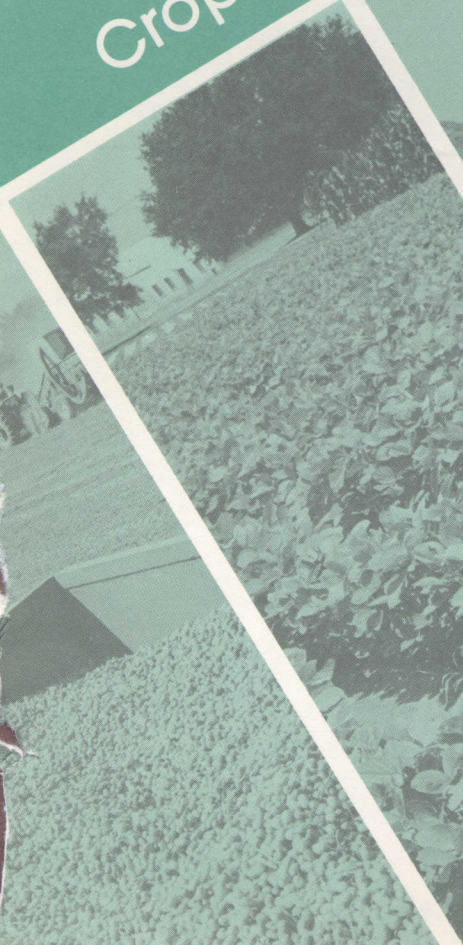


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BULLETIN 527
FEBRUARY 1981

Use of Marketing Alternatives for Major Crops Produced in Alabama



CONTENTS

	<i>Page</i>
INTRODUCTION	3
Objectives	4
Procedure	4
MARKET ALTERNATIVES	6
Forward Price Contracting	6
Deferred Price Contracting	7
Storage for Later Sale	8
Government Loan Programs	8
Futures Market	9
ANALYSIS AND RESULTS	11
Statewide Market Characteristics	11
Market Characteristics of Soybean Farmers by Operation Size	21
SUMMARY	27
SELECTED REFERENCES	31

FIRST PRINTING 3M, FEBRUARY 1981

Information contained herein is available to all without regard to race, color, sex, or national origin.

Use of Marketing Alternatives for Major Crops Produced in Alabama*

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INTRODUCTION

MARKETING HAS GAINED IMPORTANCE in the management of farms in recent years. Farmers have discovered that they can no longer rely solely on efficient production planning and decision making to provide satisfactory returns. Such factors as international developments, government policies, weather, and inflation influence agricultural supply and demand conditions in the various markets and contribute to price and income variability for farmers. Decision making to take advantage of the positive aspects and reduce the negative effects of these fluctuations can minimize market risks and contribute to the viability of farm operations.

Traditionally, farmers have produced products, delivered them to the nearest assembly market, and sold them at the current price. With increased institutionalization on the buying side of the market, however, producers have been considering and utilizing alternative marketing strategies. Some flexibility in marketing and pricing strategies does exist, and it has enabled farmers to improve their economic position through effective marketing planning.

Effective marketing at the farm level hinges on knowledge

*This study was conducted under Hatch Project 646 (S-111), supported by State and Federal funds.

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and use of the most beneficial alternatives available. Availability, interpretation, and use of information play an important role in this process. This study was planned and conducted to analyze and describe the use of alternative marketing outlets and strategies as well as the inherent information requirements for producers of major crops in Alabama.

Objectives

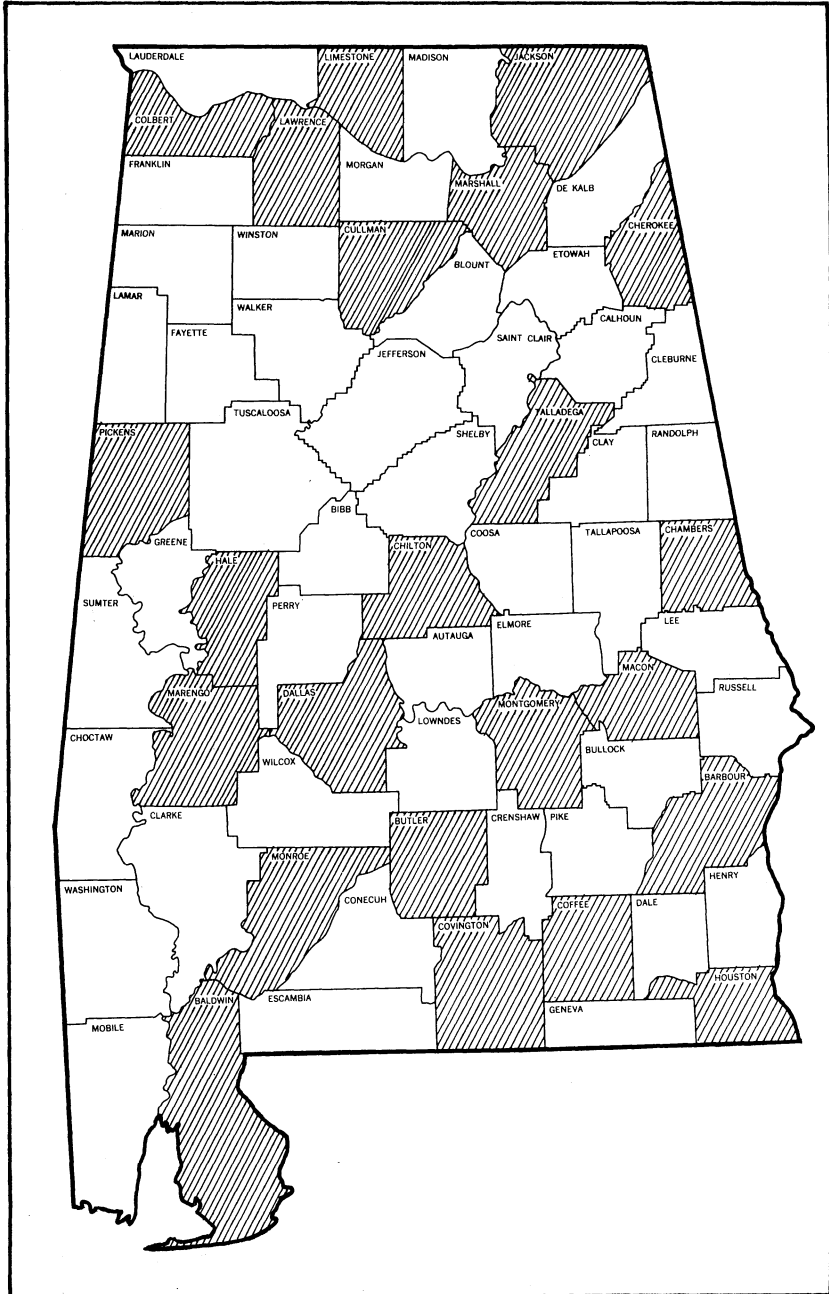
The general objective of this study was to describe the nature of markets available to producers of major crops (soybeans, cotton, peanuts, and corn) in Alabama. Specific objectives were to:

1. Identify and describe markets involved in the transfer of crops from the farm to the first buyer.
2. Identify and determine the relative importance of alternative information sources in the farmer's decision-making process.
3. Identify alternative marketing strategies utilized by farmers and the relative importance of each.

Procedure

Personal interviews with farm operators were conducted in 23 counties throughout Alabama, see map. Sample counties were chosen based on the contribution of beef cattle and soybeans to total cash farm receipts in the respective counties and the general dispersion of production of these two products over the State. Interviewed operators were selected at random from an Agricultural Stabilization and Conservation Service listing of active farmers within each county. Questionnaires were used to gather data pertaining to market structure, informational flows, and marketing and pricing decision making for the operation.

Market structure and producer characteristics were summarized on an aggregate statewide basis for each crop and by farm size categories for soybeans. Size groupings were based on total size of the farm operation and were classified as being small (100 acres or less), medium (101 to 799 acres), or large (800 or more acres).



Location of sample counties for crop market structure analysis.

MARKET ALTERNATIVES

Agricultural markets have experienced a large increase in the number and types of coordinated activities, varying from complete integration to various forms of contractual relationships. Producers have entered into agreements which have partially or completely bound them to another producer, a cooperative, a corporation, a processor, or other outlet. It has become common to refer to the price used in coordinating these relationships as the transfer price. Transfer prices act to distribute revenues, and they have an impact on profit, income flow, and income distribution.

A buyer or seller of farm products may have great control, little control, or no control over the transfer price. In most cases, the process of establishing the transfer price is an attempt by both buyers and sellers to arrive at the "best" price possible under existing conditions. Availability of more and better information, plus use of various marketing alternatives and strategies, has improved the plight of the farmer in this process.

With soybean, corn, cotton, and many other crop prices being influenced by broad economic forces, such as world supply and demand, producers have had little control over prices at any one time. Since many crops are storable and selling alternatives are available in the market today, however, producers have gained more control and flexibility in dealing with seasonally fluctuating prices. Various marketing alternatives available include forward price contracting, deferred price contracting, storage for later sale, and spot sale at harvest. Hedging on the futures market and government loan programs, while not considered to be marketing alternatives by a majority of Alabama farmers, can be important in operators' overall marketing strategy.

Forward Price Contracting

Farmers can use forward cash contracts to fix the price of a portion of their crop prior to harvest. With forward price contracting, a farmer agrees to provide a specified quantity and quality of a crop to the buyer for a fixed price on or before a set time. The contract contains the terms of trade which are usually standardized among buyers. These contracts offer farmers a means to "lock in" the price of a crop prior to harvest. This

assures producers of certain cash flows which are important in the planning process.

The primary benefit offered by forward price contracting is that it reduces risks. A producer knows the price and terms of sale for the product well in advance of harvest. The producer has also secured an outlet for the product. In many cases, there are no quantity restrictions on forward price contracts (as exist in futures contracts). Also, once the contract is finalized, the farmer can concentrate efforts on production. The most often recognized benefit is that forward price contracts protect farmers from adverse price changes once the contract is consummated.

Certain pitfalls are also associated with forward price contracting. The primary disadvantage is that the producer cannot benefit from a favorable price movement. In other words, the farmer loses flexibility after engaging in a contract. There may also be times when a producer cannot meet his commitment, such as in times of a crop disaster. This is why most producers contract only a percentage of total expected production.

The most important producer decision in forward pricing is determining when and for what price to contract. This decision is influenced to a large extent by the farmer's knowledge of production and marketing and the trends in these areas, plus the ability to assemble and interpret market information. From the production standpoint, the farmer must have fairly precise estimates of cost. Certainly, the producer would not desire to fix a price that would not cover variable cost. Hopefully, a price sufficient to cover all cost, including a return to management plus a reasonable profit, could be established. In actuality, the contracted price would likely fall between these extremes.

Deferred Price Contracting

Deferred price contracting occurs when a crop buyer agrees to accept delivery of a commodity and allows the seller to establish price up to several months after delivery. This method, common in grain marketing, enables farmers to speculate on a price increase after harvest while the physical commodity is shipped on to users. With deferred pricing, producers do not run the risk of deterioration and weight loss of the commodity and have a chance of receiving a higher

price. Also, they do not have to incur the fixed costs of on-farm storage to benefit from favorable price variation.

While potentially beneficial in the respects cited, deferred pricing contracts do little to protect farmers from adverse changes in price. Since title to the commodity shifts to the buyer and payment is made later, the producer's receipts depend to some extent on the viability of the buyer's operation. The producer must evaluate the relative benefits of these factors in relation to the fee that is usually charged for this alternative before choosing deferred price contracting.

Storage For Later Sale

Crop prices are generally lowest during the harvest season. Thus, storage can be used to transfer marketings to other times of the year and hopefully improve prices received and net farm income. Obviously, price increases must exceed storage costs for this alternative to be feasible.

Many factors should be considered when determining whether to construct and utilize storage facilities on the farm. Such factors as the initial investment costs, opportunity cost of that investment capital (foregone interest or lost returns from alternative uses), potential declines in the value of the stored grain due to shrinkage and quality losses, and the opportunity costs of not converting the grain into receipts which could be used for other purposes are important. Also, tax considerations and potentially improved utilization of labor and equipment could affect the decision. The primary justification for on-farm storage is that it permits a high degree of control and flexibility in marketing.

Government Loan Programs

As with storage, utilization of government loan programs affords producers the opportunity to take advantage of higher prices in the future under certain conditions. Loan rates are established for several crops, with cotton, corn, soybeans, and peanuts being of greatest importance to Alabama farmers. With this option, farmers can place a portion or all of their crop in approved storage and receive a loan through the Commodity Credit Corporation at the time of harvest. If the market price falls below the loan rate, the participant can release the stored crop in lieu of repaying the loan. Thus, the loan rate

establishes a minimum price for the participant. If prices increase above the loan rate plus storage costs, it would be profitable for the farmer to retire the loan and sell the crop on the open market. This program has generally not been used in recent times because loan rates have been below market prices.

Futures Market

The futures market evolved out of need to cope with problems of price risk involved in growing, distributing, and processing commodities. Futures contracts were developed on a trial and error basis as an instrument through which traders could minimize the financial risks inherent with a fluctuating price. A purchased futures contract is an obligation to accept delivery of a certain quality and quantity of produce at a future date. A sold contract is an obligation to deliver a standardized parcel of a commodity within some specified future time period to an authorized delivery point.

Delivery prices may be discounts to the quoted futures price depending on product quality. This allows a wide range of deliverable commodity and thus prevents price "squeezes," which could occur if only certain quality goods were permitted to be delivered. Of primary importance is the offset rule, which allows buyers and sellers of contracts to liquidate (buy and sell) obligations by an equal and opposite transaction at some point in the future. It is the ability to make or take delivery of the physical product which assures that futures prices will reflect actual cash value of the commodity (2).

Among the many attributes offered by the futures market is that hedging is made possible. Hedging, simply stated, is the initiation of a position in the futures market that is intended as a temporary substitute for the sale or purchase of an actual commodity. Common hedge situations include (1) the sale of futures contracts in anticipation of future sales of cash commodities as a protection against possible price declines, or (2) the purchase of futures contracts in anticipation of future purchases of cash commodities as a protection against the possibility of increasing prices.

Hedging, an important aspect of crop marketing in many cases, relies heavily on the principle that cash prices and futures prices move in the same direction. The difference

between the two prices at a particular location is that location's "basis" and consists primarily of costs associated with storage and transportation. Hedging is effective in reducing vulnerability to a fluctuating price because basis risk is much less than price risk. This is due to traditional information and seasonal basis patterns which do, in fact, exist. A detailed knowledge and understanding of hedging and the various possible applications can result in reduced risks and increased returns when used correctly.

A simple example of a farmer's selling hedge is as follows: A soybean producer with sufficient acreage planted decides to forward price 5,000 bushels of soybeans on June 12 at \$7.00 per bushel, the November futures quotation. He therefore sells one contract of November soybeans at \$7.00 per bushel. This price level seems reasonable because the farmer is currently producing soybeans for \$5.80 per bushel and the \$7.00 would provide an acceptable return. On October 10, at harvest, the local cash price of soybeans is \$6.12 per bushel and the November futures price is \$6.52. The farmer then closes out the futures transaction by purchasing a November futures contract at \$6.52 per bushel when he sells the soybeans on a local cash market. He gained \$0.48 per bushel on the futures market, and when added to the \$6.12 per bushel cash price, he improved his return position. Assuming a \$0.03 per bushel cost of hedging, the farmer achieved a \$0.45 net gain by hedging rather than selling outright at harvest.

If, for illustrative purposes, the price of November soybeans had increased from June 12 to October 10 from \$7.00 to \$7.85 per bushel and the October 10 cash price was \$7.50 per bushel, the farmer would lose \$0.85 per bushel when buying back the November futures contract, but would receive \$7.50 in the cash market, a net price of \$6.65. Based on current data, this would seem to have been an improper action by the farmer. However, at the time when the hedge decision was made, it was not known that prices would increase. If the objectives were valid at that time, the proper decision was made. It must be recognized that by this action the farmer was protected against downward price movements and was assured of reaching his established goals.

A major difference between forward pricing on the futures market and forward price contracting is that the producer has the option of liquidating a futures position by offsetting it at

any time. He could then establish a new futures position at a higher price or stand clear of the futures market in view of rising prices. The producer thus has much greater flexibility with a position in the futures market as opposed to contracting in advance on the cash market.

In dealing successfully on the futures market one should be completely familiar with the basis concept and how to use the local basis most profitably. Farmers' use of the futures market is a subject which is receiving greater attention.

ANALYSIS AND RESULTS

Numerous characteristics of crop markets in Alabama were grouped for the entire State and for alternative farm sizes. Market characteristics of producers within these classifications were ascertained in order to analyze different aspects of production and marketing decision-making systems.

Statewide Market Characteristics

Cotton farmers had the greatest longevity in farming, 27 years, with producers of other crops being almost as persistent, table 1. Percentage of income generated by farming varied from slightly more than 80 percent for soybean, cotton, and corn farms to 73 percent for peanut farms. Over 80 percent of the producers of all four crops were full-time farmers, with the highest percentage (91) being peanut farmers. Cotton produc-

TABLE 1. PRODUCER AND FARM CHARACTERISTICS, BY MAJOR CROPS, ALABAMA, 1977

Characteristic	Major crop			
	Soybeans	Cotton	Peanuts	Corn
Producers, No.	158	63	35	48
Years farmed	25	27	26	22
Proportion of income from farming, pct.	84	83	73	81
Full-time farmers, pct.	80	83	91	85
Part-time farmers, pct.	20	17	9	15
Cooperative affiliates, pct.	50	5	34	33
Acreage harvested, total	499	660	290	338
1976 production, acres	303	354	97	132
1977 production, acres	355	348	87	152
Years experience with the crop	11	26	18	20

ers generally operated more total crop acreage than other producer groups, an average of 660 acres, with peanut growers having the smallest farm size, 290 acres.

Production shifts occurred between 1976 and 1977, while years of experience with each crop varied, table 1. Average acreage devoted to soybean production increased 52 acres between 1976 and 1977. Cotton and peanut acreage decreased slightly over these years, while the average corn acreage increased by 20 acres. Years of experience in production of each crop revealed the relative newness of soybean production to Alabama farmers. Producers averaged 11 years experience in soybean production and 18, 20, and 26 years, respectively, in peanut, corn, and cotton production.

Cooperative affiliation varied among producers of major crops. Fifty percent of the soybean producers utilized cooperatives for buying and/or selling purposes, as compared with one-third of the peanut and corn producers and only 5 percent of the cotton farmers.

Soybean, cotton, peanut, and corn producers had alternatives in marketing crops, as was indicated by the fact that on the average more than one alternative buyer was identified, table 2. Peanut producers had the most potential buyers, almost three, with cotton producers having the fewest, almost two. Soybean and corn producers identified two to three

TABLE 2. PRODUCER MARKET CHARACTERISTICS, BY MAJOR CROPS, ALABAMA, 1977

Characteristic	Major crop			
	Soybeans	Cotton	Peanuts	Corn ¹
Producers interviewed, No.	158	63	35	48
Potential buyers identified by seller, No.	2	1.7	2.7	2.3
Buyers utilized by seller, No.	1.5	1.1	1.5	1.4
Sold all to one buyer, pct.	62	92	80	65
Cooperative affiliates, pct.	50	5	34	33
Utilized contractual arrangements, pct.	52	9	0	8
Proportion of production marketed under contracts, pct.	43	12	—	9
Price received ² , dol.	6.26	.50	402	2.20
Contract price, dol.	6.85	.56	—	2.83
Distance to 1st buyer, miles	23	33	10	32
Distance to 2nd buyer, miles	25	36	10	14

¹The 1977 corn crop was abnormal in that weather and aflatoxin influenced production and marketing.

²Soybeans and corn were per bushel while cotton and peanuts were per pound and ton.

buyers each. Soybean, peanut, and corn producers actually sold to an average of 1.5 buyers each, while cotton farmers utilized only 1.1 buyers, lowest among crops. Ninety-two percent of the cotton producers and 80 percent of the peanut producers sold their entire crop to one buyer, as compared with slightly more than 60 percent for soybean and corn producers.

Distances between farms and buyers revealed varied degrees of market access for producers of alternative crops, table 2. Peanut producers traveled the least distance to market their products, averaging 10 miles each to the primary buyers (buyers used) and secondary buyer (alternatives). This would be expected given the fairly concentrated area for peanut production. Soybean producers traveled somewhat greater distances to market outlets, averaging 23 miles to the primary buyer and 25 miles to the secondary buyer. For cotton farmers, the average distances were 33 and 36 miles to primary and secondary buyers, respectively, the widest dispersion reported between buyers and producers. Corn producers averaged traveling 32 miles to the primary buyer and 14 miles to the secondary buyer. This 18-mile difference was due to the fact that, in most cases, commercial grain buyers acted as primary market outlets for corn while local buyers (livestock producers) served as secondary market outlets.

Contracting was a marketing tool used to varying degrees by producers of the different crops. Slightly over 50 percent of the soybean producers marketed some portion of their crop under contractual agreements. These marketing contracts accounted for 43 percent of the total volume of soybeans sold. Forward contracts were used to a much lesser extent by producers of cotton and corn, 9 and 8 percent, respectively. Approximately 10 percent of the total volume of these crops was marketed under contract.

Contract prices for soybeans, cotton, and corn were higher than overall average prices received. Average prices encompassed contract and spot selling prices as well as prices received after storage of each crop.

Cooperative membership has been described as an aid to farmers, enhancing their marketing abilities and returns. Producer attitudes varied relative to the importance of cooperatives and their effects on marketing decisions. Soybean pro-

ducers, the largest categorical users of cooperatives, gave the following responses:

<i>Reason cooperative was beneficial</i>	<i>Percentage of producers</i>
Higher prices and positive personal treatment	36
Provided cash and deferred price contractual arrangements	35
Supplemented income; discounts on purchases and sales dividends	20
Place to sell; provided competition; convenient	7
Other	2

Major reasons expressed by crop producers for selecting actual buyers revealed some important marketing decision variables. The largest percentages of soybean and peanut producers, 38 percent and 47 percent, respectively, indicated they used the closest, most convenient outlet, table 3. This could be explained, in part, by the fact that price determining factors for soybeans and peanuts kept prices fairly consistent among buyers. However, minor variations in prices existed among markets, as well as differences in grading procedures, unloading facilities, and other characteristics of buyers and their operations which affected outlet selection. Thirty-three percent of the soybean producers chose buyers that offered the highest prices. Thirty-one percent of the peanut producers chose buyers for various personal reasons.

Cotton and corn growers differed from soybean and peanut producers in primary buyer selection criteria. The largest percentage of cotton producers, 41 percent, selected buyers based on previous marketing experience and various personal reasons. A large number of corn producers, 35 percent, indicated

TABLE 3. PERCENTAGE OF PRODUCERS, BY REASONS FOR SELECTING BUYERS, BY MAJOR CROPS, ALABAMA, 1977

Reason	Major crop			
	Soybeans	Cotton	Peanuts	Corn
	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>
Best prices, including contract prices	33	28	6	35
Closest, most convenient	38	26	47	27.5
Positive personal reasons—				
tradition	17	41	31	17.5
Better facilities	7	0	3	0
Other	5	5	13	20 ¹

¹Reasons were attributable to marketing a poor quality (aflatoxin) crop during the 1977 season.

that the best price was the determining factor in buyer selection, partially because large volumes were sold to other farmers for negotiated prices.

Marketing and Price Information Sources

Various information sources contribute to marketing decision making. Economic and other outlook information has allowed producers to hold crops in the expectation of higher prices or to sell them before major price declines. The availability of accurate outlook information pertaining to supply and demand conditions, local growing conditions, and governmental actions has been an important input into the decision-making process, enabling farmers to make forward contracting arrangements or storage decisions at critical times so as to realize the highest possible returns (10). However, use of available information to achieve maximum benefits has not been extensive in Alabama.

The market information system has been improved greatly to provide the most current and accurate economic interpretations related to crop production and marketing. The vast amount of public and private information sources has sometimes created confusion among producers concerning which sources to rely on most heavily. Most frequently used information sources employed by producers of major crops in Alabama are given in table 4. This index relates the importance of information sources to the most important source (index = 100) as expressed by producers for their respective crops.

Producers of each major crop, except peanuts, relied most heavily on information received from local buyers to base their marketing decisions. This reliance on local buyers for marketing information resulted from the fact that many operators sold their entire crop to a single buyer.

Futures prices were another major source of marketing information to producers of soybeans, cotton, and corn, being 74 percent, 98 percent, and 62 percent as important as local buyers for each of the three crops, respectively. Futures prices generally act as a proxy for other factors that affect the price determining process and have become the basis for many marketing and production decisions.

TABLE 4. INDEX OF UTILIZATION OF MARKETING INFORMATION SOURCES, BY MAJOR CROPS, ALABAMA, 1977

Information sources	Major crop			
	Soybeans	Cotton	Peanuts	Corn
	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>
Local buyers	100	100	81	100
Futures prices	74	98	—	62
Conversations with other farmers	67	53	100	55
Farm magazines	66	74	55	60
Radio	56	60	84	53
County agent	34	23	13	21
Forward cash contract prices	30	38	0	34
Private newsletters	2	89	6	74
TV	22	18	61	34
USDA publications	22	8	29	21
ASCS	0	0	39	0

NOTE: The most utilized information source for each crop is rated as 100. Other indices for each crop reflect the relative importance (percent) of this source to the dominant source.

Private newsletters, a relatively new source of marketing information, contain current market data and have had widespread use in recent years, especially by corn and cotton producers of Alabama. Corn producers ranked private newsletters second in importance, 74 percent as important as local buyers, while cotton producers ranked private newsletters third in importance, behind local buyers and futures prices.

Peanut producers, as a group, relied on information sources different from corn, soybean, and cotton producers. More confidence was placed in other farmers, news media and broadcasts, and government publications than by producers of the other crops. This was because peanut producers' marketing plans were based largely on the government support price during the marketing season.

Price Estimation

A reliable estimate of the harvest price of a particular crop early in the production period plays a valuable role in the implementation of effective marketing plans by producers. Unfortunately, farmers often formulate price estimates somewhat different from the true harvest price because of insufficient information, faulty evaluation of the available information, or other imperfections. Also, market conditions may have changed between production planning time and harvest, making the initial price estimate invalid.

In this study, farmers were asked to estimate harvest prices for the products they produced for the 1978 market so as to investigate the price estimating process common to various crop producers. These producers also were asked to identify the factors utilized in their estimates as well as the relative importance of each factor.

Harvest price estimates by producers reported several months before harvest, along with actual harvest season average prices, were as follows:

<i>Crop</i>	<i>Producers' 1978 harvest price estimate</i>	<i>Seasonal average price, 1978¹</i>
Soybeans (\$/bu.)	\$ 6.00	\$ 6.40
Cotton (\$/lb.)591	.613
Corn (\$/bu.)	2.54	2.25
Peanuts (\$/ton)	418.00	444.00

¹Seasonal average prices were taken from a periodical circular published by the Alabama Crop and Livestock Reporting Service, released January 19, 1979.

Producers belonging to the different crop groups gave generally conservative price estimates which were fairly close to the actual seasonal average prices. Average estimates were lower than seasonal average prices for every major crop listed except corn. A reasonable conclusion that could be drawn from this is that crop producers initially base their decision on lowest feasible returns, the return which would just cover costs (break-even price). Then, as the production season progresses, farmers get a better idea of what prices will be at harvest from supply and demand conditions and base their estimates accordingly.

TABLE 5. PERCENTAGE OF PRODUCERS, BY FACTORS WHICH AFFECTED 1978 HARVEST PRICE ESTIMATES, BY MAJOR CROPS, ALABAMA

Factor	Major crop			
	Soybeans	Cotton	Corn	Peanuts
	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>
Cost of production	28	35	30	—
Supply and demand	23	24	13	—
Experience with market trends	18	14	22	—
Futures prices	12	10	26	—
Government manipulation	2	14	9	100
Foreign conditions and transactions	2	3	—	—
Media and other farmers	15	—	—	—

Corn price estimates were higher than the actual seasonal average. Producers may have expected 1978 seasonal prices to compensate for the adverse conditions which faced producers in 1977. However, bumper corn production across the nation kept prices somewhat lower in 1978 than in 1977.

In conjunction with price estimates, farmers were asked to enumerate the various factors utilized in making price estimates. These factors represented decision-making inputs on which farmers based production and marketing plans, table 5.

A wide array of economic factors entered into the process of estimating a harvest price. Cost of production was the dominant factor utilized by soybean, cotton, and corn producers. Supply and demand conditions and experience with market trends were other major factors evaluated for these three crops. Futures prices were other important factors considered. Peanut producers based their harvest price estimates solely on governmental manipulation of the support price. Soybean producers also relied heavily on news reports, farm magazines, and other farmers to formulate price estimates.

Marketing Strategies

Several marketing strategies were available to Alabama farmers, which provided them a degree of flexibility in coping with price risks, table 6. Combinations of strategies were employed by many producers. Harvesting and selling the entire crop with no prior commitment was the predominant market-

TABLE 6. PERCENTAGES OF PRODUCERS, BY MARKETING STRATEGIES UTILIZED, BY MAJOR CROPS, ALABAMA, 1977

Marketing strategy	Major crop			
	Soybeans	Cotton	Peanuts	Corn ¹
	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>
Harvest and sell	37	39	96	71
Sell part at harvest, store or use deferred pricing arrangements	29	38	—	20
Contract agreement ²	33	13	—	5
Use of government loan program	—	6	—	—
Hedged on futures market	1	4	0	0
Other	1	4	4	4

¹The 1977 corn crop year was abnormal in that weather and aflatoxin influenced production and marketing.

²This classification includes only those producers who used contracts as their sole strategy.

ing strategy used by producers of all four crops. Storage and contractual arrangements were also used extensively, primarily by soybean and cotton farmers.

The largest percentage of soybean producers, 37 percent, relied on spot sale at harvest as their primary marketing strategy; however, storage and contracting were important. Selling portions of their crop and storing and deferred pricing arrangements were considered by another 29 percent of soybean producers to be their main selling strategy. An additional 33 percent of these producers relied on marketing contracts to transfer ownership of their products.

Cotton producers depended on a wide variety of marketing strategies. Selling at harvest was utilized by 39 percent, with 38 percent having stored some or all at harvest. While this 38 percent of cotton producers who depended mainly on storing at harvest included some who used government storage programs, another 6 percent relied exclusively on the CCC storage program as a fundamental marketing strategy. Thirteen percent of the growers utilized contractual arrangements with buyers and 4 percent hedged in the futures market.

Peanut and corn producers relied almost exclusively on cash sales at harvest. Peanut producers did so because of the assured support price which varied with quality. Seventy-one percent of the corn producers sold all their product at harvest with no previous commitments, while 20 percent stored some portion at harvest and 5 percent engaged in some sort of marketing contract.

Storage

Storage facilities owned by farmers and commercial storage facilities available to farmers determined to a great extent marketing strategies crop producers could utilize. With increased access to Federal money at subsidized interest rates to be used to construct farm storage facilities, grain producers have turned more and more to storage on the farm.¹ Cotton

¹Loans available through ASCS were authorized under Public Law 95-113, passed September 29, 1977, and will be available through September 30, 1981. The maximum repayment period was set at 8 years and the interest charge was 7 percent for 1978.

TABLE 7. PRODUCER STORAGE CHARACTERISTICS AND PRICES RECEIVED, BY MAJOR CROPS, ALABAMA, 1977

Item	Major crop		
	Soybeans	Cotton	Corn
Farmers using storage, pct.	37	45	31
Amount stored at harvest, pct.	29	77	22
On the farm, pct.	14	1	21
Off the farm or deferred pricing arrangements, pct.	15	76	1
Amount sold at harvest, pct.	71	23	78
Average price received:			
Without storage, dol.	5.94	.49	2.12
With storage—all locations, dol. ...	6.61	.52	2.34

producers relied on commercial warehouses to handle their storage needs.

Storing some portion of their soybean production at harvest or deferred pricing arrangements were undertaken by 37 percent of soybean producers, table 7. This accounted for 29 percent of total production—14 percent stored in on-farm facilities and 15 percent marketed using deferred pricing arrangements, at some cost. Utilizing storage facilities or deferred pricing enabled soybean producers to achieve higher than average prices. Soybean growers who used deferred pricing after harvest received an average price of \$6.61 per bushel, while others averaged \$5.94 per bushel. A large percentage of the soybean producers not using storage relied on forward contracting.

Cotton producers depended heavily on storage as a marketing tool, especially larger volume producers. Forty-five percent of the cotton producers who accounted for 77 percent of total production utilized storage, normally for their entire crop. Cotton storage occurred almost exclusively off-farm, in commercial warehouses, with title belonging to producers until a transaction occurred. Cotton growers who stored achieved a slightly higher price, but storage costs and time periods involved must be analyzed before additional profit (or loss) attributable to storage could be calculated.

Corn producers exhibited storage characteristics unlike those of soybean and cotton producers. Approximately 31 percent of the corn producers utilized storage or deferred pricing arrangements. Twenty-one percent of all corn produced was stored in facilities on the farm, for on-farm use in many cases. Farmers who marketed their corn after a period of storage

received an average of \$2.34 per bushel, compared to an average of \$2.12 per bushel received by producers not using storage.

Market Characteristics of Soybean Farmers By Operation Size

Various market structure characteristics, storage data, marketing strategies, and production decision variables were analyzed for soybean farmers according to the size of their total harvested crop acreage (small, medium, and large categories). Units were segregated by total crop acreage harvested rather than by soybean acreage because it was believed that marketing characteristics would be more homogeneous among producers who harvested nearly equal acreages of total crops. For example, a producer growing 1,000 acres of crops with only 100 acres of soybeans would differ in marketing considerations from a producer growing 100 acres of crops, all of which was soybeans. However, total acres harvested and soybean acres harvested were related.

Producer marketing techniques and considerations fluctuated as operation size changed. More alternative buyers were recognized and utilized by producers with larger operations, table 8. Eighty-one percent of the soybean producers who harvested 100 acres or less (small category) sold their entire soybean crop to one buyer. Producers of the medium and large size groups (101-799 acres and 800 acres or more)

TABLE 8. MARKET CHARACTERISTICS OF SOYBEAN PRODUCERS, BY
SIZE OF OPERATION, ALABAMA, 1977

Characteristic	Size of operation		
	Small	Medium	Large
Producers interviewed, No.	42	84	32
Potential buyers identified by seller, No.	2.2	2.6	2.8
Buyers utilized by seller, No.	1.2	1.5	1.6
Sold all to one buyer, pct.	81	55	50
Cooperative affiliates, pct.	42	90	93
Utilized contractual arrangements, pct.	27	94	97
Proportion of production marketed under contract, pct.	26	47	42
Price received, dol.	5.84	6.27	6.58
Contract price, dol.	6.88	6.95	6.60
Distance to 1st buyer, miles	17.9	22.4	30.9
Distance to 2nd buyer, miles	16.2	23.3	36.8

utilized contractual agreements and cooperatives to a greater extent in their marketing plans. Over 90 percent of the producers belonging to these larger groups were affiliated with cooperatives and over 90 percent sold portions of their crop under contractual arrangements.

Average forward contract prices were reported for the groups and compared to the average of all prices received by members of each group. Smaller size operators contracted less than larger ones, relying more on spot sales at harvest. However, small producers who contracted did so at prices comparable to contract prices of larger sized operators. As operation size increased, the average price received by the group as a whole approached the average contract price.

Distances traveled to the first and second buyers increased as total crop acreage increased. This was expected because of volumes traded by each group. Larger operators were more mobile and could absorb more transportation costs than could smaller operators. However, if more market alternatives were considered by the smaller operators at greater distances from their farms, improved marketing efficiency might occur.

Wide fluctuations in average prices received by producers of the three operation size groups were also noted. Producers in the small operation size group averaged \$5.84 per bushel, those in the medium size group averaged \$6.27 per bushel, and producers of the large acreage group received \$6.58 per bushel. These higher prices corresponded to increasing volumes of soybeans marketed under forward contracts at high seasonal prices by larger soybean growers.

Storage

Division of storage data by size of operation revealed some distinct producer characteristics, table 9. Approximately 30 percent of all soybeans produced were stored or placed under deferred pricing arrangements at harvest. Producers with small sized operations used deferred pricing arrangements with off-farm storage for 21 percent of their soybeans, while 14 percent were stored on the farm. Although only 19 percent of the small farmers engaged in some form of storage or deferred pricing, the lowest among the size groups, the small producers stored a larger percentage of their total production.

Medium sized soybean producers were more involved with

TABLE 9. STORAGE CHARACTERISTICS AND PRICES RECEIVED FOR SOYBEANS, BY SIZE OF OPERATION, ALABAMA, 1977

Item	Size of operation		
	Small	Medium	Large
Farmers using storage, pct.	19	38	50
Amount stored at harvest, pct.	35	31	26
On the farm, pct.	14	11	16
Off the farm or deferred pricing arrangements, pct.	21	20	10
Amount sold at harvest, pct.	65	69	74
Average price received			
Without storage or deferred pricing, dol.	5.59	6.12	6.03
With storage all locations or deferred pricing, dol.	5.95	6.50	6.31

storage than small producers, with 38 percent utilizing some form of storage. Of total output from medium sized operations, 31 percent was stored (11 percent stored on the farm and 20 percent under deferred pricing contracts), paralleling the behavior of the small producers.

Storage behavior differed between the large operations and the small and medium operations. Half of the large soybean farmers utilized storage or deferred pricing arrangements, committing 26 percent of total production to this handling alternative. Large producers, unlike the others, stored the majority of their soybeans on the farm. Sixteen percent of this group's total production was stored in facilities on the farm, while 10 percent was handled using deferred pricing arrangements. These operators had more capital with which to construct on-farm storage facilities for use when needed. A smaller percentage of their total production was stored, however, because of the extensive use of forward contracting in relation to the smaller sized groups.

Average prices received by producers who stored or used deferred pricing were higher than for those who did not. Among small producers, those who stored received an average of \$5.95 per bushel, up from the \$5.59 per bushel average for those not utilizing this option. Medium sized producers achieved a \$0.38 per bushel higher price, on the average, when storage or deferred pricing was utilized. Large producers who stored averaged receiving a higher price than those who did not, but the differential was not as great because of the marketing diversity of the large farmers.

Marketing Strategies

Relating marketing strategies to size of operation indicated that producers gave increased attention to effective marketing as they became more involved with crop production. Higher concentration on marketing plans was manifest by producers who utilized diverse marketing strategies, thereby reducing price risks and improving income stability. This occurred among soybean producers operating the larger size units and resulted in higher average prices, tables 8 and 9.

Sixty percent of the small soybean producers relied more on selling their entire crop at harvest with no prior arrangements with buyers. However, 19 percent of the small producers did utilize storage or deferred pricing for a portion of their product and another 19 percent relied primarily on contractual agreements, table 10.

TABLE 10. PERCENTAGES OF SOYBEAN PRODUCERS, BY MARKETING STRATEGIES AND REASONS FOR BUYER SELECTION, BY SIZE OF OPERATION, ALABAMA, 1977

Strategies and reasons	Size of operation		
	Small	Medium	Large
Marketing strategies	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>
Harvest and sell	60	32	10
Sell part at harvest and store or use deferred pricing for the remainder	19	21	30
Contractual agreements	19	47	57
Other	2	0	3
Reasons for buyer selection			
Best prices	29	35	35
Closest-most convenient	46	35	31
Positive personal reasons	10	18	19
Best facilities	5	6	15
Other	10	6	0

Medium sized producers depended most often on contracting as their major marketing strategy. However, 32 percent of them sold their product at harvest and 21 percent used some type of storage or deferred pricing. Nearly all of the large operators chose contractual (forward and deferred) arrangements plus storage as their primary selling strategies.

Buyer Selection

Choosing a particular buyer for their crop from among alternatives led producers to consider many variables before deciding where to sell. Some differences in reasoning among

producers of varied operation sizes which may have had an impact on their marketing effectiveness are noted in table 10.

Forty-six percent of the small producers chose buyers based on location or convenience relative to their operations. Twenty-nine percent based their selection on best prices obtainable, while 10 percent had personal reasons for selecting the buyers.

Similar percentages of the medium and large soybean producers expressed reasons for their buyer selection. Thirty-five percent of each chose a buyer based on the best prices attainable. Buyers that were most convenient were chosen by 35 percent and 31 percent of the medium and large operators, respectively. Positive personal reasons served as buyer selection criteria for 18 and 19 percent of the medium and large soybean farmers, respectively.

Production Planning

Factors considered by crop producers when planning what and how much to produce were believed to have a measurable impact on certain aspects of crop marketing. For instance, certain capital investments on the farm, such as storage facilities and equipment, affect what a farmer grows as well as the marketing strategies employed. Inversely, a producer's marketing expertise with a particular crop may influence production planning. In any event, factors which affect production and marketing are highly interrelated and these were noted.

Table 11 summarizes in index form the relative importance of factors considered by soybean producers when formulating production plans. Each index relates to the most important factor as expressed by the different sized operators.

All producers ranked input costs as the most important factor to be considered in making production plans. Expected cash price at marketing was the next most important factor, being ranked 72, 67, and 57 percent as important as input costs for small, medium and large operations, respectively. The relative importance of other factors also varied by operation size.

Small producers identified expertise in dealing with the product and rigidities in investment for buildings or machinery as other relatively important factors affecting production planning. Medium sized producers noted current futures

TABLE II. INDEX OF FACTORS UTILIZED BY SOYBEAN PRODUCERS FOR PLANNING FUTURE PRODUCTION, BY SIZE OF OPERATION, ALABAMA, 1977¹

Factor	Size of operation		
	Small	Medium	Large
Input costs	100	100	100
Expected cash price at marketing	72	67	57
Futures prices when making plans ..	15	43	25
Expertise in dealing with the product	45	40	26
Forced to grow crop because of invested capital	24	30	43
Cash price when making plans	7	18	23
Previous years cash price	8	10	8
Target price level	5	10	8
Price of other products	4	10	.3
Talk with other farmers	9	8	2

¹Index numbers in each column show factor importance relative to the most considered factor in each size group. The index for the considered factor for each group equals 100.

prices, expertise with the product, and rigidities in investment as important factors. For large producers, invested capital, expertise with the product, current futures prices, and current cash prices were important.

Expertise in dealing with a product became less important in planning future production as operation size increased. Small producers continued to raise crops they were accustomed to growing and which they personally preferred, rather than shifting to crops that might have been more profitable or better adapted to the environment. Larger producers seemed to analyze production alternatives more objectively by weighing a crop's overall contribution to receipts and not just growing traditional crops.

Invested capital became more and more a determinant of production plans as operation size increased. Small operators could convert to other production alternatives much easier than larger operators, with the latter sometimes having "sunk" investments in one particular enterprise. A newly purchased cottonpicker, for example, has no alternative uses but to harvest cotton. This capital investment may dictate cotton production over a period of years even though some other crop may have become more profitable.

Current cash price was another production influencing factor which became increasingly emphasized by larger operators. Larger producers were willing to analyze forward

contract prices, directly relate them to current and future cash prices, and, if favorable, commit a certain volume of production well in advance of harvest, sometimes even before planting. Most of the small operators considered the relative importance of current prices (7 percent) to be much less a factor than expected cash price at marketing (72 percent) in planning production.

SUMMARY

Characteristics of first buyer markets utilized by crop producers were analyzed to identify marketing methods and practices. Characteristics of soybean, cotton, peanut, and corn markets were different. More market outlets were available for soybean and peanut farmers, on the average, than for producers of other crops. Cotton producers identified and utilized the least number of buyers. Over 90 percent of the cotton growers sold their entire crop to one buyer each. Average distance to the primary buyer was highest for cotton producers, over 30 miles, emphasizing the decline in cotton markets resulting from a trend in Alabama away from cotton production.

Forward contracting enhanced the income of many crop producers in 1977, especially soybean farmers, who marketed over 40 percent of their total output under contractual arrangements. This was the highest proportion among crop growers. Higher than average prices were the result of contracting for all crops involved in 1977.

Cooperatives provided beneficial services to many crop producers while serving as a primary marketing outlet. Higher prices, positive personal treatment, and storage or contracting provisions were the major reasons expressed by soybean producers for being affiliated with cooperatives. Half of the soybean producers and about one-third of the corn and peanut producers utilized cooperatives.

Reliable sources for price and economic outlook information played a valuable role in the timing of marketing transactions by producers. Producers were dependent on local buyers, future prices, and other farmers as primary information sources. However, need for up-to-date marketing and price information has increased as exemplified by the increased utilization of private newsletters and telephone systems to relay current information.

Information sources and their reliability were directly related to the price estimation process associated with each farming unit. Sources of information which relayed accurate accounts of supply and demand conditions, foreign crop situations and transactions, and governmental control measures enabled crop producers to estimate future prices and harvest conditions. Such information allowed producers to develop certain production and marketing decisions accordingly. Other factors which heavily influenced harvest price estimates were production costs, futures prices, and personal experience with market trends.

Contractual agreements (forward and deferred) with buyers and availability of storage facilities promoted the use of certain marketing strategies with which farmers offset low prices commonly associated with harvest months. Although most crop producers harvested and sold crops without prior arrangements, use of these strategies increased with beneficial results. With adequate information, producers of certain crops were able to contract at prices near the seasonal highs and store or utilize deferred pricing in times of depressed prices.

Less than half of the producers of each major crop employed some type of storage or deferred pricing arrangement. In most cases, farmers who utilized these options achieved higher prices than those who did not; however, this must be balanced against the inherent costs of the alternatives. Cotton, the title to which was held by farmers, was kept almost exclusively in commercial facilities. Stored corn, on the other hand, was retained in storage facilities on the farm for marketing later or farm use.

Efficiency in marketing increased as soybean acreage harvested increased. Most small volume operators sold their entire crop to a single buyer at harvest whereas larger volume producers utilized contracts and storage more frequently to avoid low harvest prices. Deviations between average prices received and average contract prices became smaller as operation size increased. Apparently this was due to the marketing diversity of larger producers. Larger operators were also willing to travel greater distances to utilize markets that best suited their needs.

Input costs and cash price expected at marketing were the two most important factors affecting production planning by

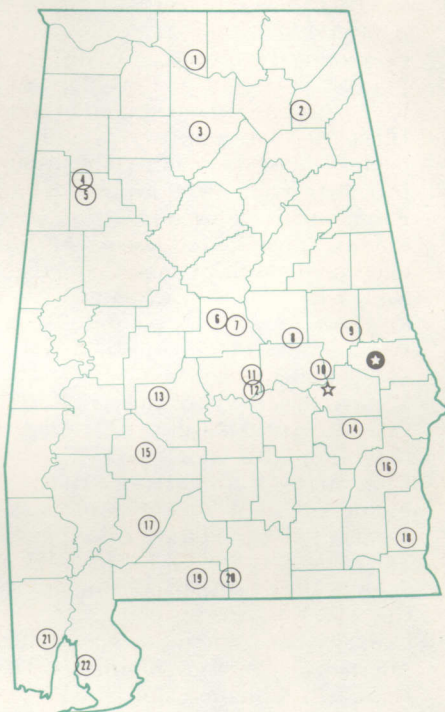
producers of each operation size; however, varying emphasis was placed on other factors. Fixed capital outlays in particular enterprises influenced production plans of farmers having large acreage more so than that of small acreage producers. On the other hand, expertise with a particular crop had a greater influence on production plans of small producers.

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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. 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.