucky, and Georgia, accounting for 19.7 million bushels

TABLE 4. GRAIN RECEIPTS BY ALABAMA FIRMS, BY KIND OF GRAIN AND ORIGIN, 1985

Origin	Grain receipts, thousands of bushels					
	Corn	Soybeans	Wheat	Grain sorghum	Oats	Total
Firm-to-firm transfers . . . . .	(8,161)	(13,144)	(1,344)	(1,183)	(182)	(24,014)
South Alabama . . . . .	2,399	12,561	697	864	—	16,521
North Alabama . . . . .	5,762	583	647	319	182	7,493
Receipts from farmers . . . . .	(20,462)	(28,166)	(9,962)	(8,524)	(12)	(67,126)
South Alabama . . . . .	8,352	16,474	5,981	1,675	12	32,494
North Alabama . . . . .	12,110	11,692	3,981	6,849	—	34,632
From out of state . . . . .	(72,947)	(31,560)	(8,180)	(8,582)	(1,073)	(123,142)
Illinois . . . . .	31,257	5,836	1,265	2,829	407	41,594
Indiana . . . . .	23,449	2,061	—	19	8	25,537
Tennessee . . . . .	870	10,774	686	1,280	6	13,616
Kentucky . . . . .	4,029	4,826	728	402	—	9,985
Minnesota . . . . .	4,732	1,452	1,654	482	1,180	9,500
Georgia . . . . .	2,122	1,367	145	2,363	—	5,997
Ohio . . . . .	3,920	—	—	222	—	4,142
Mississippi . . . . .	—	2,775	—	280	—	3,055
Missouri . . . . .	463	1,530	98	391	—	2,482
Iowa . . . . .	1,127	612	—	48	200	1,987
Nebraska . . . . .	—	—	1,420	—	72	1,492
Oklahoma . . . . .	—	—	1,420	—	—	1,420
Florida . . . . .	416	280	54	199	—	949
Kansas . . . . .	—	—	710	—	—	710
Wisconsin . . . . .	562	—	—	67	—	629
South Carolina . . . . .	—	47	—	—	—	47
TOTAL . . . . .	93,409	59,926	18,142	17,106	1,885	190,268



(62.3 percent) of the 31.6 million bushels of soybeans imported. Minnesota was another important supplier, accounting for 1.2 million bushels, or 63.0 percent, of all oats imported.

### *The Public Grain Elevator at Mobile*

Data to this point have not included receipts or shipments from the Port of Mobile. For analysis purposes, the Port was not considered part of the Alabama grain marketing system. This was adopted for all ports in the regional project which exported overseas. This makes sense for analysis purposes for Alabama because only 16.0 million bushels, or 35.0 percent, of the 45.8 million bushels of the five grains shipped through Mobile in 1985 came from Alabama, table 5.

Much of the 16.0 million bushels of grain listed as coming from Alabama may have been trans-shipped to the Port from Alabama firms after coming from out of state. Therefore, it is difficult to estimate just how much grain shipped to the Port from Alabama firms was actually grown in Alabama. This is particularly so for a few south Alabama elevators owned by large exporting companies that receive both local and out-of-state grain and subsequently ship it to Mobile to load ships.

Corn and soybeans were the primary grains shipped from the Port in 1985, along with minor amounts of wheat and grain sorghum. Other than Alabama, Illinois and Indiana were the primary suppliers of grain to Mobile for export overseas. These two Corn Belt States accounted for 13.0 million bushels (63.5 percent) of the corn and 5.1 million bushels (25.0 percent) of the soybeans shipped out of the Port. As mentioned earlier, some of the corn and soybeans listed as originating in Alabama may also have been partially from out of state.

TABLE 5. GRAIN RECEIPTS BY PUBLIC GRAIN ELEVATOR, PORT OF MOBILE, BY KIND OF GRAIN AND ORIGIN, 1985

Origin	Grain receipts, thousands of bushels				Total
	Corn	Soybeans	Wheat	Grain sorghum	
Alabama.....	3,118	9,029	3,382	485	16,014
Illinois.....	8,650	2,819	—	—	11,469
Indiana.....	4,326	2,256	—	—	6,582
Missouri.....	691	3,945	—	—	4,636
Kentucky.....	1,730	—	—	—	1,730
Iowa.....	1,039	1,126	—	—	2,165
Kansas.....	—	—	807	—	807
Minnesota.....	865	—	—	—	865
Nebraska.....	—	—	403	—	403
Ohio.....	—	1,126	—	—	1,126
TOTAL.....	20,419	20,301	4,592	485	45,797

*Receipts by Mode of Transportation and Origin*

CORN. Firm-to-firm transfers of corn within Alabama and receipts from Alabama farmers by firms were virtually all by truck, table 6. Corn coming from out of state was generally equally distributed between rail and water, with 92.7 percent of the truck receipts from the surrounding states. Rail and water receipts mostly came to northern Alabama, the water receipts by way of the Tennessee River to firms in either Decatur or Guntersville. About 93.6 percent of the rail and water receipts from the Corn Belt States of Illinois, Indiana, Iowa, Minnesota, Missouri, Wisconsin, and Ohio were received by these northern Alabama firms.

TABLE 6. CORN RECEIPTS, BY MODE OF TRANSPORTATION AND ORIGIN, ALABAMA, 1985

Origin	Receipts, by mode of transportation, thousands of bushels			
	Truck	Rail	Water	Total
Firm-to-firm transfers . . . . .	(7,984)	—	(77)	(8,061)
South Alabama . . . . .	2,299	—	—	2,299
North Alabama . . . . .	5,685	—	77	5,762
Receipts from farmers . . . . .	(20,462)	—	—	(19,856)
South Alabama . . . . .	8,352	—	—	8,352
North Alabama . . . . .	12,110	—	—	11,504
From out of state . . . . .	(3,211)	(32,776)	(36,960)	(72,947)
Illinois . . . . .	96	15,451	15,710	31,257
Indiana . . . . .	140	14,856	8,453	23,449
Georgia . . . . .	1,738	384	—	2,122
Florida . . . . .	416	—	—	416
Tennessee . . . . .	593	200	77	870
Kentucky . . . . .	228	1,615	2,186	4,029
Iowa . . . . .	—	91	1,036	1,127
Minnesota . . . . .	—	—	4,732	4,732
Missouri . . . . .	—	—	463	463
Wisconsin . . . . .	—	—	562	562
Ohio . . . . .	—	179	3,741	3,920

SOYBEANS. Firm-to-firm transfers of soybeans within Alabama were mostly by truck, table 7. There were some rail transfers within Alabama, mostly to the crushing plants in Decatur and Guntersville, and also some firm-to-firm movement by water on the Tennessee River in northern Alabama. Alabama receipts from farmers were all by truck.

As with corn, soybean receipts from out of state were mostly by truck from surrounding states (91.3 percent) and by water from the Corn Belt States of Illinois, Indiana, Missouri, Minnesota, and Iowa (88.0 percent). In contrast with corn, however, there were considerable receipts by rail from the surrounding states (92.0 percent).

TABLE 7. SOYBEAN RECEIPTS, BY MODE OF TRANSPORTATION AND ORIGIN, ALABAMA, 1985

Origin	Receipts, by mode of transportation, thousands of bushels			Total
	Truck	Rail	Water	
Firm-to-firm transfers . . . . .	(8,653)	(3,844)	(647)	(13,144)
South Alabama . . . . .	583	—	—	583
North Alabama . . . . .	8,070	3,844	647	12,561
Receipts from farmers . . . . .				(28,166)
South Alabama . . . . .	16,474	—	—	16,474
North Alabama . . . . .	11,692	—	—	11,692
From out of state . . . . .	(8,471)	(11,900)	(11,189)	(31,560)
Tennessee . . . . .	4,440	5,422	912	10,774
Illinois . . . . .	173	238	5,425	5,836
Kentucky . . . . .	1,857	2,541	428	4,826
Mississippi . . . . .	577	2,198	—	2,775
Indiana . . . . .	87	118	1,856	2,061
Missouri . . . . .	433	593	504	1,530
Minnesota . . . . .	—	—	1,452	1,452
Georgia . . . . .	577	790	—	1,367
Iowa . . . . .	—	—	612	612
Florida . . . . .	280	—	—	280
South Carolina . . . . .	47	—	—	47

These rail movements were mostly to the crushing plants in northern Alabama.

**WHEAT.** Wheat movements within Alabama between firms and from farmers were all by truck in 1985, table 8. However, there was a definite pattern of rail receipts from the central and western Corn Belt (78.8 percent) and by water from Minnesota (84.0 percent). All wheat coming into the State by truck was from surrounding states.

TABLE 8. WHEAT RECEIPTS, BY MODE OF TRANSPORTATION AND ORIGIN, ALABAMA, 1985

Origin	Receipts, by mode of transportation, thousands of bushels			Total
	Truck	Rail	Water	
Firm-to-firm transfers . . . . .	(1,344)	—	—	(1,344)
South Alabama . . . . .	697	—	—	697
North Alabama . . . . .	647	—	—	647
Receipts from farmers . . . . .	(9,962)	—	—	(9,962)
South Alabama . . . . .	5,981	—	—	5,981
North Alabama . . . . .	3,981	—	—	3,981
From out of state . . . . .	(373)	(5,838)	(1,969)	(8,180)
Minnesota . . . . .	—	—	1,654	1,654
Nebraska . . . . .	—	1,420	—	1,420
Oklahoma . . . . .	—	1,420	—	1,420
Illinois . . . . .	—	1,048	217	1,265
Kentucky . . . . .	8	720	—	728
Kansas . . . . .	—	710	—	710
Tennessee . . . . .	286	400	—	686
Georgia . . . . .	25	120	—	145
Missouri . . . . .	—	—	98	98
Florida . . . . .	54	—	—	54
TOTAL . . . . .	11,679	5,838	1,969	19,486

GRAIN SORGHUM. Most in-state movements of grain sorghum were by truck, with some by rail to southern Alabama, table 9. With the exception of a little from Missouri, all truck receipts from out of state were from the surrounding states. Rail receipts consisted of 77.8 percent from one Corn Belt State, Illinois, and the rest, 22.2 percent, from surrounding states. Water receipts were mostly from Corn Belt States (87.1 percent).

TABLE 9. GRAIN SORGHUM RECEIPTS, BY MODE OF TRANSPORTATION AND ORIGIN, ALABAMA, 1985

Origin	Receipts, by mode of transportation, thousands of bushels			Total
	Truck	Rail	Water	
Firm-to-firm transfers . . . . .				(1,183)
South Alabama . . . . .	544	320	—	864
North Alabama . . . . .	319	—	—	319
Receipts from farmers . . . . .	(8,524)	—	—	(8,524)
South Alabama . . . . .	1,675	—	—	1,675
North Alabama . . . . .	6,849	—	—	6,849
From out of state . . . . .	(4,334)	(3,600)	(1,050)	(8,984)
Illinois . . . . .	—	2,800	29	2,829
Georgia . . . . .	2,243	120	—	2,363
Tennessee . . . . .	1,392	280	10	1,682
Minnesota . . . . .	—	—	482	482
Missouri . . . . .	343	—	48	391
Kentucky . . . . .	157	120	125	402
Mississippi . . . . .	—	200	—	280
Ohio . . . . .	—	—	222	222
Florida . . . . .	199	—	—	199
Wisconsin . . . . .	—	—	67	67
Iowa . . . . .	—	—	48	48
Indiana . . . . .	—	—	19	19

TABLE 10. OATS RECEIPTS, BY MODE OF TRANSPORTATION AND ORIGIN, ALABAMA, 1985

Origin	Receipts, by mode of transportation, thousands of bushels			Total
	Truck	Rail	Water	
Firm-to-firm transfers . . . . .	(182)	—	—	(182)
South Alabama . . . . .	—	—	—	—
North Alabama . . . . .	182	—	—	182
Receipts from farmers . . . . .	(12)	—	—	(12)
South Alabama . . . . .	12	—	—	12
North Alabama . . . . .	—	—	—	—
From out of state . . . . .	(6)	(12)	(1,856)	(1,873)
Minnesota . . . . .	—	—	1,180	1,180
Iowa . . . . .	—	—	200	200
Nebraska . . . . .	—	—	72	72
Indiana . . . . .	—	8	—	8
Tennessee . . . . .	6	—	—	6
Illinois . . . . .	—	3	404	407
TOTAL . . . . .	18	11	1,856	1,885

OATS. Oats receipts were relatively unimportant, table 10. Within-state receipts and transfers were all by truck and out-of-state receipts were mostly from Minnesota by water.

### *Receipts by Type of Firm and Origin*

CORN. Most within-state receipts in Alabama were from farmers by country elevators, table 11. Most of this will show up as further firm-to-firm transfers within the State to feed processors and poultry operations. Much of the rest will show up as shipped to the Public Grain Elevator of the State Docks in Mobile.

TABLE 11. CORN RECEIPTS, BY TYPE OF FIRM AND ORIGIN, ALABAMA, 1985

Type of firm	Receipts, thousands of bushels				Total
	Within state		Out of state		
	Farmers	Other firms	Farmers	Other firms	
Country elevators . . . . .	15,368	84	—	—	15,452
Sub-terminal elevators . . . . .	300	—	—	3,820	4,120
Terminal elevators . . . . .	982	—	100	5,554	6,636
Export elevators . . . . .	1,005	—	—	526	1,531
Soybean processors . . . . .	—	—	—	—	—
Corn processors . . . . .	—	—	—	12,024	12,024
Flour millers . . . . .	—	—	—	—	—
Feed processors . . . . .	1,384	4,141	240	10,383	16,148
Feed lots . . . . .	—	—	—	—	—
Poultry operations . . . . .	1,143	3,928	—	34,400	39,471
Other . . . . .	280	8	139	5,761	6,188
Sub-total . . . . .	20,462	8,161	479	72,468	101,570
State Docks-Mobile . . . . .	—	3,118	—	17,301	20,419
TOTAL . . . . .	20,462	11,279	479	89,769	121,989

As mentioned earlier, about 73 percent of the corn disappearance in Alabama came from out of state in 1985, mostly to the one corn products processor in Decatur and to feed processors and poultry operations in Alabama.

Most of the corn shipped out of Mobile to overseas came from out of state, (17.3 million bushels or 84.7 percent of the total), and it is highly likely that some of the 3.1 million bushels listed as coming from within Alabama was trans-shipped through Alabama firms from out of state also.

SOYBEANS. Receipts of soybeans from farmers within Alabama were mostly by country elevators which are subsidiaries of some larger parent organization, table 12. Some went directly to the Port of Mobile for export or to terminal elevators. Some from terminal elevators were then trans-shipped to the Port, which complicated origin-destination data.

TABLE 12. SOYBEAN RECEIPTS, BY TYPE OF FIRM AND ORIGIN, ALABAMA, 1985

Type of firm	Receipts, thousands of bushels				Total
	Within state		Out of state		
	Farmers	Other firms	Farmers	Other firms	
Country elevators . . . . .	23,602	—	280	—	23,882
Sub-terminal elevators . . . . .	250	30	—	—	280
Terminal elevators . . . . .	520	2,734	—	—	3,254
Export elevators . . . . .	2,916	583	—	—	3,499
Soybean processors . . . . .	854	9,797	—	30,280	40,931
Corn processors . . . . .	—	—	—	—	—
Flour millers . . . . .	—	—	—	—	—
Feed processors . . . . .	24	—	—	—	24
Feed lots . . . . .	—	—	—	—	—
Poultry operations . . . . .	—	—	—	1,000	1,000
Other . . . . .	—	—	—	—	—
Sub-total . . . . .	28,166	13,144	280	31,280	72,870
State Docks-Mobile . . . . .	—	9,029	—	11,272	20,301
TOTAL . . . . .	28,166	22,173	280	42,252	93,171

An interesting phenomenon in recent years is the increasing deficit of soybeans in Alabama as crushing has increased beyond 40 million bushels while production has decreased. Production peaked at 53.75 million bushels in 1979, dropped to 27.8 million bushels in 1985, and to an estimated 14.5 and 11.5 million bushels in 1986 and 1987, respectively (2).

**WHEAT.** The type of wheat grown and imported into Alabama, soft red winter, is primarily used as a feed ingredient as compared with the hard bread wheats. However, of the 7.5 million bushels received by country elevators from Alabama farmers in 1985, nearly

TABLE 13. WHEAT RECEIPTS, BY TYPE OF FIRM AND ORIGIN, ALABAMA, 1985

Type of firm	Receipts, thousands of bushels				Total
	Within state		Out of state		
	Farmers	Other firms	Farmers	Other firms	
Country elevators . . . . .	7,544	—	—	—	7,544
Sub-terminal elevators . . . . .	150	30	—	—	180
Terminal elevators . . . . .	700	348	50	242	1,340
Export elevators . . . . .	450	184	54	—	688
Soybean processors . . . . .	377	—	—	—	377
Corn processors . . . . .	—	—	—	—	—
Flour millers . . . . .	—	—	—	—	—
Feed processors . . . . .	380	408	120	1,168	2,076
Feed lots . . . . .	—	—	—	—	—
Poultry operations . . . . .	198	374	—	1,028	1,600
Other . . . . .	163	—	101	5,417	5,681
Sub-total . . . . .	9,962	1,344	325	7,855	19,486
State Docks-Mobile . . . . .	—	3,382	—	1,120	4,592
TOTAL . . . . .	9,962	4,726	325	9,065	24,078

half (3.4 million bushels) went to the Port of Mobile for export, table 13. Most of this was from south Alabama. Wheat needs in northern Alabama came mostly from out of state for use as feed ingredients for the poultry industry. Wheat production in Alabama declined from a peak of 24.9 million bushels in 1981 to 12.0 million bushels in 1985, and further declines to 5.7 and 5.3 million bushels (preliminary) are indicated for 1986 and 1987, respectively. If this trend continues, most wheat used for feed in the future will come from out of state.

**GRAIN SORGHUM.** Grain sorghum receipts from within the State, as with other crops, came mostly first to country elevators from farmers, then to terminal elevators of feed processors or poultry operations for eventual use as a poultry feed ingredient instead of corn, table 14. Only a minor amount was exported through Mobile in 1985. In addition to Alabama-produced grain sorghum, there was about an equal amount imported from out of state, mostly by terminal eleva-

TABLE 14. GRAIN SORGHUM RECEIPTS, BY TYPE OF FIRM AND ORIGIN, ALABAMA, 1985

Type of firm	Receipts, thousands of bushels				Total
	Within state		Out of state		
	Farmers	Other firms	Farmers	Other firms	
Country elevators . . . . .	6,238	—	—	—	6,238
Sub-terminal elevators . . . . .	150	157	—	843	1,150
Terminal elevators . . . . .	800	—	200	2,790	3,790
Export elevators . . . . .	—	—	—	—	—
Soybean processors . . . . .	—	—	—	—	—
Corn processors . . . . .	—	—	—	—	—
Flour millers . . . . .	—	—	—	—	—
Feed processors . . . . .	812	332	—	800	1,944
Feed lots . . . . .	—	—	—	—	—
Poultry operations . . . . .	524	694	—	3,949	5,167
Other . . . . .	—	—	—	—	—
Sub-total . . . . .	8,524	1,183	200	8,232	18,289
State Docks-Mobile . . . . .	—	485	—	—	485
TOTAL . . . . .	8,524	1,668	200	8,232	18,774

TABLE 15. OATS RECEIPTS, BY TYPE OF FIRM AND ORIGIN, ALABAMA, 1985

Type of firm	Receipts, thousands of bushels				Total
	Within state		Out of state		
	Farmers	Other firms	Farmers	Other firms	
Country elevators . . . . .	12	—	—	—	12
Terminal elevators . . . . .	—	—	—	1,868	1,868
Feed processors . . . . .	—	124	—	5	129
Poultry operations . . . . .	—	46	—	—	46
Other . . . . .	—	12	—	—	12
TOTAL . . . . .	12	182	—	1,873	2,067

tors and poultry operations, virtually all destined as a feed ingredient for the poultry industry.

**OATS.** While table 3 shows 1.4 million bushels of Alabama oats production, only a small amount of this is received by firms in Alabama from Alabama farmers, indicating use on farms where produced. Oats which enter the Alabama marketing system primarily came from out of state to terminal elevators in north Alabama and were distributed from there to other users, table 15.

## Shipments

### *Firm-to-Firm Transfers*

Most firm-to-firm transfers in Alabama were of two types: (1) transfer to the parent institution by satellite country elevators after collection from farmers, primarily to feed manufacturing firms, poultry operations, and to the soybean processing plants; and (2) the importation of out-of-state grains by terminal elevators and the subsequent transfer to various users. Firm-to-firm transfers within Alabama represented 45.5 million bushels of grain movement in 1985, mostly by truck, table 16.

### *Shipments to Farmers*

Shipments to farmers were relatively unimportant and consisted mostly of 3.3 million bushels of corn in 1985.

### *Shipment to Ports*

Shipments by Alabama firms to ports for export overseas totaled only 17.2 million bushels in 1985 (10.2 million of soybeans, 3.4 million of wheat, 3.2 million of corn, and less than 0.5 million bushels of grain sorghum), table 16. This compares with domestic use of 100.2 million bushels for feed manufacture, 60.7 million for processing, and 2.1 million for seed, a total of 163.0 million bushels, table 3.

### *Out-of-State Shipments*

As with shipments to ports, the out-of-state shipments of 13.9 million bushels also represented a relatively small amount compared with domestic use. These shipments were almost exclusively to surrounding states, unlike out-of-state receipts which were frequently from several states away.



TABLE 16. GRAIN SHIPMENTS BY ALABAMA FIRMS, BY KIND OF GRAIN AND DESTINATION, 1985

Destination	Shipments, thousands of bushels					
	Corn	Soybeans	Wheat	Grain sorghum	Oats	Total
Firm-to-firm transfers . . . . .	(17,640)	(14,128)	(4,451)	(8,452)	(870)	(45,541)
South Alabama . . . . .	3,365	2,170	1,192	978	44	7,749
North Alabama . . . . .	14,275	11,958	3,259	7,474	826	37,792
Shipments to farmers . . . . .	(3,327)	—	—	—	(12)	(3,339)
South Alabama . . . . .	644	—	—	—	12	656
North Alabama . . . . .	2,683	—	—	—	—	2,683
Shipments to ports . . . . .	(3,118)	(10,181)	(3,382)	(485)	—	(17,166)
Mobile . . . . .	3,118	9,029	3,382	485	—	16,014
New Orleans . . . . .	—	1,152	—	—	—	1,152
Out of state shipments . . . . .	(3,314)	(7,096)	(2,178)	(176)	(1,098)	(13,862)
Georgia . . . . .	1,714	5,300	371	112	624	8,141
Tennessee . . . . .	1,100	424	1,552	—	54	3,130
Mississippi . . . . .	480	220	—	—	25	725
Florida . . . . .	—	—	255	64	261	580
North Carolina . . . . .	—	—	—	—	97	97
South Carolina . . . . .	—	—	—	—	28	28
Kentucky . . . . .	—	—	—	—	9	9

## SUMMARY

Alabama was a deficit state in corn, soybeans, wheat, and oats in 1985, but not in grain sorghum, and it is expected to continue to be a deficit state in the near future. The 73 percent deficit in corn is largely the result of the feed grain needs of a large poultry industry and the requirements of one large corn products processing plant. The 33.8 percent deficit in soybeans is largely due to the needs of two soybean processing plants in northern Alabama which processed over 40 million bushels in 1985 while Alabama production was only 27.8 million. In addition, 10.2 million bushels of soybeans were shipped to ports for export. Recent trends in the production of all the five grains have been downward since the 1985 survey on which the above figures are based, while use continues approximately level to upward.

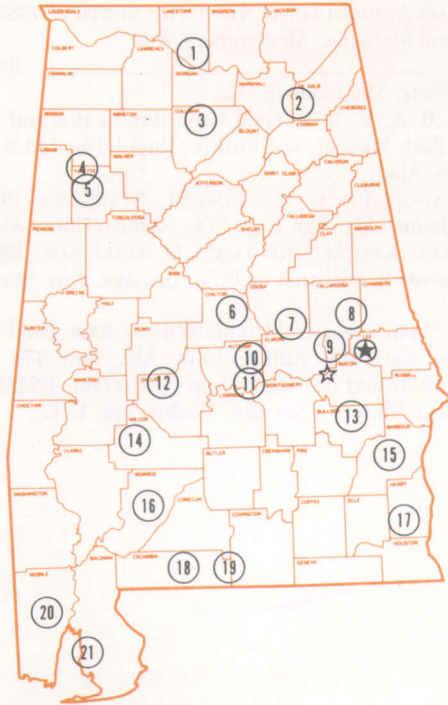


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# Alabama's Agricultural Experiment Station System AUBURN UNIVERSITY

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. Chilton Area Horticulture Substation, Clanton.
7. Forestry Unit, Coosa County.
8. Piedmont Substation, Camp Hill.
9. Plant Breeding Unit, Tallassee.
10. Forestry Unit, Autauga County.
11. Prattville Experiment Field, Prattville.
12. Black Belt Substation, Marion Junction.
13. The Turnipseed-Ikenberry Place, Union Springs.
14. Lower Coastal Plain Substation, Camden.
15. Forestry Unit, Barbour County.
16. Monroeville Experiment Field, Monroeville.
17. Wiregrass Substation, Headland.
18. Brewton Experiment Field, Brewton.
19. Solon Dixon Forestry Education Center, Covington and Escambia counties.
20. Ornamental Horticulture Substation, Spring Hill.
21. Gulf Coast Substation, Fairhope.