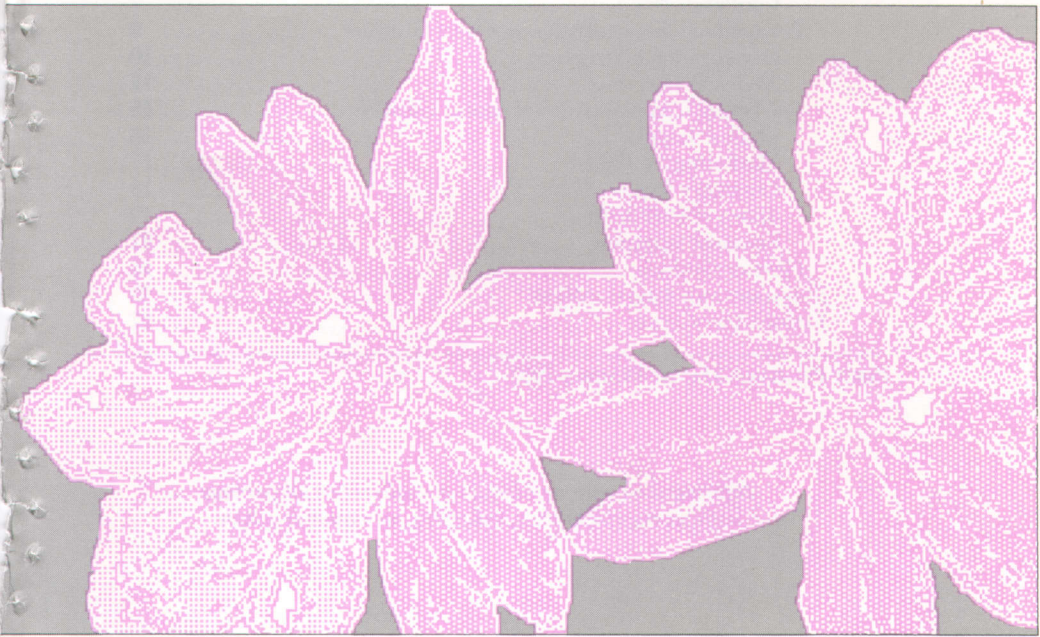


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Bulletin 589
November 1987

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*Production and Marketing
of Azaleas in
Baldwin and Mobile Counties,
Alabama*



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FIRST PRINTING 3M, NOVEMBER 1987

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without regard to race, color, sex, or national origin.*

Production and Marketing of Azaleas in Baldwin and Mobile Counties, Alabama¹

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INTRODUCTION

THE UNITED STATES nursery industry has grown substantially since 1890 when there were 4,500 nurseries that produced 3.4 billion plants (2). By 1982 the number of firms had increased to 35,507, with sales of \$3.8 billion (14).

Alabama's nursery industry has experienced growth similar to U.S. growth. From 1978 to 1985, cash receipts from nursery products increased from \$52.0 to \$114 million, figure 1 (1). In 1985, cash receipts from nursery and greenhouse products ranked seventh in Alabama among all commodities, ahead of such traditional agricultural commodities as hogs, dairy, and corn.

Nursery production in Alabama is concentrated in two areas of the state: southwest Alabama—primarily Mobile and Baldwin counties—and north Alabama. Production in the southwest area is primarily container plants, while the northern area produces mostly field-grown plants. The industry can be divided into four distinct groups: fruit, ornamental, forest and conservation, and propagation and liner materials. As reported in the 1969 Census of Agriculture, the ornamental plant group accounted for 75 percent of the nursery products sold. Woody ornamentals are the sales leader. According to a 1978 estimate by the Alabama Nurserymen's Association, woody ornamental plants accounted for \$24 million in sales, with approximately 75 percent of these plants exported out of the state.

Woody ornamental plants are categorized into six different plant groups: broadleaf evergreens, narrowleaf evergreens, deciduous shrubs, shade and ornamental trees, ground covers, and miscellaneous plants. Azaleas are part of the broadleaved group and, in terms

¹This bulletin is a contributing study to Southern Regional Research Project S-103, "Regional Advantages in Producing and Marketing Woody Ornamentals."

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³Appreciation is expressed to the nursery industry leaders who provided counsel and azalea growers located in Baldwin and Mobile counties who participated in this study.

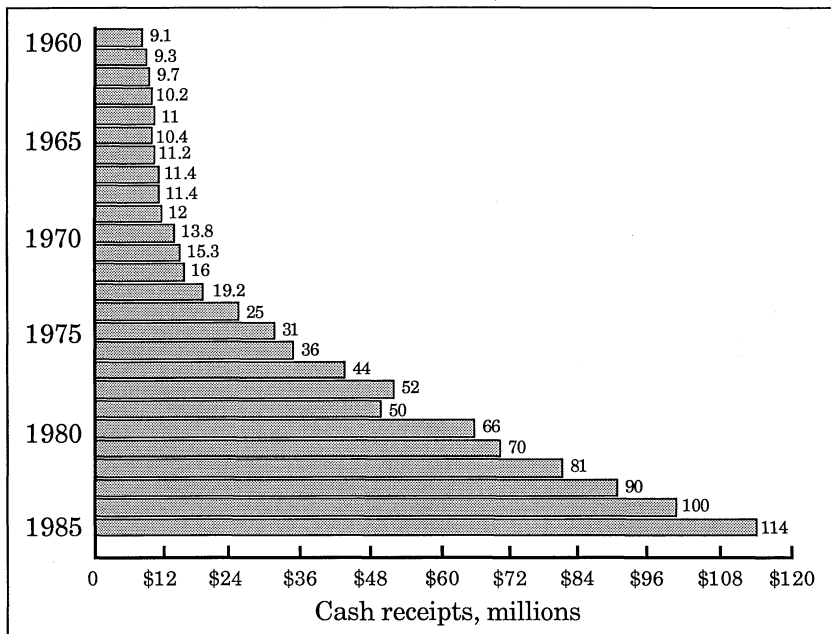


FIG. 1. Total cash receipts for nursery and greenhouse products marketed in Alabama, 1960-84.

of sales, constitute the largest portion of the broadleaved plant group (13).

The woody ornamentals industry has been a dominant force in the growth of the nursery industry during the past 40 years (6). Growth trends in the nursery industry, especially for woody ornamentals, suggest a continued increase. Despite such growth, little marketing research has been conducted to provide information needed by nursery managers in making sound business decisions concerning both production and marketing. The need for research has been documented by the regional ornamental horticulture research committee and led to a regional research project of which the study reported here is a part.

PURPOSE AND METHOD OF STUDY

This study was designed to provide basic information about the status of commercial azalea production and marketing in Baldwin and Mobile counties of Alabama. The specific objectives were to: (1) identify selected characteristics of azalea producers; (2) determine the volume of azaleas marketed by container size; and (3) determine the destination of azalea plants marketed by states.

The Alabama study, which examined the grower part of the azalea marketing chain, contributes to an objective of the southern regional project to identify and evaluate factors impacting on the efficiency and growth potential of alternative marketing options for wholesale and retail nurseries. Results can be utilized by both extension personnel and azalea growers to aid in production and marketing decisions and to stimulate interest and provide recognition for south Alabama-grown plants. Determination of the extent of production and alternative geographical areas where plants are sold can be used by growers in developing existing or potential market areas.

Plans for the azalea production and marketing study were discussed with industry leaders, extension personnel, and agricultural economics researchers during the project's developmental stage. Previous studies concerning the woody ornamentals industry were reviewed in the process of verifying the empirical procedures and determining the extent of azalea marketing research. A questionnaire to be administered through personal interviews with growers was prepared, reviewed, and tested by Alabama azalea industry leaders.

Forty nurseries located in Baldwin and Mobile counties were selected from the list of certified nurseries in Alabama published by the Alabama Department of Agriculture and Industries, Plant Industry Section. The only criterion for selection was that the certified nursery must grow azaleas. Initially, questionnaires were mailed during the summer of 1984 to provide adequate time for the growers to review the questions prior to a personal interview. Data were collected by personal interview or by the grower returning the completed questionnaire. Most data were gathered by personal interview.

RESULTS

Cultural Procedures

Cultural practices for growing azaleas vary from one part of the country to another, but most plants are grown in containers. Cultural procedures vary among nurseries because of the many environments in which azaleas are grown and because individual nurseries have different factors which affect plant growth. Climatic conditions play an important role in azalea production. The Baldwin and Mobile area is in climatic zone 9, figure 2, which has average annual minimum temperatures of 20 to 30 degrees F. This area requires some protection against winter damage.

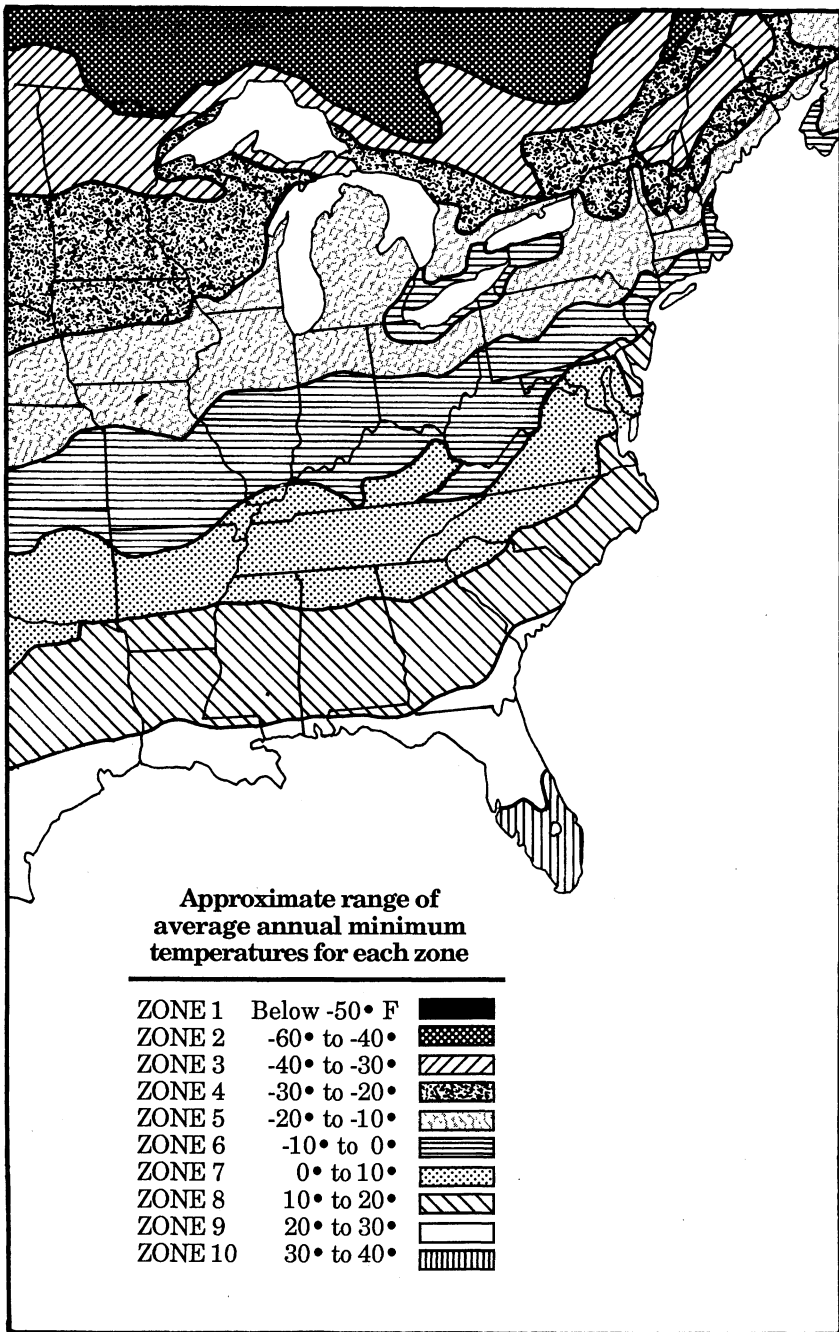


FIG. 2. USDA plant hardiness zones in the Eastern United States.

TABLE 1. ALTERNATIVE CULTURAL PROCEDURES USED IN PRODUCING AZALEA PLANTS, ALABAMA, 1983

Date and alternative	Activity
Alternative 1	
June-July	take cuttings, propagate in cell packs in propagation house for 7 to 8 weeks
August	rooted cuttings in cell packs remain in greenhouse for 39 weeks
March-April	transfer to 1-gallon containers and move to irrigated growing area
March	sell plants the following year
Alternative 2	
June	take cuttings, propagate in 3-inch pots for 36 weeks
April	transfer to 1-gallon containers and irrigated field beds for growing season
October	sell part of plants
October-February	water and observe
February	sell plants

Propagation Practices

Propagation of azaleas is an important step in producing plants for sale. To be competitive, the nurseryman must produce the best size and/or grade in the shortest time, starting with propagation of the plant. Azaleas can be propagated by seed, leaf bud cuttings, terminal cuttings, grafting, or layering. Most is done by use of terminal cuttings. Although rooting of azaleas is considered to be uncomplicated (5), propagators disagree about when to make cuttings and what type of medium to use. Different climatic conditions and grower’s preference play an important role in practices followed. Thus, a system used by one nursery may not work for someone else in another area.

The combinations of cultural procedures used to produce azaleas are also numerous, and such differences affect the production cost of plants. The timing of when operations are actually performed may result from variations in climatic factors. Alternative practices listed in table 1 give some indication of the way azaleas are grown.

Container Use

The cutting, which is usually made in either June or July, can be potted later as a rooted cutting or liner. Cuttings of 4-6 inches are stuck in either a cell pack or small pots. Usually, this cutting remains in the small container throughout the remainder of the year. In the fall, the rooted cutting can be either sold or repotted into a large container (usually a 1-gallon container). It is either potted into a larger container in the fall or held in a greenhouse as a rooted cutting until spring. Some nurserymen sell these plants as rooted cuttings.

A liner, like the rooted cutting, begins as an unrooted cutting which is approximately 4-6 inches in length. The liner is placed into a larger container (2- to 3-inch pot) than the rooted cutting. Since the potting of plants is labor intensive and time consuming, the larger pot enables the producer to grow the plant for a longer time before it has to be repotted. The liner remains in the small pot until spring. In the spring, it can be either sold or repotted into a larger container (usually 1 to 3 gallons).

Azaleas produced in quart containers from rooted cuttings are sold mainly through mass marketing outlets. In late summer, the rooted cutting is repotted into a quart size container and placed in the greenhouse until the following spring when it is sold.

The "1-gallon plant" is the most popular at the retail level of the forms marketed. However, all 1-gallon containers do not measure to a full gallon. The commercial gallon, which is the most popular size, is less than a liquid gallon. In the spring, the rooted cutting or liner may be repotted in a 1-gallon container. This 1-gallon container is then placed in an irrigated field which is usually covered with black plastic or other mulch materials to prevent weed problems. The plant will be available for sale in the following fall, winter, or spring.

Use of containers in the production of azaleas and other ornamentals has steadily increased since World War II. Earlier containers used were metal ones from restaurants or other food markets that used food stored in commercial gallon containers. These gallon containers were usually dipped in tar. Now, growers use plastic containers that are available at nominal prices. Adoption of these plastic containers has contributed significantly to the development of the woody ornamentals industry as it currently exists.

There are exceptions for the cultural practices and container sizes described, but these practices provide a general description of production methods used. The regime that one producer uses may be different from that used by other producers even in the same production area.

The climate of the Baldwin and Mobile county area is well suited for growing azaleas, allowing for the rearing of plants at lower cost. The lowest average minimum temperature in Mobile is 42 degrees F, but freezing temperatures sometime occur. Although some plant protection against winter injury is frequently necessary, the favorable climate in south Alabama has resulted in a majority of the azalea production developing in this area. However, other important factors contributed to the development of the azalea industry in this area.

These factors include a long history of nursery production and vital leadership provided by several local growers.

Production Characteristics of Azalea Growers

Azalea producers were asked to describe the nature of their businesses, including plants sold or services offered. Of the 32 nurseries surveyed, 27 produced azaleas and other plants; the other 5 produced only azaleas. Other plants produced included: hollies, photinia, camellias, pines, shade trees, landscape shrubs, other woody ornamentals, and hanging basket plants. The majority of the growers believed that it was too risky to grow only azaleas; therefore, a percentage of their business came from other types of ornamentals.

Percentage of business from azalea sales for these 27 firms ranged from 22 percent to 95 percent of their total activity; 18 (65 percent) reported azalea sales amounting to greater than 50 percent of total business volume.

The importance of azalea sales by types of business organization is indicated by data in table 2. Of the 23 proprietorships, 17 reported azalea sales comprised 75 percent or more of their total sales. Corporations reported a relatively even proportion of azalea sales among the size categories. Four of the corporations surveyed had azalea sales comprising less than 50 percent of their total business. Proprietors tended to specialize more on azalea production, while corporations, which are older and larger firms, tended to be more diversified in plant production.

Percentage of business done at either the wholesale or the retail level was determined. Seventy-eight percent of nurseries questioned did all of their business transactions at the wholesale level. Seven nurseries reported some retail sales. Most growers believed there were too many problems with retail sales for their types of business activities.

Production with containers requires less acreage of land than field-produced plants. For purposes of certification, the Alabama Depart-

TABLE 2. PERCENTAGE OF BUSINESS FROM AZALEAS, BY TYPE OF BUSINESS ORGANIZATION, ALABAMA, 1983

Percentage of business from azaleas	Proprietorship		Corporation	
	Number	Percent	Number	Percent
Under 50	3	13	4	45
50 - 74	3	13	3	33
75 - 100	17	74	2	22
TOTAL	23	100	9	100

TABLE 3. NUMBER OF FARMS, ACREAGE, AND AVERAGE SALES PER ACRE OF AZALEAS PRODUCED BY GROWERS, ALABAMA, 1983

Acreage	Number of farms	Total acres	Average sales per acre
	<i>Number</i>	<i>Acres</i>	<i>Dollar</i>
Under 2	5	5	18,838
2 - 3	8	26	34,968
4 - 5	7	31	51,387
6 - 14.9	6	69	43,847
15 and over	6	211	28,047
TOTAL	32	342	

ment of Agriculture and Industries contends that 1 acre of container-grown stock is equivalent to 4 acres of field-grown stock. Thus, container production is more intensive and efficient in land use.

Growers were divided into five acreage groupings depending on the number of acres used in azalea production, table 3. Average sales per acre of azaleas were \$18,838 for the smallest group and \$34,968 for the 2- to 3-acre size group. Sales per acre increased to \$51,387 for the 4- to 5-acre grouping. Nurseries with 6 acres or more had lower sales per acre than the other groupings. As the acreage per nursery increased, the average sales per acre increased at first, then diminished as the number of acres per nursery increased further.

Greenhouses are used in azalea production, mainly for propagation and storing of rooted cuttings and liners through the winter. The structure of greenhouses can range from expensive glass houses to inexpensive plastic houses. Relatively inexpensive greenhouses are used in azalea production in the Mobile area, with greenhouse space per firm varying from less than 5,000 to more than 50,000 square feet, table 4.

Organizational Structure

Business organization is an important aspect of the market structure of an industry. The three most common legal forms of organi-

TABLE 4. NUMBER OF GROWERS, BY SQUARE FEET OF GREENHOUSE SPACE USED IN AZALEA PRODUCTION, ALABAMA, 1983

Greenhouse space, sq. ft.	Number of firms
	<i>Number</i>
Under 5,000	8
5,001 - 15,000	4
15,001 - 25,000	5
25,001 - 50,000	8
50,001 & over	7

zation are the proprietorship, partnership, and corporation. A proprietorship is the easiest to form and is most commonly used in agriculture and in relatively young industries. A major disadvantage of proprietorships is unlimited liability of the owners. Partnerships are an agreement between two or more parties. They are easy to form but hard to divest. Partnerships also have unlimited liability. The corporation is more difficult to form since a charter must be obtained from the state. Corporations provide continuity of business and limit the liability of the stockholder-owners.

Growers were asked to identify the form of organization of their nursery business, either a proprietorship or a corporation. Two businesses reported the partnership organization, but these were included with the corporations in the analysis because their business activities were similar. The most common form of organization was the proprietorship. Of the 32 nurseries surveyed, 23 (72 percent) were proprietorships, figure 2. The remaining 9 nurseries (including the two partnerships) were classified as corporations.

Although corporations represented only 28 percent of the firms, they accounted for approximately 65 percent of the value of azalea sales, figure 3. Proprietorships comprised 72 percent of the firms and accounted for 35 percent of sales. Of the proprietorships surveyed, at least 50 percent were part-time growers with some type of off-farm income. These part-time growers were mentioned by some respondents as a reason for increased competition in the industry. Due to the depressed situation of other farming enterprises, the nursery industry may see more farmers entering the business.

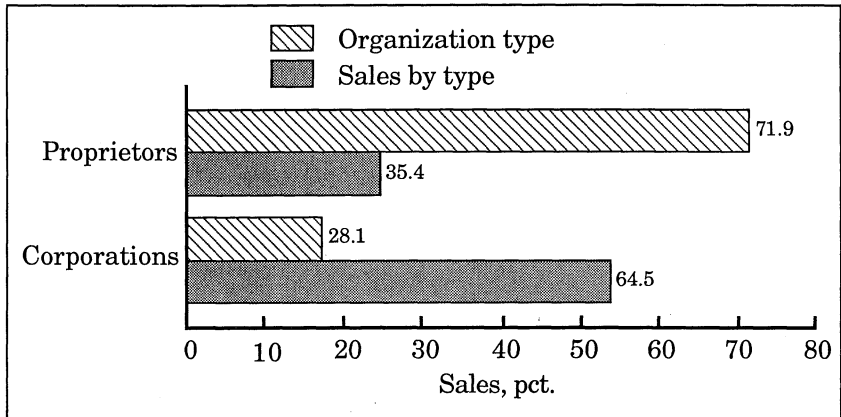


FIG. 3. Percentages of sales by organizational types in Alabama, 1983.

Azalea Types

Types of azalea sold by growers are an important factor from the production side of the market. Due to the large number of varieties of azaleas, the need was recognized to make broad groups for analysis. With assistance from industry leaders, the azalea plants were classified into the following three types: semi-dwarf, indica, and other, figure 4. The other grouping included florist, evergreen, and satsuki azaleas. The semi-dwarf category comprised 78 percent of sales and indicas comprised 16 percent.

Azalea type was also examined in relation to sales by type of business organization, table 5. Sales in 1983 were \$4 million for proprietorships and \$7.3 million for corporations, for a total of approximately \$11.3 million. The semi-dwarf/dwarf grouping comprised the largest percentage of sales for both organizational types, 83.1 and 73.6 percent, respectively, for proprietorships and corporations. The dollar

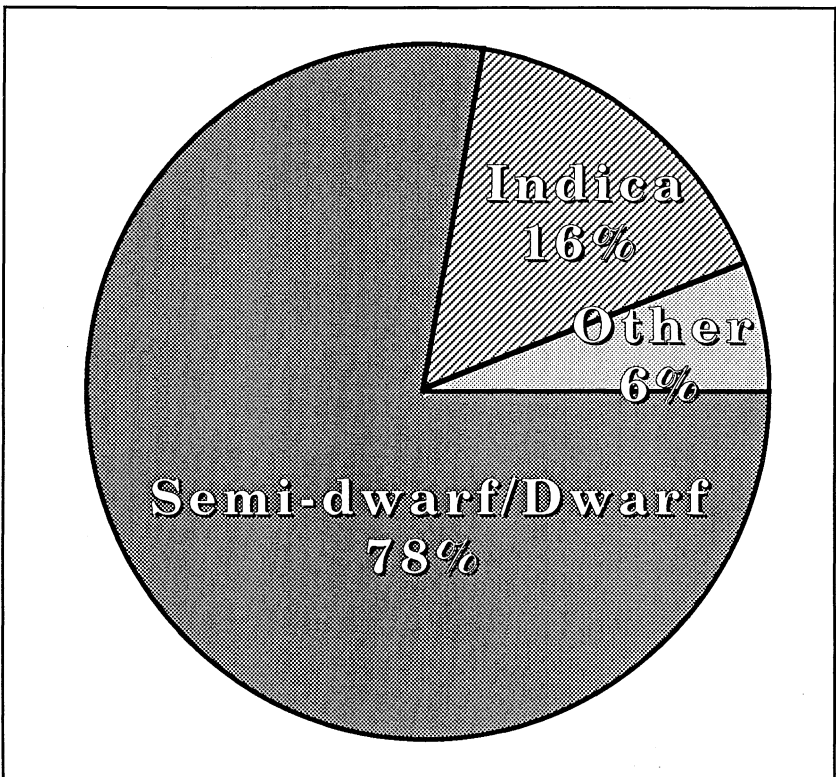


FIG. 4. Percentages of sales value by type of azalea produced in Alabama, 1983.

TABLE 5. VALUE OF AZALEA SALES BY TYPE AND BUSINESS ORGANIZATION, ALABAMA, 1983

Type of azalea	Proprietorship		Corporation		Total
	Dollar	Percent	Dollar	Percent	Dollar
Indica	606,675	15.1	1,456,209	19.9	2,062,884
Dwarf (semi-dwarf)	3,329,745	83.1	5,387,823	73.6	8,717,568
Other ¹	70,070	1.8	479,638	6.5	549,708
TOTAL	4,006,490	35.0	7,323,670	65.0	11,330,160

¹Includes florist, evergreen, and satsuki azaleas.

value for this grouping was \$3.3 million for proprietorships and \$5.4 million for corporations. Indicas constituted 15.1 percent of proprietorship and 19.9 percent of corporation sales, \$607,000 and \$1.5 million, respectively. The “others” grouping comprised 1.8 percent of sales under proprietors and 6.5 percent under corporations. Thus, the organization of business appeared to have relatively little influence on which types of azaleas were sold.

Container production of azaleas and other ornamentals has increased over the last several years. This increase could be attributed to ease of handling, transporting, and merchandising. Use of containers has advantages for both grower and consumer. From the grower’s viewpoint, containers reduce time and labor in the production process. Also, container production allows the grower to produce a better plant in a shorter time, to spend more time in the growing of the plant, and to eliminate the digging. Further, the use of containers extends the selling period for plants. The consumer benefits from container production by receiving a better plant with an undisturbed root system. The plant survival rate increases with the container production system over other production systems.

The most popular container size was the 1-gallon, which constituted 38 percent of plants sold, table 6. The average wholesale price for a 1-gallon container was \$1.28. Liners were second in numbers sold, with 3.5 million (37.3 percent of the total) sold at an average price of \$0.37. Almost 8 percent of the plants were sold as rooted cuttings for an average price of \$0.15 per unit. In many cases, growers re-potted rooted cuttings and liners into larger containers for later sale. The 3-gallon container comprised 7 percent of the units sold, with an average price of \$4.48; however, almost 27 percent of the total value of sales was from plants in 3-gallon containers. Quarts comprised 5.3 percent of the sales, with an average price of \$0.57. The lowest percentage of sales was in 2-gallon containers, 4.7 percent, but these had an average price of \$2.83 and accounted for almost 11 percent of total sales.

TABLE 6. AZALEA PLANTS MARKETED, AVERAGE PRICES, AND TOTAL VALUE BY CONTAINER TYPE, ALABAMA, 1983¹

Container size	Sold in 1983		Average price	Total sales
	No.	Pct.	Dollars	Dollars
Rooted cuttings	727,000	7.7	0.15	109,040
Liners	3,510,000	37.3	.37	1,392,150
Quarts	499,200	5.3	.57	298,650
1-gallon	3,575,699	38.0	1.28	5,263,383
2-gallon	445,816	4.7	2.83	1,220,402
3-gallon	652,857	7.0	4.48	3,046,535
TOTAL	9,410,572	100		11,330,160

¹Retail sales were excluded from the table due to the small percentage of retail sales.

In this study, growers were asked to give the number of plants sold in the following container forms: rooted cuttings (less than 2-inch container or cell), liners (2- to 3-inch pot), quarts, 1-gallon, 2-gallon, and 3-gallon. In addition, growers were asked to give the percentage of plants sold at either wholesale or retail and the average price received for these plants. Since practically all the plants sold were at the wholesale level, retail sales were excluded.

Since business types may influence markets, the container forms sold were analyzed by each business type, table 7. Rooted cuttings, with a total dollar value of \$109,040, were all sold by proprietors, while 71 percent of the liner sales were made by corporations. The value of liners sold by proprietors and corporations was \$399,650 and \$992,500, respectively. Proprietors accounted for 83 percent of plants sold in quart containers (total of \$248,650), while corporations sold 17 percent (\$50,000).

The 1-gallon plant comprised the largest sales unit in both number and value of sales for both proprietorships and corporations. About 46 percent of the total sales of azaleas for both organizational types came from plants in 1-gallon containers. Proprietorships had 1-gallon sales of about \$2.4 million, or 45 percent of total 1-gallon plants sold, while

TABLE 7. PERCENTAGE AND DOLLAR VALUE OF AZALEAS MARKETED, BY CONTAINER FORM AND BUSINESS ORGANIZATION, ALABAMA, 1983

Plant size	Proprietorship		Corporation		Total	
	Dollar	Percent	Dollar	Percent	Dollar	Percent
Rooted cuttings	109,040	100	—	—	109,040	100
Liners	399,650	29	992,500	71	1,392,150	100
Quarts	248,650	83	50,000	17	298,650	100
1-gallon	2,374,650	45	2,888,733	55	5,263,383	100
2-gallon	622,750	51	597,652	49	1,220,402	100
3-gallon	251,750	8	2,794,785	92	3,046,535	100
TOTAL	4,006,490	35	7,323,670	65	11,330,160	100

corporations sold the remaining 55 percent (a value of almost \$2.9 million.)

Azalea sales in 2-gallon containers amounted to \$1.2 million, 51 percent by proprietors and 49 percent by corporations. Corporations dominated the sales of azaleas in 3-gallon containers with 92 percent of these sales.

Corporations tended to concentrate mainly on plant sales in 1-, 2-, and 3-gallon containers, while proprietorships sold azaleas mostly in 1- and 2-gallon containers. Corporations apparently had an advantage in marketing azaleas in 3-gallon containers, with their markets demanding the larger plants. It may be that the diversification and the cash flow capacity of the larger firms permitted these firms the time to grow plants to a larger size.

Marketing Characteristics of Azalea Producers

Marketing of nursery products—defined as the performance of all business activities involved in the flow of goods and services from the point of initial agricultural production until the product reaches the hands of the consumer (5)—is an important activity in the nursery industry. The marketing process of nursery products is conducted differently by individual growers, depending upon available resources (2).

Changes in both production and market demand factors have contributed to expansion of the nursery industry. Reduced production costs and improved production techniques have contributed to the expansion of supply. At the same time, demand for ornamentals has increased because of: (1) increased amount of residential landscaping resulting from increases in population, housing starts, and higher disposable incomes; (2) increased requirements by commercial and public buildings for landscape plants; and (3) increased demand for plants for government beautification projects (8,9,10).

Market areas can be delineated by geographical location. Plant hardiness zones, figure 2, can be used to distinguish where plants could be marketed. These climatic zones are separated by the expected minimum temperatures for that particular zone. The Eastern United States is divided into eight climatic zones.

The plant hardiness zones limit the market areas of a producer. According to Whitcomb (12), nursery plants moving from a warmer to cooler climatic zone are rarely shipped to climatic zones colder than 20 degrees Fahrenheit (average minimum temperature) from the production zone. The reasons supporting this conclusion are vulnera-

bility of azalea plants to frost damage and the prohibitive costs to hold plants dormant beyond the 20-degree zone limit (2).

Since azaleas are grown in zone 9, it is expected that azalea plants will be shipped only to zones 7, 8, and 9. These three zones comprise the majority of the Southeastern States, with zone 7 located the farthest from the production area. Average minimum temperature in zone 7 is approximately 20 degrees cooler than in zone 9. However, due to unusual climatic conditions the last several years, there has been much cold damage to azalea plants in the three market zones, even in zone 9. Even though a plant is well suited for a particular climate, it can be damaged due to climatic conditions beyond the grower's control. Thus, it is essential that nursery growers produce plants which are suited to the markets where the retail customers live.

To examine marketing characteristics of the azalea growers, they were asked to provide the following marketing information: customers to whom azalea sales were made, trends observed in azalea markets, marketing methods used and the ones which were most important, destination of azalea plants by states, sales of azaleas by months, and grower outlet.

Market Trends

Trends are defined as changes in tastes and preferences of consumers and increases in population and income (11). Changes in technologies of agricultural production affect supply and, in turn, influence markets. Market trends give the producer of an agricultural product indications as to what the market is demanding. The observation and adjustment by the participating firm to changes in trends are necessary to keep abreast of the market. The azalea growers surveyed were asked to give the trends they have observed in their markets over the last 5 years.

The most observed trend was that customers are demanding better quality plants. Growers stated that high quality plants are being produced, yet they are being sold at lower prices than previously. Changes in varieties of azaleas produced were another trend observed by growers, with an apparent shift to more dwarf varieties. Some growers are producing hardier varieties so they can compete in northern markets and to prevent cold losses such as have been caused by harsh winter weather in recent years. Changing size of azaleas demanded by consumers was another trend observed. Some growers believed that customers are demanding larger azaleas in 2- and 3-gallon size containers, while others believed that the quart-size plant was being demanded more.

Importance of these market trends depends on the type of market in which the producer is willing to compete. The quart-size azalea was being used in the mass-merchandising markets, such as K-Mart and WalMart, where the retailer can sell the plants at a low price. To summarize the trends observed by growers, it appears that growers are producing better quality plants at lower prices, some are growing a larger size azalea plant and some are specializing in smaller plants, and more varieties are being produced (especially dwarf and hardier azalea types).

Marketing Methods

From a list of marketing methods, growers were asked to indicate the methods they used in their businesses. The marketing methods listed were: sales through broker, retail sales at place of business, wholesale sales at place of business, salesmen on the road, telephone sales, mail-order through catalogs, sales to other middlemen, trade shows, ads in magazines, and referral or word-of-mouth. Marketing methods considered were developed from previous studies and discussion with specialists in the area, table 8. Some producers reported use of more than one of these methods; therefore, the total used exceeds the number of respondents.

Eighty-nine percent of corporations used wholesale sales at place of business and telephone sales. Sales to other middlemen and word-of-mouth comprised 44 percent and 33 percent, respectively. Twenty-two percent of the corporations used mail-orders, salesmen on the road, and trade shows.

Of the 23 proprietorships surveyed, 22 made wholesale sales at the place of business. Telephone sales were second, with 78 percent of proprietorships using this method. Sales to brokers and sales to other

TABLE 8. FREQUENCY OF USE OF MARKETING METHODS, BY BUSINESS ORGANIZATION, ALABAMA, 1983

Marketing method	Corporation		Proprietorship		Total	
	No.	Pct.	No.	Pct.	No.	Pct.
Wholesale sales at business	8	89	22	96	30	94
Telephone sales	8	89	18	78	26	81
Sales to other middlemen	4	44	5	22	9	28
Sales to brokers	1	11	6	26	7	22
Word-of-mouth	3	33	4	17	7	22
Mail-order	2	22	4	17	6	19
Salesmen on the road	2	22	1	4	3	9
Trade shows	2	22	3	13	5	16
Ads in magazines	1	11	2	9	3	9
Retail sales	0	0	2	9	2	6

middlemen constituted 26 and 22 percent, respectively. Seventeen percent of the proprietors used mail-order and word-of-mouth.

The organizational structure of the business apparently had little effect on the marketing methods used. The majority of both corporations and proprietorships used wholesale sales and telephone sales. The percentage variation among the other methods was small. Retail sales were not used by corporations, but this method was mentioned by two proprietors.

The importance of selecting alternative marketing methods by growers is evident from the survey. These methods establish channels between the grower and the consumer. Growers surveyed were not asked to state the volume of sales by each method, but they were requested to list in the order of importance the marketing methods used. These were ranked as follows: (1) wholesale sales at place of business, (2) telephone sales, (3) sales to other middlemen, and (4) ads in trade journals.

Customer Types

The 32 azalea producers surveyed listed the types of customers to which they sold azaleas: other nurseries, discount stores, garden centers, rewholesalers, individuals, other growers, and landscapers. The other nurseries category was defined as nurseries located outside of the production area. These nurseries purchased azaleas for resale at either the wholesale or retail levels. Nurseries located outside the production area were major purchasers of nursery stock. Rewholesalers were customers who purchased plants to be resold to other wholesalers or retailers. Other growers, defined as producers located within the production area, purchased plants needed to fill orders and to stock different plant varieties.

Types of customers who purchase azalea plants were categorized by organizational structure of the business, table 9. More than three-

TABLE 9. TYPES OF CUSTOMERS THAT PURCHASE AZALEA PLANTS, BY BUSINESS ORGANIZATION, ALABAMA, 1983¹

Customer type	Corporation		Proprietorship		Total	
	No.	Pct.	No.	Pct.	No.	Pct.
Other nurseries	7	78	18	78	25	78
Discount stores	8	89	14	61	22	69
Garden centers	1	11	9	39	10	31
Rewholesalers	4	44	4	17	8	25
Individuals	3	33	2	8	5	16
Other growers	—	—	3	13	3	9
Landscapers	—	—	1	4	1	3

¹Numbers do not equal 32 because firms may have more than one type of customer.

fourths (78 percent) of the nurseries surveyed made sales to nurseries located outside the production area (outside of Baldwin and Mobile counties): The second most important type of customer was discount stores, with 69 percent of nurseries making sales to these stores. Thirty-one percent of azalea growers sold to garden centers and 25 percent to rewholesalers. Sales to growers within the production area may have been larger than reported, since growers trade plants for plants due to shortages or other factors and money may not be exchanged.

Corporations' most important customers were discount stores, with 89 percent of corporations making such sales; other nurseries were second. Other nurseries were the most important customers of proprietorships, with 78 reporting such sales. Second most important were discount stores, which purchased azaleas from 61 percent of the proprietorships surveyed. Garden centers were important customers for proprietors, while little selling was done to garden centers by corporations. Corporations did not report sales to other growers or landscapers.

States of Destination

Markets can be influenced by climatic conditions, distance from production area, and shipping costs. The farther the market is from the production area, the larger the transportation costs incurred. Climatic zones place limitations on the markets for azalea plants.

Growers surveyed were asked to identify the states in which they sold azaleas in 1983 and to provide the percentage of their sales into these states. The 32 growers surveyed shipped azaleas into 21 states, located in the eastern and southwestern regions of the United States. Buyers in Texas markets purchased the largest percentage of azaleas, 16.5 percent of sales, figure 5. The wholesale value of the Texas market was estimated at \$1.7 million. Georgia was second with about 13.0 percent of azalea sales and a value of approximately \$1.4 million. Azaleas shipped to Alabama consumers accounted for almost 12 percent (value of about \$1.3 million). Sales to Tennessee and Louisiana buyers accounted for about 11 percent (\$1.2 million) and 8 percent (\$833,000), respectively. Approximately 52 percent of azalea sales went to Texas, Georgia, Alabama, and Tennessee. Buyers in the Southern States purchased almost 85 percent of the azaleas.

Location of sales as related to organizational structure of the growers was examined, table 10. Sales by corporations into Texas were valued at \$1.2 million, almost 17 percent of their total azalea sales. Geor-

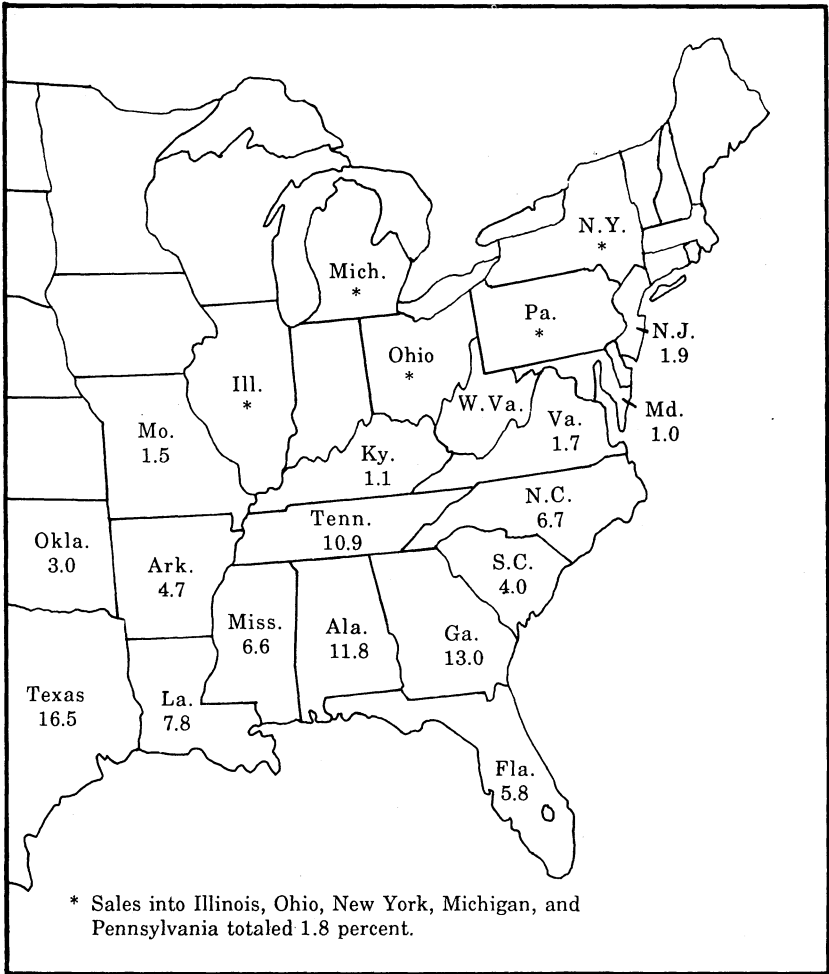


FIG. 5. Percentages of sales of Alabama azaleas by states of destination, 1983.

gia was second with 12.7 percent (almost \$928,000), Tennessee ranked third with almost 12 percent (\$873,000), and Alabama was fourth, comprising about 9 percent of sales by corporations (\$639,000). Other states into which corporations made sales are identified in table 10.

Proprietorships sold 18.5 percent of their azaleas to markets located in Alabama, for total value of almost \$625,000. Sales to Texas buyers were second with 16.3 percent and a value of \$551,000. The Georgia market was third with a value of \$463,000 (14 percent of sales), and North Carolina followed with 9.7 percent of sales and a

TABLE 10. AZALEA SALES, BY STATES OF DESTINATION AND BY BUSINESS ORGANIZATION, ALABAMA, 1983

State	Corporation		Proprietorship		Total sales	
	Thou.	Pct.	Thou.	Pct.	Thou.	Pct.
Texas	\$1,213	16.6	\$ 551	16.3	\$ 1,765	16.5
Georgia	928	12.7	463	13.7	1,391	13.0
Alabama	639	8.7	625	18.5	1,264	11.8
Tennessee	873	11.9	296	8.7	1,169	10.9
Louisiana	557	7.6	275	8.1	833	7.8
North Carolina	407	5.6	328	9.7	735	6.7
Mississippi	497	6.8	208	6.2	705	6.6
Florida	517	7.1	102	3.0	620	5.8
Arkansas	407	5.6	99	2.9	505	4.7
South Carolina	301	4.1	126	3.7	427	4.0
Oklahoma	247	3.4	76	2.3	324	3.0
New Jersey	70	1.0	128	3.8	199	1.9
Virginia	176	2.4	—	—	177	1.7
Missouri	120	1.6	37	1.1	157	1.5
Kentucky	81	1.1	41	1.2	122	1.1
Maryland	106	1.4	—	—	106	1.0
Others ¹	176	2.4	28	.8	204	1.8
TOTAL	\$7,315	100	\$3,383	100	\$10,698	100

¹Includes Illinois, Ohio, New York, Michigan, and Pennsylvania

value of almost \$328,000. Buyers in these four states purchased almost 58 percent of the azaleas sold by proprietorships.

Apparently, the organizational structure of the firm affects the markets for azaleas. Corporations and proprietorships both shipped about 16 percent of their azaleas to Texas. Proprietorships marketed a higher percentage of sales in Georgia and Alabama than corporations. The corporations surveyed marketed plants in more states, while proprietorships concentrated on markets nearer to their production location.

Seasonal Variation

Patterns of both production and sales for azaleas and other plants are seasonal in nature. These patterns depend on the climatic conditions in the geographical locations of markets, as well as production areas. The location of markets affects when plants are bought by wholesalers and retailers and planted by consumers. The Northern States have later marketing seasons than in the Southern States; therefore, southern growers interested in these markets need to be aware of differences in marketing seasons. The southern nurseries have an advantage over the northern nurseries because they are able to ship plants earlier.

Data on the percentage of azalea sales by months provided by growers do not permit the determination of seasonal variation between states. Although the 32 nurseries surveyed shipped azaleas

TABLE 11. SEASONAL VARIATION OF AZALEAS SALES, BY BUSINESS ORGANIZATION, ALABAMA, 1983

Month	Corporation		Proprietorship		Total sales	
	<i>Thou.</i>	<i>Pct.</i>	<i>Thou.</i>	<i>Pct.</i>	<i>Thou.</i>	<i>Pct.</i>
January	\$ 541	7.4	\$ 184	4.7	\$ 725	6.5
February	1,051	14.4	1,030	26.2	2,081	18.5
March	1,797	24.5	779	19.8	2,576	22.9
April	1,113	15.2	376	9.6	1,489	13.2
May	598	8.2	245	6.2	844	7.5
June	408	5.6	203	5.2	611	5.4
July	77	1.1	38	1.0	116	1.0
August	111	1.5	50	1.3	161	1.5
September	435	5.9	173	4.4	608	5.4
October	581	7.9	457	11.6	1,039	9.2
November	352	4.8	286	7.3	639	5.7
December	254	3.5	105	2.7	359	3.2
TOTAL	\$8,018	100	\$3,926	100	\$11,944	100

year-round, supply and demand of azalea plants are seasonal in nature. More than half of yearly sales were made in February, March, and April, table 11. Corporations sold nearly one-fourth (24.5 percent) of their azaleas in March. Sales in February and April were 14.4 and 15.2 percent, respectively. Thus, sales in these 3 months comprised almost 55 percent of the total for the year. The next peak in sales was in the fall, with October accounting for approximately 8 percent of corporations' sales of azaleas.

Proprietorships sold 26.2 percent, or \$1.0 million, of their azaleas in February. March and April sales comprised 19.8 and 9.6 percent, respectively. The sales value for these 3 months totaled almost \$2.5 million, or 55.6 percent of total sales. The next peak in sales was in October, with azalea sales of about 11.6 percent and a value of \$457,000. The lowest percentage of azalea sales was reported in July.

The market for azaleas has two peak seasons, spring and fall. Spring sales were the largest in terms of percent sold and dollar value. Although fall sales were less than spring sales, a peak demand for azaleas in the fall was evident. A seasonal variation in sales was also reported in the Georgia study by Williams and Musillo (13).

Grower Outlook

Azalea growers were asked to indicate whether they would increase, stay the same, or decrease azalea production in the next 5 years. Sixty percent of those surveyed planned to increase production. Growers planned to increase production of their more popular varieties and to become more market oriented by selling plants in container sizes conforming to demands of their particular markets.

Also, growers stated that they must continue to increase production to remain competitive. A 5 to 10 percent increase in production per year was the typical expansion level given. Thirty-five percent of the growers surveyed had no plans to increase production. Many of these were limited in the amount of land available for expansion. In addition, these growers had established markets they planned to continue to serve and some growers were content with their present production. Only 5 percent of the growers had plans to reduce production. These growers were in the process of phasing out their business, mainly due to age or health.

When asked to compare their volume of sales in 1978 to 1983, 78 percent of the growers surveyed reported a larger volume in 1983. Many of these growers had shifted from production of other woody ornamentals to azaleas. Eighteen percent reported a similar volume of sales in 1983 as in 1978, while 5 percent experienced a lower volume of sales in 1983. A revealing fact relating to industry growth was that one-fourth of the growers surveyed began producing azaleas after 1978. The addition of new firms apparently has contributed to increased competition. This increased competition could prove to be beneficial to potential buyers of azalea plants.

SUMMARY AND IMPLICATIONS

Information about the status of commercial azalea production and marketing was obtained during summer 1984 in a study of 40 nurseries located in Baldwin and Mobile counties. A prepared questionnaire was administered with the growers in July and August 1984. In most cases, personal interviews were taken at the growers' farms, with a total of 32 growers participating. These growers were thought to comprise 75-85 percent of the azalea production in the two-county area. Of these 32 azalea producers, 5 produced only azaleas, while 27 also produced other plants.

The azalea industry is relatively young, with 25 percent of the firms starting after 1978. The majority of growers were organized as single proprietorships; corporations were second and partnerships third. In terms of total sales, however, corporations were first, followed by proprietorships and partnerships.

Azaleas were grouped into three broad categories. Semi-dwarf/dwarf azaleas comprised the largest percentage, with indica and "others" second and third, respectively. An analysis of sales was made by container size in which plants were sold. The most popular container was the 1-gallon pot, constituting 38 percent of plants sold

and over 40 percent of the total value of sales. Liners were second in sales with 3.5 million plants (37 percent), but only 12 percent of sales value. Rooted cuttings were third in number of plants sold, followed by plants in 3-gallon pots, quarts, and 2-gallon pots. Corporations tended to concentrate on plant sales in the 1- and 3-gallon containers, while proprietorships sold plants mostly in 1- and 2-gallon containers.

The market area for azaleas has changed over the years. With these changes, producers adjusted production methods and market strategies. In 1983, growers shipped plants into 21 states located in the South, Southwest, Midwest, and East. The three leading states in value of shipments were Texas, Georgia, and Alabama.

Growers used a variety of marketing methods. The most common were sales at the grower location and telephone sales. Selling was also conducted through the use of salesmen, mail-order catalogs, trade shows, and brokers. Essentially all sales were made at the wholesale level. Producers were concerned about limiting their markets to a few buyers in terms of type of buyers and number of firms. Most growers felt that retail selling at the production location presented too many problems while yielding little revenue.

Although azalea plants were shipped year-round, supply and demand for the plants were seasonal in nature. The two peak seasons were in early spring and fall, with spring being the most dominant sales period. About 23 percent of the plants were marketed in March. This seasonal variation seemed to follow the whole nursery industry.

Producers were asked to comment about recent production changes, trends observed in their markets, and future plans. There has been some production shifts from indicas to the dwarf-type varieties. Some growers were attempting to expand sales into colder climatic zones. Growers also believed they faced more competition in the industry than existed several years ago.

Sixty percent of the producers surveyed planned to increase production in the next 5 years, seeing this as necessary to remain competitive. A general estimate of expansion of 5 to 10 percent in annual production was offered. Growers who had no plan to increase production were primarily limited by available space.

When asked to compare volume of sales in 1978 to 1983, 78 percent of the producers had a growth in sales volume for this 5-year period. Only 5 percent had experienced lower sales volume.

An oversupply of plants can drastically affect markets and growers' incomes. The entrance of about one-fourth of those surveyed into the

azalea business since 1978 contributed to concern about overproduction. However, most growers believed that to survive they had to increase annual output. Recent freezes may have already prevented an oversupply in the azalea markets. Industry leaders commented that producers must plan production in relation to expected sales to prevent oversupply problems.

A general consensus offered by producers was that the growth of the nursery industry will continue, but the growth rate is anticipated at a lower pace than in the recent past. Increases in competition should cause producers to become more aware of changes in market areas and demand, if they are to remain competitive with other producers. The future of many azalea producers will depend on how effectively producers can adjust their production to these changes. Most growers, who have established markets and apparently adjust production in view of their market capacity, were optimistic about the future of the industry.

Apparently because of farm income problems in the mid 1980's, some farmers in the azalea production area were indicating an interest in this enterprise. Some growers state that the market growth experienced by this industry was likely viewed as a way some troubled farmers can remain in agricultural production. It was stated that such potential entrants who are without established markets or marketing plans add to the possibility of production gluts and lower quality plants. A general observation was that constant attention must be applied to controlling production costs and to the danger of limiting markets to a small number of buyers.

The value of receipts to nursery producers has trended upward for many years. Phillips (7) has found that fluctuation in demand among the various types of buyers has tended to offset the effects of a fluctuating economy on the nursery industry. Increases in the number of landscape architects and contractors are helping to create a higher demand for plants. Expansion of landscape maintenance will have a positive effect on plant demand. The smaller land area per dwelling has tended to be more intensively landscaped. Increased interest in well-maintained landscapes has stimulated others to duplicate this success. Population growth and shifts to the region will tend to have a positive effect on demand for plants. An increased understanding of production costs and realistic market potentials will be needed for Alabama azalea growers to remain competitive.

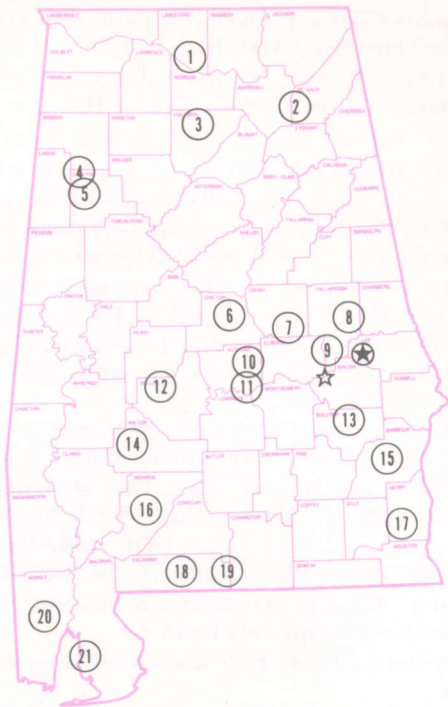
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Alabama's Agricultural Experiment Station System

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.