



THE UNIVERSITY OF GEORGIA  
**COOPERATIVE  
EXTENSION**

College of Agricultural and Environmental Sciences  
College of Family and Consumer Sciences

# Foliage Products

## An Opportunity for the Georgia Ornamental Industry

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**MAJOR URBAN AND SUBURBAN AREAS** of the Southeast are experiencing rapid growth in population, which causes a proliferation of residential and commercial construction. This economic and population growth is contributing to a demonstrated demand for plant materials for commercial and private markets. In addition, consumers and avid home gardeners have become more adventurous with their plant choices. They are prompting growers and landscapers to become savvy in catering to this spirit of landscape adventure. This increased demand extends both to the landscape and the interiorscape. Conversations with landscape designers and garden center retailers suggest property

owners and consumers are willing to experiment with (and purchase) plant materials in new and/or different value-added presentation formats, such as combination containers, hanging baskets, plant towers, window boxes and living centerpieces with a wide diversity of plants.

### Niche Products

The majority of the plants used for interior decoration are considered "foliage plants" because of the



Combination gardens can be medium to large, free-standing containers or smaller, tabletop arrangements, used as a centerpiece.



Crotons (right) and Bird of Paradise (left) planted in large street planters in Chicago make a successful summer landscape with caladium, coleus and lirioppe.

highly decorative value of their leaves. Most of them originated in tropical and subtropical areas of the world and are adapted to low light levels, making them a natural choice for interior environments. Florida has the largest market share in the foliage industry. Florida growers produce foliage products at lower cost compared to growers in more northern states, including Georgia. The higher production costs in these states are due to extended heating periods and higher energy costs.

For some foliage crops, especially faster growing species, however, the extra heating is not required after the late spring. This allows production at more competitive cost to the northern grower. In addition, the increased demand for novel and different materials in the landscape is opening possibilities to explore some alternative uses of foliage materials, such as new and decorative annuals, as landscape components.

In order to remain profitable, floriculture operations in Georgia have to compete successfully with Florida growers who sell to the large mass merchandisers. Selling prices of floriculture products at the box stores can be considerably lower, thus making it difficult for small and medium-size growers to compete. Most of these growers have had to develop some type of a niche market.

We are reporting recent research results on the derived demand markets for foliage plant material in selected Southeastern U.S. consumer markets located in USDA zones 7 and 8. Using market analysis, we determined which segments of the foliage market (i.e., species, varieties, forms, container sizes, etc.) are feasible opportunities to satisfy the demand at retail (such as florists, garden centers, lawn and garden supply stores,

discount department stores, home improvement and hardware centers, and supermarkets.) Finally, we developed economic engineering models and enterprise budgets to evaluate the economic profitability of producing foliage for the identified market opportunities.

## Derived Demand for Foliage Plant Materials

Consumer surveys were conducted in the large urban centers in Georgia, Alabama and South Carolina (Atlanta, Augusta, Savannah, Macon, Columbus, Valdosta, Mobile, Charleston, Charlotte) on consumer awareness of foliage plants and the various attributes of foliage. Responses revealed very few push promotion and even fewer pull promotion activities by the foliage industry.

A post-purchase survey that focused on customer satisfaction with their shopping experience and their familiarity with the availability and uses of selected plant materials, especially foliage, was developed and distributed to 30 independent retail garden centers in 9 urban communities in the 3 states. The one-page survey used a Likert-scale format (i.e., 1-5 scale) to query the purchaser and was attached to the consumer's receipt with instructions to bring the survey back during their next visit to the garden center. To encourage participation, most of the retailers provided a "gift" in exchange for the completed survey. Surveys were identical, regardless of location, although retailers were invited to add a specific question if they had an issue to address. Nearly 2,000 completed surveys (1,897) were returned to the researchers by the retailers in late spring 2003.



Among the more popular foliage crops successfully grown in Georgia are [from left] Dracaena, Croton and Schefflera, Ficus and Ferns.

Analysis of the survey responses suggests that foliage was not predominantly displayed in the garden centers; that selection was limited as to species, size, and/or presentation format; and that promotional materials for foliage was nil to non-existing. Comments attached to the returned surveys indicated the retailers who reviewed their own surveys were in agreement with the consumers, citing they (the retailers) had received little or no point-of-purchase promotion materials from the foliage growers or brokers who were the retailers' plant sources. A review of popular press articles, advertisements, and media reports to consumers on the use and availability of foliage in the nine consumer markets during the 30 days prior to the survey distribution revealed one magazine article on foliage in commercial property interiorscapes.

The marketing information collected in our surveys suggests that the consumer in these markets is largely unaware of the benefits and possibilities associated with foliage plants. The consumer surveys revealed that often foliage plants are purchased through retail florist shops as gift items for special occasions, i.e., birthdays, weddings, holidays, etc. One item per purchase is common, resulting in overall low volume of foliage plant sales, which has been especially evident in an environment of a declining economy.

Another of our findings revealed that there is minimal, if any, differentiation among plant types, forms, sizes or colors by the consumers, and genus and species, let alone cultivars and varieties. This also was found to be true for foliage products offered through mass merchandisers.

A **push strategy** involves the grower's marketing activities (primarily the sales force and trade promotion) directed at the marketing channel intermediaries. The goal is to induce these intermediaries to order and

carry the plants, promote them and make them available to end users or customers. Push strategy is especially appropriate where there is low brand loyalty in a category; purchase, selection or choice is based on availability in the retail outlet; the product is an impulse item; and product benefits are well understood. Nursery and greenhouse plant production, including foliage, can easily be associated with a push strategy. When successful, push strategies result in a wider range of availability, fewer stockouts, greater merchandising activity, and a greater marketing effort than would have been achieved with little or no push communications.

A **pull strategy** involves marketing activities, primarily advertising and customer promotion, directed at the end users, the customers who buy the foliage. The purpose of the pull strategy is to induce them to ask the marketing channel participants (wholesalers and retailers) for the particular plant or foliage, and thus encourage the intermediaries to order the plants from the grower/producer. The pull strategy is especially appropriate when there is high brand loyalty (or so perceived) and high involvement in the category; people perceive differences between brands or sources; and people choose the brand before they go to the retail outlet. When pull strategies are successful, customers will seek out certain plants (foliage) and, in essence, by the interest they create, pull the product through the marketing channel. A pull strategy requires marketers to carry certain plants and products or brands in order to attract and satisfy target customers.

From these surveys, we concluded that if demand is to increase in traditional markets, consumer education efforts (to create need, awareness and interest) are mandatory. Consumer education will occur by push and/or pull marketing strategies. Price is not an issue; rather "why purchase?" is the issue.

Marketing information that was developed from the data acquired via the surveys suggests the following ideas:

## Consumer Price Elasticity of Demand

Price elasticity of demand measures the change in consumer purchases to a perceived change of price, as calculated with the formula:

$$\frac{\% \text{ change in quantity purchased}}{\% \text{ change in selling price}}$$

Price Elasticity	Action	Unit Volume	Sales Revenue	Unit Margin
Inelastic (<-1)	raise price	decrease	in crease	in crease
	lower price	increase	decrease	decrease
Unitary (+-1)	hold price	no change	maximum	no change
Elastic (>-1)	raise price	decrease	decrease	in crease
	lower price	increase	in crease	decrease

Since the quantity demanded typically decreases when the price increases, the elasticity is negative. For example, if the price for an 8-inch hanging basket were to increase by 10 percent (from \$4.99 wholesale to \$5.49) and we observed a decrease of 5 percent in the numbers of baskets sold, the price elasticity coefficient is -0.5.

An elasticity coefficient greater than -1.0 shows consumers respond a great deal to changes in price of a specific product. On the other hand, an elasticity coefficient less than -1.0 shows that consumers react minimally to a change in price.

Of more importance to the marketer than the price elasticity coefficient is the effect of consumer response on sales revenue and unit or contribution margin from the marketer changing the prices of products, depending upon their price elasticity. For products that are price-inelastic, raising prices decreases the quantity sold but increases the sales revenue for the marketer for a positive result to the grower/marketer.

The elasticity of demand for foliage at the wholesale level was calculated using data from two sources: sales data (prices and quantities) from cooperating grower/wholesalers in the nine markets conducting the consumer surveys, and the sales data from the published USDA floriculture and nursery crops situation and outlook yearbooks.

For foliage material at the grower/wholesaler level, the calculated elasticity was -0.34, meaning that for

every 1-percent change in price, purchasers responded with only a 1/3-percent change in quantity purchased (in the opposite direction to the price change). In practicality, it did not matter what price changes occurred, there was minimal change in quantity purchased (a 20 percent price cut would only increase sales 7 percent; by the same token, a 20 percent price increase would only decrease sales 7 percent).

Analyzing the sales/receipts data provided by the 30 retail garden centers participating in the survey collection suggests that foliage plant materials at retail is even more inelastic than at wholesale. The retailers provided a price timeline for the 30-day period prior to the survey distribution and the quantities sold at the prices reported. Although fewer than 200 transactions for foliage were reported, the calculated elasticity of demand at retail for foliage plants was -0.19. For the marketer, this elasticity suggests that prices could rise without severely impacting quantity sold and, conversely, prices could be slashed without drastically increasing quantity sold. An advertised 10 percent selling price reduction would increase quantity sold by 1.9 percent; lowering the retail price on a foliage plant from \$19.99 to \$17.99 (a 10 percent reduction) would sell 2 percent more plants.

## Advertising Elasticity

The advertising elasticity of demand measures how the demand for a product changes in response to a change in the level of advertising. It is calculated as the percentage change in quantity demanded divided by the percentage change in level of advertising.

For foliage material, the advertising elasticity of demand was calculated as 0.12, meaning that for every 1-percent change in advertising expenditures, there will be an estimated 0.12-percent change in volume sold in the same direction. As an example, increasing a firm's advertising budget and expenditures for foliage by 10 percent would only increase sales in the short run slightly more than 1 percent (1.2 percent), or for a foliage grower experiencing sales of 10,000 plants, increasing the advertising expense by 10 percent could lead to sales of 10,120 plants.

## Advertising Carryover

The advertising effort made in a given period will produce some additional sales response in subsequent sales periods. Advertising carryover coefficients range from zero to less than one, with the average carryover coefficient equal to approximately 0.20 for floriculture.

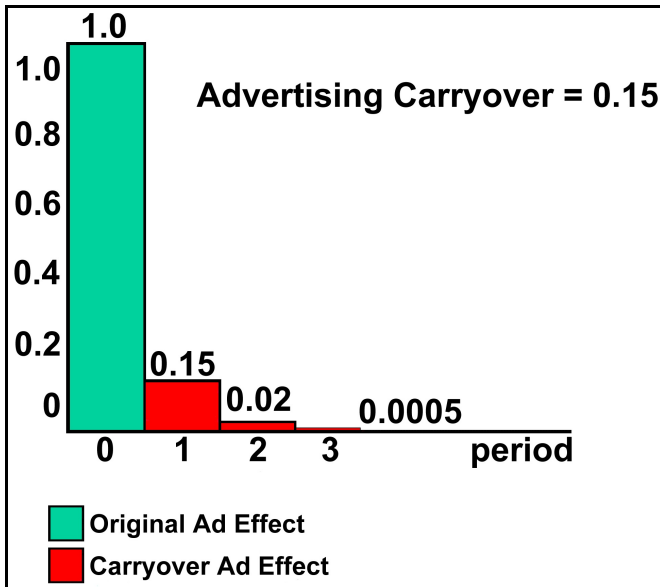


Figure 1. Advertising carryover for foliage plants.

For foliage, the coefficient is 0.15 (Fig. 1), meaning that in the period immediately following an advertising effort, a 15 percent sales effort from the previous period will carryover. Using the example above of gaining sales of an additional 120 plants through a 10 percent increase in advertising, the carryover indicates an additional 18 plants would be sold in the following period after the advertising campaign. However, for each additional time period, the carryover is exponential; in the second time period, the coefficient becomes 0.0225 (0.15 squared), and so forth.

## Economic Profitability of Producing Foliage Crops

Based on current practices of selected small growers in Georgia, Alabama and South Carolina, i.e., supplementing year-round production cycle with foliage plants during the spring and summer months, we evaluated the economic profitability of producing foliage in these states.

Costs of production for selected species (Ficus, Dracaena, Croton, Schefflera) were identified using enterprise budget calculations. The costs are curvilinear (Fig. 2A-C, page 6), reflecting a decrease in cost per unit as scale of production increases.

When these are graphed along with the linear cost of acquiring pre-finished material from Florida growers, it is evident that without a grower having a very sizable market and a capacity for large scale production, purchasing pre-finished plant materials is the only profitable way for small-operation growers outside of Florida

(Georgia, Alabama, South Carolina) who want to get into foliage production.

Producing a propagative material in-house is profitable only if a grower can produce more than 3.5 unrooted cuttings per square foot of greenhouse space per week (Fig. 2A) or more than 3 rooted cuttings per square foot of greenhouse space per week (Fig. 2B). Otherwise he/she can currently buy unrooted cuttings (\$0.20 each) or rooted cuttings (\$40 per 72-liner tray) from Florida foliage growers. This indicates the break-even between producing versus buying.

Producing small-size pots to be used as propagative material or for planting up to larger size pots is profitable only if the grower can produce more than 2.5 pots per square foot of greenhouse space per week (Fig. 2C), or he can purchase from Florida at prices ranging from \$1.25 to \$1.50 per pot.

Turnaround marketing of, for instance, 4" pre-finished as a 4" final plant is not profitable for these small operations, because it is too price competitive with the large Florida growers and below breakeven prices for Georgia growers.

We conclude that small-size growers in Georgia can profitably supplement their production by growing foliage plants in the late spring and summer months if they outsource cuttings, liners and pre-finished plant material from Florida foliage growers.

Alternative uses for foliage plants could be one venue to explore in order to create consumer need (demand pull), while the growers need to stimulate the creative thoughts (demand push). Foliage materials may find some alternative uses for new, decorative annuals, namely as landscape components.

## Selling Foliage for Landscapes

Foliage plants offer landscapers new design elements and can help create a niche for growers. Growers should compare production costs versus shipping costs of finished plants. Foliage plants for landscape should be marketed right along with bedding plants. Price the foliage appropriately, however, because of the plants' higher production and/or shipping costs. The foliage could be marketed as specialty annuals.

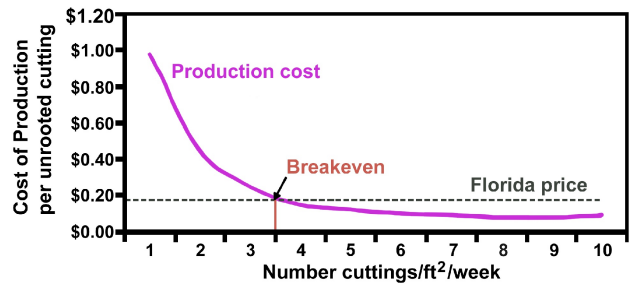
It is very likely that some landscapers and consumers may identify foliage plants as for "interior use only" and may be reluctant to plant them outdoors. Here are some points that can be discussed with potential customers who may be reluctant to use foliage plants outdoors.

- Foliage plants placed in outdoor beds should be considered annuals that will not last “forever.” This may be a misconception based on the expectation of interior foliage plants.
- Foliage plants have potential bedding applications with flowering plants offering additional textures, colors and height to landscapes.
- Foliage plants are essentially maintenance free in landscapes, having few insect and disease problems, and do not require removal of dead flowers.
- Most foliage plants thrive in humid conditions and handle excess moisture well. Some foliage plants tolerate chilling, especially if night temperatures in late summer drop slowly. Several of the plants even withstand freezing temperatures for short periods if humidity is high and the air is still.
- The majority of foliage plants perform very well in low-light environments, where few flowering plants do.

## Marketing Strategies

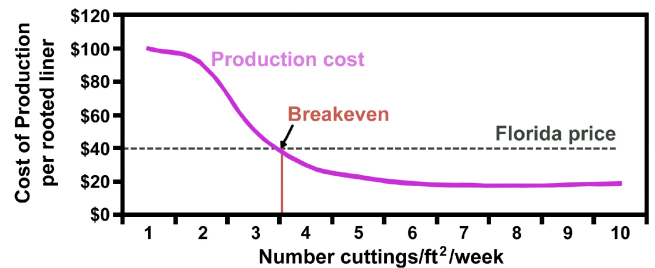
Here are a few marketing tips to help growers sell foliage plants as annuals.

- Plant trial and demonstration gardens, in sun and shade areas, and incorporate foliage plants along with traditional flowering annuals and perennials.
- Volunteer to plant display beds in high traffic areas in local municipalities.
- Sponsor educational seminars for landscapers and gardening clubs and invite innovative ideas.
- Sponsor an open house with tours of the greenhouse/garden center and display areas with foliage demonstration plantings.
- Advertise a garden photo contest and submit a story about the winners to local media outlets.
- Write an article on using foliage plants for local and/or regional newspapers and/or magazines.
- Volunteer to be on a local radio garden program to discuss the use of outdoor foliage.
- Distribute informational packages that discuss appropriate plant combinations, design ideas, planting and care recommendations.
- Invite a garden club or landscape group for lunch and test ideas with a consumer panel.
- Search the Internet for ideas and sample marketing tactics; there is no copyright on success.



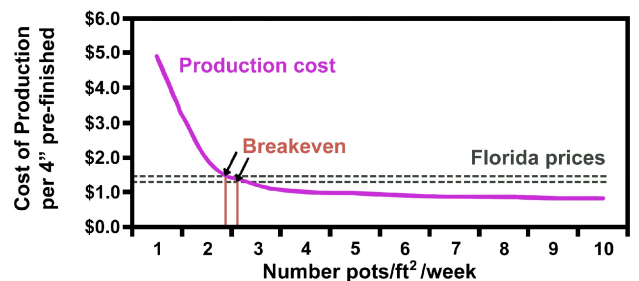
\*\*buy @ \$0.20/unrooted cutting

**A**



\*\*buy @ \$40/tray rooted cuttings (i.e., croton, ficus)

**B**



\*\*buy @ \$1.25-\$1.50/pot (i.e., dracaena, schefflera)

**C**

Figure 2. Economic analysis of cost of production for growers using unrooted cuttings (A), rooted cuttings (B) and small-size pots (C) as a starting material.

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