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The Changing Structure of Florida's Ornamental Plant Nursery Industry, 1989 to 1994 [1]

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Abstract

Florida's large ornamental plant nursery industry has undergone significant structural changes during the latter-1980s and 1990s in response to slowed market growth and increasing competition. Industry surveys conducted in 1989 and 1994 provided information to evaluate these economic trends from questions concerning product sales, marketing practices, and employment. Mailed questionnaires were received from 104 firms in 1989 and 183 firms in 1994. Results showed that the industry is evolving toward larger firms, with increasing diversity of ornamental plant products, a shift in markets from landscaper to retailer outlets, and wider distribution of products outside the state of Florida.

Key words: ornamental plants, Florida, sales, marketing, industry structure.

Introduction: Florida's Ornamental Plant Industry

Nursery and greenhouse crops represent the sixth largest agricultural commodity group in the United States, with a farmgate value of $7.6 billion in 1992 (US Census Bureau, 1994). Floriculture and environmental horticulture is the fastest growing segment of U.S. agriculture, averaging 9 percent annual growth during 1982-91 (Johnson and Johnson, 1993). Florida is the second leading producer of ornamental plants in the US, with an industry value of $1.0 billion in 1992 (Census Bureau, 1994). The state of Florida dominates the US market for tropical foliage crops, with over 90 percent of sales. Ornamental crops are the third largest agricultural industry in Florida, following citrus and vegetables.

Sales of ornamental plant products from Florida rapidly increased during the 1970s and early 1980s, then experienced slower but steady growth during the latter 1980s as shown in Figure 1 (Sales of ornamental plant products from Florida, 1984-1992). As the ornamental horticulture industry matured during the 1980s it incurred problems common to other parts of U.S. agriculture, including over-production, depressed prices, reduced profitability and an increased rate of business failure (Hodges and Haydu, 1989). Rates of return on equity for floricultural and environmental horticulture firms in the United States declined from 6.9 percent in 1987

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to 2.3 percent in 1991 (Johnson and Johnson, 1993). In contrast, Florida ornamentals producers experienced a decline in rate of return on equity during an earlier period, then began to recover during 1990-91 (Hodges, 1992 and unpublished data), as shown in Figure 2 (Rates of return to equity, ornamental horticulture firms in the US, Southern US and Florida, 1987-1991).

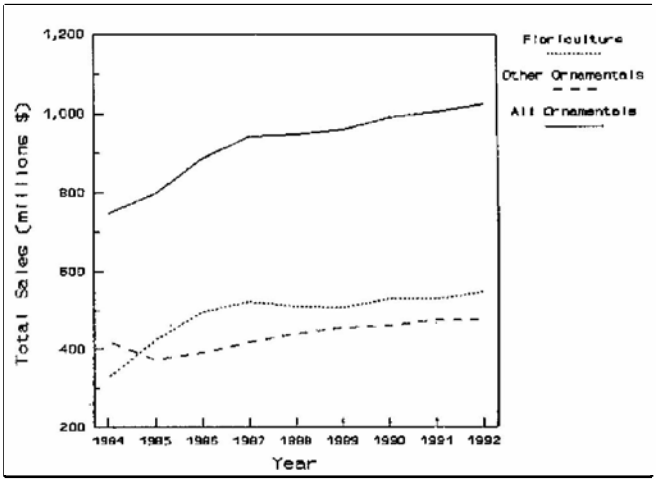

Figure 1.

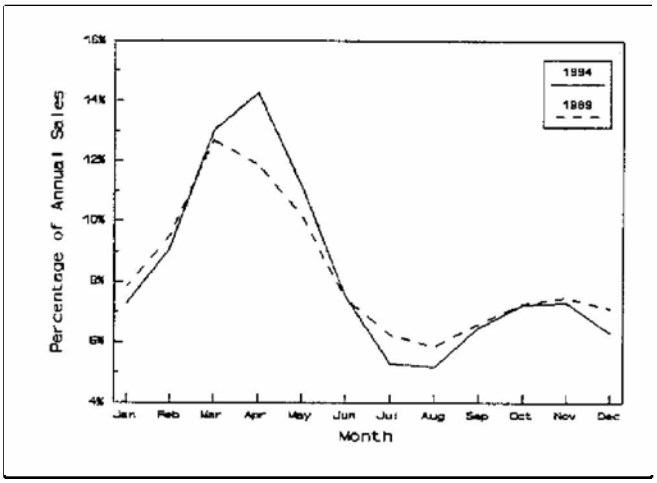

Figure 2.

Production and marketing patterns in Florida's tropical foliage industry were described by Smith et al (1981), and practices in the state's woody ornamental industry during the middle period of its evolution were described by Mathis and Degner (1981). Hodges and Haydu (1992) reported findings of a 1989 survey on marketing practices for the woody ornamental sector of the nursery industry in Florida at a time when increasing competition was beginning to be felt. The present paper summarizes results of an updated survey to describe changes occurring in the ornamentals industry during the past five years as the Florida nursery industry underwent an economic recovery from the recession during the 1980s.

Methods

Surveys of Florida's ornamental nursery industry were undertaken as part of the National Nursery Survey sponsored by the Southern Regional Association of Agricultural Economists (S-103 Committee). Survey questionnaires were mailed to selected firms in 1989 and 1994 requesting information on business activity for fiscal years 1988/89 and 1993/94, respectively. Information was collected on age and organization of the business, annual sales volume and monthly distribution, employment, product types, production systems, interstate trade, sales transaction and advertising methods, market outlet types, product pricing, use of computers, and factors limiting firm expansion. Response categories used for each question are summarized in Table 1. Questionnaires used in the two survey years were very similar, with minor exceptions. A copy of the questionnaire used in 1994 is presented in Appendix A.

Survey sampling was concentrated on the largest 10 percent of firms in the industry. Two source lists used to select firms in the population were the state of Florida's Department of Plant Industry (DPI) registry of certified nurseries, and the membership list of the Florida Nurseryman and Grower's Association (FNGA, Orlando). The DPI list was used to select firms having greater than 50,000 units in plant inventory, and the FNGA list was used to select additional firms having 8 or more full-time employees that did not meet the first criterion. A total of 409 firms were contacted in 1989 and 610 firms were contacted in 1994. Survey questionnaires were sent to selected firms by first class mail, with a cover letter from the trade association (FNGA) president, and an addressed, postage-paid return envelope. Two separate mailings were done approximately two months apart to increase the response rate. The survey was administered without identification of respondents, so matching of repeated observations and estimation of total industry values based upon expansion factors were not possible. Returned questionnaires were forwarded to the project leader

for data entry and consistency checking, and compilation of a national database. Data sets for Florida respondents for both years were combined for analysis of changes between 1989 and 1994.

Analysis of marketing practices was based upon the annual sales reported by survey respondents. Annual sales for each firm were estimated at the midpoint of the sales range indicated (see Table 1), except for the largest sales range ($10 million or greater), in which sales were estimated at $10 million. Sales for each product type, media type, outlet type and destination were estimated by multiplying the firm's total sales against the percentage of sales reported for each category, and these results were normalized in relation to the reported totals to account for missing data. Results were compiled for four annual sales volume classes: small, less than $500 thousand; medium, $500 thousand to $1 million; large, $1 million to $3 million; very large, greater than $3 million. In some cases where explicitly noted, sales reported in the 1994 survey were adjusted for inflation during the 1989 to 1994 period by applying a deflator factor (0.949) based upon the producer price index (US Commerce Dept.) to state results in constant 1989 dollars.

Results

Completed questionnaires were received from 104 firms in 1989 and 183 firms in 1994, representing response rates of 25 and 30 percent, respectively. Sales information was given by 94 firms in 1989 and 177 in 1994.

Sales and Firm Size

Sales reported by survey respondents totaled $100 million in 1989, and $249 million in 1994. Average sales per firm rose from $1.06 million in 1989 to $1.41 million in 1994. After adjusting for inflation during the 1989-94 period, average sales per firm in 1994 were $1.34 million in constant 1989 dollars, a 26 percent increase. The number of firms and sales for each firm size class are summarized in Table 2. Firms having $1 million or more in annual sales rose from 35 percent of survey respondents in 1989 to 45 percent in 1994 ("large" and "very large" in Table 2). The share of industry sales by these same firms increased from 74 percent in 1989 to 82 percent in 1994. Thus, the ornamental plant industry in Florida became increasingly dominated by larger firms.

Employment and Labor Productivity

Total employment reported by survey respondents increased from 3,300 employees in 1989 to 5,400 in 1994, or an average employment per firm of 26.4 in 1989 and 29.6 in 1994. This is another indicator of increasing firm size in the industry. Table 3 presents permanent and total employment (including temporary employees) and average sales per employee by firm size class. As a fundamental measure of labor productivity, sales per employee increased from $43.7 thousand in 1989 to $49.5 thousand in 1994. When adjusted for inflation during the 1989-94 period, the labor productivity in 1994 was $47.0 thousand per employee, only 7.5 percent higher than in 1989. Larger firms generally had higher sales per employee in both survey years, although very large firms in 1994 were below average for that year. A higher ratio of production workers to managers (non-production workers) for larger firms represents an important labor economy of size. These findings are consistent with results for detailed financial analysis of ornamental nurseries in Florida (Hodges, 1992). Firms in 1994 indicated a greater use of permanent rather than temporary or part-time labor, with 92 percent of total employment as permanent employees, compared to 84 percent in 1989

Production Area and Space Productivity

Total acreage reported by 1994 survey respondents was about 7 thousand acres, or 38.6 acres per firm. Table 4 summarizes production areas for field, container, greenhouse or shadehouse, and other production systems by firm size class. Field production systems for growing crops in native soils were rather space extensive, representing 43 percent of the acreage reported. Container production, using an artificial rooting media in growing containers placed in open sun represented 35 percent of total acreage. Greenhouse and shadehouse production systems with enclosed structures for intensive cultivation of ornamental crops in a favorable microclimate made up 15 percent of total acreage.

Changes in production area since 1989 could not be evaluated because comparable data were not collected in the first survey.

Sales per acre of production area is a measure of nursery space productivity. Nursery firms in 1994 had sales averaging $35 thousand per acre. Sales per acre varied directly with firm size, ranging from $14 thousand for small firms to $55 thousand for very large firms (Table 5). This result is consistent with Hodges' (1992) finding that larger and more profitable nursery firms in Florida had greater space productivity due to higher inventory turnover and higher levels of capital investment and labor.

Product Sales

Sales of specific nursery products are summarized in Table 6 . Nearly all itemized categories of plant products were significantly reduced as a share of total sales between 1989 and 1994, except herbaceous perennials and propagating materials. The five largest categories of plant products representing all trees and shrubs declined from 71 percent of sales in 1989 to 40 percent in 1994. Only one of these five categories (broad-leaved evergreen shrubs) held over 10 percent of market share in 1994. Sales of "other" plant products, i.e. those not otherwise classified, grew from 5 to 35 percent of total sales. These trends are evidence of increasing diversity and variety of plant products in Florida's ornamental nursery industry. Tropical foliage was the largest single product in 1994 ($97 million); however, this category was not included in the 1989 survey.

In order to better gauge changes in market share of various nursery products, the distribution of product sales reported by surveyed firms in 1989 and 1994 (from Table 6) were applied to official figures on total Florida ornamental sales to estimate sales of each product type. Total Florida sales of nursery and floriculture crops reported in the Census of Agriculture (US Census Bureau, 1994) increased from $620 million in 1987 to $778 million in 1992. The percentage share of each product type was applied within the product groupings recognized by USDA for "nursery crops" and "floriculture" as shown in Table 7 . The change in sales between 1987 and 1992 in constant dollar terms was expressed on a percentage basis. Sales were significantly increased during this period for evergreen shrubs, vines and ground covers, propagating material and "other" products. Total sales of "other" non-itemized products grew 121 percent from $60 to $149 million. Sales substantially decreased for deciduous shrubs, roses and herbaceous perennials. Foliage sales taken directly from the Census figures increased from $280 to $297 million. Although the sales of foliage and deciduous shade and flowering trees increased during 1987-92, these changes did not keep pace with inflation.

Rooting Media Production Systems

Nursery product sales in Florida became increasingly dominated by container production systems, from 78 percent of total industry sales in 1989 to 85 percent in 1994 (Table 8). Florida's mild winter climate allows year-round plant production in above-ground containers without risk of freeze damage to roots, and the state's poor native soils are generally unfavorable for field production systems. Sales of all types of bare-root and root-balled stock decreased from 22 percent in 1989 to only 7 percent in 1994. On the other hand, in-ground container production systems, including fabric "grow-bags", increased from a negligible level in 1989 to 7 percent of sales in 1994. The trend toward container systems has occurred throughout the United States due to their greater labor and space productivity.

Market Outlets

Over 92 percent of Florida's ornamentals were sold through wholesale outlets rather than direct retail outlets. Wholesale outlets include re-wholesalers, landscapers and retailers. Re-wholesalers are brokers, distributors, or other nursery firms, who buy and handle plants for resale to retailers or landscapers. Retail merchandisers of nursery products include garden supply stores and large chain stores with garden and plant departments which sell directly to consumers. Commercial landscapers use nursery products for use in new landscape construction or renovation.

Sales through wholesale market outlets for Florida ornamentals are summarized in Table 9 . Retailers became the largest outlet in 1994 with 45

percent of total sales, which was a substantial increase from 26 percent in 1989. Landscapers declined in importance as a market outlet from 45 percent share in 1989 to 24 percent in 1994. Re-wholesalers represented nearly the same share of the market in both years. Among retailer market outlets in 1994, mass merchandisers, garden centers and other retailers accounted for 20 percent, 19 percent and 7 percent of total sales, respectively.

Other nurseries are an important re-wholesaler outlet for many firms in order to offer wider product lines and take advantage of a strong marketing organization. Fifty-one percent of firms reported re-selling finished nursery products purchased from other growers in 1994, representing 8 percent of total sales.

Market Distribution Areas

Destinations of ornamentals sales are summarized by region in Table 10 . Foliage product specialty firms in 1994 were excluded from this analysis to make appropriate comparisons between 1989 and 1994 survey data. The state of Florida was the largest market area, but sales within the state declined from 77 percent of industry sales in 1989 to 67 percent in 1994. This decrease in within-state sales was matched by a commensurate increase in sales to other regions. Sales to the southeast, southcentral, northcentral, and western US markets all increased as a percentage of total sales between 1989 and 1994, while sales to the northeast and exports to foreign countries were decreased.

Trends in sales by Florida's non-foliage ornamental firms to individual US states were consistent with the regional picture above. Sales to the top 10 states and their percentage of industry sales are shown in Table 10a . Sales to all major individual states, except Florida and New Jersey, were increased both in dollar value and as a percentage of total sales in 1994. Sales were notably increased to Texas, the Carolinas, Louisiana, Virginia and California. Eight of the top destination states for Florida ornamentals were in the Southeast or Southcentral US regions.

Sales of ornamental products through the three types of market outlets, within Florida and outside the state, are summarized in Table 11 . For all outlet types, the share of within-state sales declined between 1989 and 1994, mirroring the results presented above. The share of within-state sales was highest for landscaper outlets in both survey years, and lowest for rewholesalers.

Market Seasonality

The percentage of annual sales reported for each month in 1989 and 1994 are shown in Figure 3 . The seasonality of Florida's ornamentals sales was not as marked as for other states (Bryan and Brooker, 1989), due to the very moderate climate allowing year-round growing and landscaping activity. However, sales generally became more seasonal in 1994 as indicated by the higher peak months and lower slack months. Sales for the peak months of March, April, and May represented 35 percent of annual sales in 1989, and rose to 38 percent in 1994. The lowest monthly sales occurred in July, August and September. This pattern generally held true regardless of firm size, but very large firms had slightly more peaked springtime sales and small firms had greater sales during the late fall and early winter months. The change in seasonal distribution of Florida ornamentals sales may be due to the increased sales to northern states with more seasonal landscaping and gardening activity (Tables 10 and 10a).

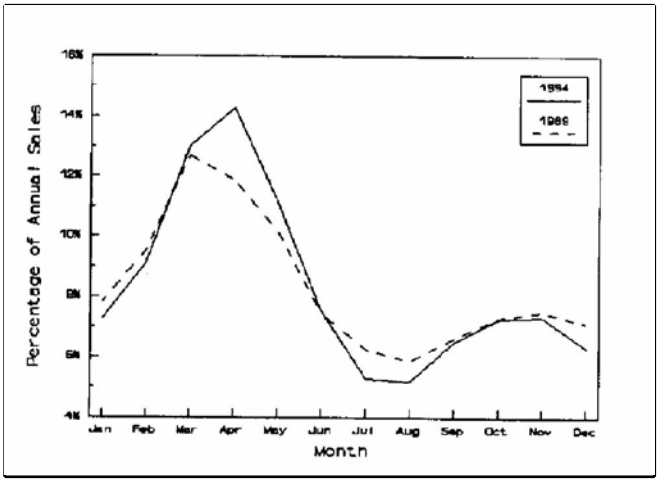

Figure 3.

Sales Methods

Methods used for selling are a key part of marketing. Strategic considerations include how contacts are made (trade shows, telephone, personal

visit, mail order) and whether or not sales are negotiated (prices adjusted for volume discounts, repeat customers, etc.). The telephone was the most important sales medium in this survey, accounting for 48 percent of total sales in 1989 and 63 percent in 1994 (Table 12). In-person sales were the next most important medium, but declined from 43 percent of sales in 1989 to 30 percent in 1994. Trade shows and mail order together represented 6 to 9 percent of total sales in both 1989 and 1994. Among the telephone and in-person sales, there was a greater share of non-negotiated sales (52 to 53%), than negotiated sales (38 to 39%) in both survey years. Firm size was unrelated to the pattern of contact media used, but larger firms had a greater share of negotiated sales, suggesting greater use of pricing incentives for marketing, and some size economy in employment of sales personnel. Using a national data set for the 1989 survey, Hinson, Turner and Brooker (1995) showed that firm age, sales volume, legal organization, and regional location all significantly affected choice of sales methods.

Repeat customers are the foundation of most businesses and are generally more profitable because of lower overhead costs associated with the sales transaction. The overall share of ornamentals sales to repeat customers remained steady at 84 percent in 1989 and 85 percent in 1994. Very large firms had a somewhat higher share of repeat business (90%), consistent with their greater emphasis on negotiating sales transactions. The high percentage of business conducted with repeat customers suggests that competition for customers in this industry may be characterized as a zero-sum game, in which the acquisition of a new customer by one firm means loss of a customer from another firm (Haydu, 1988). These findings, however, are contrary to beliefs widely expressed by growers that customers have low loyalty to suppliers.

Forward contracting or preselling is an important strategy to reduce market uncertainty in many businesses. In the nursery industry, most products have traditionally been grown on speculation. In 1994, surveyed firms reported over $51 million in contract sales, or 20 percent of industry sales.

Advertising

Advertising is an important sales tool for the ornamental nursery industry because of the wide diversity of products and lack of centralized market channels. Expenses on advertising by type of media are shown in Table 13 . Advertising budgets represented 1.9 and 2.1 percent of sales in 1989 and 1994, respectively. Average advertising expenses increased from $17,000 per firm in 1989 to $28,000 in 1994. Trade shows were the most important form of advertising in 1989, representing 43 percent of total dollars spent, and trade shows and trade journals were equally important in 1994 with 30 percent of expenses. Catalogs and newsletters were also an important advertising medium with 19 percent of total expenditures in both years. Radio, billboards and other media became more used in 1994 (up from 4% to 14%), while the yellow pages and newspapers became less used (down from 8% to 4%, and 11% to 3%, respectively).

Use of Computers for Nursery Management

Use of computers in business has surged in recent years with the availability of low cost, high performance microcomputer technology. Reported use of computers currently and planned adoption within the next 5 years for major business functions in ornamental nursery firms are presented in Table 14 . In general, use of computers in the industry advanced rapidly between 1989 and 1994, with rates of usage in 1994 exceeding the rate of planned usage in 1989. Over two-thirds of all firms reported using computers in some way in 1994. The most common use for computers was accounting (payroll records, accounts payable, accounts receivable), with 58 percent of firms reporting this use in 1989 and 69 percent in 1994. Use of computers for word processing increased strongly from 37 to 63 percent of firms. Marketing and inventory management were reported as computer uses by 35 and 39 percent of firms in 1994. Other computer functions with use rates of at least 20 percent in 1994 included production, plant location, financial management and communications. Plant location was the function with the highest planned rate of adoption over the next 5 years (21%), and may represent a large potential for software developers.

Product Pricing

Pricing of products is a major issue in the ornamentals industry because of widespread below-cost sales (Hodges and Haydu, 1989). While costs of production have risen along with inflation in the general economy, prices for ornamental products have remained relatively stable for a decade, resulting in a cost-price squeeze that requires producers to analyze costs more carefully than ever before. Survey data were collected on rankings of factors used to determine prices on a scale of one to five, from most important to less important. The percentage of respondents who rated each factor first or second, or within the top 5 are given in Table 15 . Generally, the pattern of results was similar for both survey years, indicating that growers' perceptions of factors determining prices had not changed. Cost was the most important factor determining prices. It was ranked first by 49 percent of respondents in 1989 and 52 percent in 1994. Comparison to other firms was ranked first by 17 percent of growers in 1989 and 24 percent in 1994. Market demand was ranked first by 17 percent in 1989 and 14 percent in 1994. These latter two factors were also ranked second in importance by a high percentage of growers in both years. Grade of plants was another factor which was considered secondarily in price determination, and inventory levels (availability) of product were a tertiary consideration. Inflation, time of year, and last year's price were considered important by a very small percentage of respondents.

Business Growth and Limits to Expansion

In view of the maturation of ornamentals industry during recent years, there is concern about what factors are limiting further expansion of the industry. Table 16 presents survey respondents' ratings of factors limiting business expansion, analyzed in the same manner as pricing factors above. Market demand was the most important limiting factor recognized. In 1989 it was first-ranked by 25 percent of firms, and in 1994 was top-ranked by 33 percent. Availability of capital was ranked as the most important factor by 21 percent of respondents in both years. Environmental regulation and other governmental regulation became more prominent factors in 1994. In contrast, availability of land and labor became less prominent factors in 1994. Thus, there was a shift in perception that market and regulation factors were now more important, while production-related factors were less important.

Conclusions

Florida's ornamental nursery firms have adapted to changes in this increasingly competitive industry by growing to larger size, developing new products and markets, and achieving greater efficiencies through the use of new technologies such as computers. During the 1989 to 1994 period, average sales per firm grew by 26 percent in constant-dollar terms, and average employment increased by 15 percent, resulting in an 8 percent increase in sales per employee. The product mix of Florida's nurseries become much more diverse, with sales of "other" plant products increasing from 5 to 39 percent of total sales. Markets for Florida ornamentals were substantially expanded in other regions, with sales to destinations outside the state increasing from 23 to 33 percent of total sales. Retailers such as garden centers and mass merchandisers (chain stores) became the dominant market outlet for Florida ornamentals rather than landscapers. The competitiveness of Florida ornamentals was reflected in growers' recognition of cost as the most important factor determining prices, and market demand as the most important limiting factor for expanding business. Use of computers in the industry has advanced rapidly, with over two-thirds of all firms using computers in some way in 1994.

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Table 1. Summary of information collected in survey questionnaires, 1989 and 1994.

Information	Nature of Response	Response Categories
Sales in previous year (1988-89, 1993-1994))	Check appropriate category or give actual amount	less than $50M, $50-99M, $100-499M, $500-999M, $1-1.99MM, $2-2.99MM, $3-3.99MM, $4-4.99MM, $5-5.99MM, $6-6.99MM, $7-7.99MM, $8-8.99MM, $9-9.99MM, $10MM or more.
Employment	Number of employees	Permanent, temporary employees.
Nursery products sold	Percentage of sales	Deciduous shade trees, deciduous shrubs, broad-leavedevergreen shrubs, narrow-leaved evergreen shrubs, evergreen trees, vines and ground covers, roses, herbaceous perennials, fruit trees, small fruits, foliage (1994 only), propagating material, other.
Production area used (1994 only)	Acres	Field, open container, greenhouse/shadehouse, other,total.
Rooting mediaproduction system types	Percentage of sales	Bare root, balled/potted, balled/burlapped, process balled, container, field grow bags, in-ground containers, other.
Sales transaction methods	Percentage of sales	Trade show, telephone, and in-person, for both negotiated and non-negotiated orders, and mail order
	Percentage of sales	Repeat customers.
	Yes/no and percentage of sales	Brokerage for other growers
	Yes/no and percentage of sales	Contract sales (1994 only).
Market seasonality	Percentage of sales	Months (Jan, Feb, Mar, etc.).
Market outlet types	Percentage of sales	Retail, wholesale. Within wholesale category: retailers, landscape firms and re-wholesalers. Within retailer category (1994 only): mass merchandisers, garden centers.
Market areas	Percentage of sales to top 5 destination states or foreign markets	List of states and wholesale market outlet type (retailers, landscapers, re-wholesalers).
Origin of plant materialused	Percentage of purchases fromtop 5 origination states	List of states.
Factors determiningproduct pricing	Rank factors 1 to 5	Cost of production, inflation, comparison to other firms, grade of plants, market demand, time of year, inventory, last year's price, other.
Factors limiting firmexpansion	Rank factors 1 to 5	Weather, market demand, water supply, ownmanagement, environmental regulation, other government regulation, ability to hire competent management, land, labor, capital, competition
Factors limitinggeographic scope of trading	Rank factors 1 to 5	Capital, marketing, personnel, production, transportation.
Advertising Expenses	Percentage of sales allocatedfor advertising, percentage of budget by media type.	Yellow pages, billboards, trade journals, trade shows,newspapers, radio, catalogs, newsletters, other.
Age of business	Year established	
Business functionscomputerized	Check any that apply	Word processing, accounting, inventory, financial,marketing, communications, plant location, landscape design, production scheduling; now and within next 5 years.

Table 2. Number of firms and product sales by firm size class, surveyed ornamental nurseries in Florida, 1989 and 1994.

Firm Sales Range	Firm Sales	Number and Percentage of Firms Reporting Sales				Total Sales (millions $ and Percentage of Sales)			
($ millions)	Class	1989		1994		1989		1994	
		N	%	N	%	$MM	%	$MM	%
Less than .50	Small	36	38	60	34	8.5	8	16.1	6
.50 to .99	Medium	25	27	38	21	18.0	18	28.5	11
1.0 to 2.9	Large	26	28	58	33	41.8	42	100.0	40
3.0 or greater	Very Large	7	7	21	12	31.9	32	104.5	42
	Total	94	100	177	100	100.2	100	249.1	100

Table 3. Employment and sales per employee, by firm size class, surveyed ornamental plant nurseries in Florida, 1989 and 1994.

Firm Sales Class	Persons Employed						Sales Per Permanent Employee (thousands $)	
	1989			1994				
	Permanent	Total (%)		Permanent	Total (%)		1989	1994
Small	259	344	13	432	490	9	32.7	37.1
Medium	437	523	19	541	612	11	41.2	52.7
Large	975	1,105	40	1,682	1,864	34	42.8	59.5
Very Large	621	771	28	2,374	2,443	45	51.4	44.0
Total or Average	2,292	2,743	100%	5,029	5,409	100%	43.7	49.5

Table 4. Production acreage by production system type and firm size class for surveyed ornamental plant nurseries in Florida, 1994.

Firm Sales Class	Field	Container	Greenhouse/ Shadehouse	Other	Total	Total Row Percent
Small	885	244	98	137	1,127	16%
Medium	701	447	124	85	1,421	20%
Large	1,024	973	362	323	2,636	37%
Very Large	416	833	449	348	1,889	27%
Total	3,026	2,497	1,033	894	7,073	100%
Column Percent	43%	35%	15%	13%	100%	

Table 5. Sales per acre by firm size class for surveyed ornamental plant nurseries in Florida, 1994.

Firm Sales Class	Sales Per Acre ($ thousands)
Small	14.2
Medium	20.1
Large	38.9

Table 5. Sales per acre by firm size class for surveyed ornamental plant nurseries in Florida, 1994.

Firm Sales Class	Sales Per Acre ($ thousands)
Very Large	55.3
All	35.2

Table 6. Product sales of surveyed ornamental plant nurseries in Florida, 1989 and 1994

Product	1989		1994	
	Millions $	Percent	Millions $	Percent
Deciduous Shade & Flowering Trees	11.8	13	8.5	6
Deciduous Shrubs	6.0	6	2.2	1
Broad-leaved evergreen shrubs	22.5	24	25.5	17
Narrow-leaved evergreen shrubs	12.6	13	12.4	8
Evergreen trees	14.1	15	12.0	8
Vines and ground covers	8.1	9	9.1	6
Roses	2.8	3	4.7	3
Herbaceous perennials	1.1	1	4.0	3
Fruit trees	5.8	6	3.9	3
Small fruits	0.3	<1	.3	<1
Propagating Material (liners)	4.1	4	9.1	6
Other (not classified)	4.5	5	57.5	39
Total (excluding foliage)	93.7	100%	149.3	100%
Tropical foliage plants	na*	na*	97.2	39
Total (Including foliage)			246.5	100%

* Data on sales of tropical foliage was not collected in 1989 survey.

Table 7. Estimated industrywide product sales of Florida floriculture and nursery crops, 1987 and 1992.

Group	Product	Estimated Industry Sales (Millions $)		Sales Change (%) in constant 1987 $
		1987	1992	
Nursery crops	Deciduous Shade & Flowering Trees	31.5	31.6	-10
	Deciduous Shrubs	16.0	8.3	-54
	Broad-leaved evergreen shrubs	59.9	95.0	42
	Narrow-leaved evergreen shrubs	33.5	46.3	24
	Evergreen trees	37.5	44.6	6
	Vines and ground covers	21.5	33.8	41
	Fruit trees	15.4	14.6	-15
	Small fruits	0.7	1.2	53
	Propagating Material (liners)	10.9	33.8	178

Table 7. Estimated industrywide product sales of Florida floriculture and nursery crops, 1987 and 1992.

Group	Product	Estimated Industry Sales (Millions $)		Sales Change (%) in constant 1987 $
		1987	1992	
Floriculture	Foliage	280.3	297.4	-5
	Roses	37.3	12.3	-70
	Herbaceous perennials	14.8	10.4	-37
	Other	60.3	148.6	121
Total		619.7	777.8	12

Table 8. Sales by rooting media production systems, surveyed ornamental plant nurseries in Florida, 1989 and 1994.

Rooting Media Production System	1989		1994	
	Millions $	Percent	Millions $	Percent
Container	77.5	78	204.5	85
Bare Root	6.0	6	5.5	2
Root Balled (potted, burlapped or processed)	15.4	16	12.4	5
In-ground containers and other	<0.0	<1	17.9	7
Total	98.9	100%	240.3	100%

Table 9. Sales to wholesale outlets, surveyed ornamental nurseries in Florida, 1989 and 1994.

Wholesale Outlets		1989		1994	
		Millions $	Percent	Millions $	Percent
Retailers		24.1	27	102.5	45
	Mass merchandisers	na*		44.8	20
	Garden Centers	na*		42.5	19
	Other Retailers	na*		15.1	7
Landscapers		41.0	45	54.8	24
Re-wholesalers		25.2	28	69.5	31
Total		90.3	100%	226.9	100%
* Data not collected in 1989 survey					

Table 10. Sales by region, non-foliage specialty surveyed ornamental nurseries in Florida, 1989, 1994.

Destination Region	1989		1994*		Percent Change
	Millions $	Percent	Millions $	Percent	
Florida	60.8	77.3	63.5	67.3	-10.0
Southeast	8.1	9.7	16.2	17.1	7.4
Northeast	6.8	7.8	3.2	3.4	-4.4
Southcentral	0.3	0.4	8.6	9.1	8.7
Northcentral	0.3	0.4	1.1	1.1	0.7
West	0.2	0.2	1.6	1.6	1.4
Export	3.4	4.2	0.3	0.3	-3.9

Table 10a. Sales by non-foliage firms to top 10 states, surveyed ornamental nurseries in Florida, 1989 and 1994.

Destination State	1989		1994*	
	Millions $	Percent	Millions $	Percent
Florida	60.8	77.3	63.5	67.3
Texas	0.3	0.4	5.8	6.1
Georgia	4.4	5.6	5.5	5.8
South Carolina	1.2	1.6	3.3	3.5
Alabama	1.1	1.3	2.5	2.6
North Carolina	0.7	0.4	2.2	2.4
Louisiana	<0.1	<0.1	1.8	1.9
Virginia	<0.1	<0.1	1.4	1.5
California	0.2	0.2	1.3	1.4
New Jersey	2.0	2.4	1.1	1.2
*1994 sales represent non-foliage firms only.				

Table 12. Sales by market outlet and within state vs. out-of-state, surveyed ornamental nurseries in Florida, 1989 and 1994.

Outlet	Region	1989		1994	
		Millions $	Percent	Millions $	Percent
Retailers	Florida	16.3	82.2	49.0	73.1
	Non-Florida	3.6	17.8	18.0	26.9
Landscapers	Florida	31.0	93.2	34.1	89.1
	Non-Florida	2.3	6.8	4.2	10.9
Rewholesalers	Florida	8.5	71.9	25.7	66.9
	Non-Florida	3.3	28.1	12.7	33.1

Table 13. Sales by type of contact and negotiation method, surveyed ornamental nurseries in Florida, 1989 and 1994.

Sales Method	1989		1994	
	Millions $	Percent	Millions $	Percent
Trade show orders	7.9	8%	12.3	5%
Telephone-negotiated	18.9	19%	60.7	25%
Telephone-non negotiated	28.7	29%	90.1	38%
In-person-negotiated	18.9	19%	33.9	14%
In-person-non negotiated	23.5	24%	38.8	16%
Mail order	1.5	1%	2.4	1%
Total	99.4	100%	238.3	100%

Table 14. Advertising expenses, surveyed ornamental nurseries in Florida, 1989 and 1994.

Advertising Medium	1989		1994	
	Thousands $	Percent	Thousands $	Percent
Yellow Pages	143	8	204	4
Trade Journals	280	16	1,580	30
Trade Shows	757	43	1,579	30
Newspaper	192	11	134	3
Catalogs, Newsletters	334	19	972	19
Radio, Billboards and Other	70	4	716	14
Total	1,776	100	5,185	100

Table 15. Business functions computerized (percentage of firms), currently and planned within next five years, surveyed ornamental nurseries in Florida, 1989 and 1994.

Computerized Function	1989	1994	
		Current	Planned 5 years
Word Processing	37	63	5
Accounting	58	69	1
Production	<1	21	11
Plant Location	<1	20	21
Marketing	19	35	9
Inventory Management	34	39	8
Financial Management	7	21	10
Communications	14	27	18
Design	<1	2	6
Other	5	14	7

Table 16. Percentage of respondents ranking factors affecting pricing of products, surveyed ornamental nurseries in Florida, 1989 and 1994.

Factors Determining Prices	Year 1994			Year 1989		
	1st	2nd	All	1st	2nd	All
Cost	52	16	19	49	13	19
Inflation	1	4	4	1	6	6
Comparison to other firms	24	17	17	17	30	19
Grade	2	17	13	11	12	12
Market demand	14	31	18	17	29	19
Time of Year	1	4	8	<1	2	4
Inventory	3	8	12	<1	7	13
Last year's price	1	4	6	3	<1	7
Other	2	<1	1	2	1	2

Table 17. Percentage of respondents ranking factors affecting potential for business expansion, surveyed ornamental nurseries in Florida, 1989 and 1994.

Factors Limiting Expansion	Year 1994			Year 1989		
	1st	2nd	All	1st	2nd	All
Weather	1	1	4	<1	3	3
Market demand	33	8	15	25	13	13
Water supply	4	3	5	2	9	6
Own management	4	4	5	6	6	8
Environmental regulation	9	16	12	1	3	7
Other government reg.	9	14	11	3	2	3
Hired management	2	7	7	5	19	13
Land	9	10	7	17	6	9
Labor	1	8	9	14	13	16
Capital	21	17	14	21	14	12
Competition	6	13	12	6	12	10