

**FNGLA Endowed Research Fund Progress Report
Consumer Purchase Patterns in Florida (3 Year Study)**



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FNGLA Research Priority: Enhance Quality of Life

Abstract: Traditionally, Florida has been a state known for wholesale production of plant goods (4). Hodges and Haydu (3) reported an increase in retail sales during 2000, while the wholesale industry experienced a decrease in sales of 245 million dollars. The increase in homebuilding and urban sprawl in Florida has increased demand for plant goods on a local scale. Therefore, the need to investigate retailing was paramount. Consumer behavior was measured for four hours per site at two Northwest Florida retailers, one in a rural area (9 April) and the other in an urban area (23 April). Display structures included: a traditional display selected by the retailer, an end-cap, and an island display. Our research shows that the greatest number of customers shopped traditional display structures and plants were removed and purchased only from traditional display structures at both locations. However, limited data gathered at the sites did not confirm one display over the other. Retailers should consider displaying plants using different display structures and conducting post-purchase surveys to provide insight into purchase behavior.

Introduction: Display benches are an important component of a retail garden center because they bring plant and gardening products closer to the shopper by elevating the sales floor. Attractiveness influences unplanned purchases because most customers have not decided on

everything they will buy when they enter a retail establishment (6), therefore well-designed benches and displays are crucial tools for increasing sales. In addition, end-caps or end-of-aisle displays assist retailers by placing products in high traffic areas (2). More merchandise is sold off of end-caps than any other display space (6). Impulse buying has also been linked to featuring a greater number of end-caps in stores; it is estimated that at least half of the purchases made in a supermarket are impulse buys. Signage is also used to increase sales by educating the consumer. The overall goal with horticultural signage is to produce waterproof, informative, colorful signs that stimulate purchases (1). The more information presented along with the product, the greater the likelihood of purchase.

According to Hodges and Haydu (3), 37% of retail sales are attributed to retail salespersons. Labor is the leading expense in any nursery operation, therefore methods that minimize labor costs must be investigated. Direct mail, discounts, radio and television advertising, and the internet contribute to 13% of retail plant sales in Florida. While these strategies are effective, they incur substantial costs to the producer. On-site strategies to increase plant sales, such as in-house displays, display gardens, and point-of-purchase materials, need to be evaluated in Florida.

Objective:

The objective of this study is to record the impact of plant displays on impulse buying behavior through post-sale surveys and video monitoring.

Materials and Methods:

A preliminary study to measure consumer purchase patterns was conducted on 1 April 2005 at the Emerald Coast Flower and Garden Festival on the Pensacola Junior College Campus in Milton, FL. A collection of ten plant species that have historically experienced low sales were displayed three different ways: a traditional sales area (control), an end-of-aisle display area (endcap), and a stand-alone display unit (island display). Each unit featured the same plant species with 10 replications displayed per species. All species were advertised by a 4-inch by 6-inch sign card containing four to five plant attributes and a color photograph. Consumer behavior was evaluated by video camera and a post-sale survey was provided to consumers that purchased plants from the displays. The post-purchase survey was used to define customer demographics (male/female, education, income range, and reason for purchase).

Following this study, consumer behavior was measured for four hours per site at two Northwest Florida retailers, one in a rural area (9 April) and the other in an urban area (23 April). Each location featured a selection of ornamental plants (trees, shrubs, vines, groundcovers, perennials, and annuals) (Table 1). Display structures included: a traditional display selected by the retailer, an end-cap: three-tiered, 1 foot by 6 foot plastic shelf unit raised on plastic pipes, and an island display: 2 three-tiered, 2 foot by 4 foot plastic shelf units placed back to back and raised on plastic pipes. Consumer behavior was video taped and a post-sale survey was provided to consumers that purchased plants from the displays.

Twelve questions were asked on the post-purchase survey. Questions included: How did you learn about this retail operation? newspaper, radio, internet, marquee/billboard, word of mouth, or other; You bought plant material today because: gift for garden, season to plant, enjoy

shopping, interior houseplant, hurricane replacement, patio plant, no reason, or other; We observed your purchase today, why did you choose this display? attractive, convenient, well stocked, had to have, clean and easy to shop, well labeled, spontaneous purchase, atmosphere, or no reason; What drew you to the display? color combination, symmetry, signs, quality of plants, quality of display, or nothing; Do you think the display area affected your purchase behavior? no, somewhat, or yes; Are you pleased with the quality of the plants? no, somewhat, or yes; Gender: male or female; Age: 15 to 24, 25 to 34, 35 to 44, 45 to 54, or 55+; Household Income: $\leq \$10,000$, $\geq \$10,000$, $\geq \$20,000$; $\geq \$40,000$; $\geq \$60,000$, $\geq \$80,000$, $\geq \$100,000$; $\geq \$120,000$; $\geq \$140,000$; Education: not a high school graduate, high school graduate, college tech graduate, 4 year college graduate, graduate degree, or other; number of adults in the household and number of children in the household.

Location 1: The rural location was a 19-year old, family-operated garden center located in Navarre, FL that employs 6 full time workers. Navarre is a community on the Gulf Coast of Florida's Panhandle 25 miles from Pensacola with a population of 14,502 with an average household income of \$32,215 (5). The garden center markets a diverse group of ornamental plants and is known for its tropical plant selection and specialty hanging baskets. The nursery primarily draws its customers through word of mouth advertising and attributes a majority of sales to walk-in shoppers visiting the area or residing on the Gulf Coast during summer. The traditional structure was a three-tiered display using 1 foot by 10 foot planks raised on cinder blocks.

Location 2: The urban location was an 8-year old, family-run garden center located in Gulf Breeze, FL that employs 5 workers. Gulf Breeze is a community 5.1 miles from Pensacola with

a population of 32,022 with an average household income of \$48, 233 (5). The retail nursery is known for its native plant selection including butterfly and aquatic plants. The nursery primarily draws its customers through word of mouth advertising. The traditional structure was a two-tiered display using 4 foot by 4 foot pallets raised on cinder blocks.

Results and Discussion:

Location 1: Over a four hour period one plant [‘Endless Summer’ hydrangea (*Hydrangea macrophylla* ‘Bailmer’)] was removed from the traditional display and purchased. The customer profile was a frequent customer, female, over 55 with a household income greater than \$80,000. The female customer bought it as a gift, found the display attractive with variety, and was drawn to the display by the quality of the display and plants. The display area did not affect her purchase behavior and she was pleased with the quality of the plant. Over the four hour period 42 customers visited the display areas. The island display had 8 visitors with an average shopping time of 11 seconds, the traditional display had 18 customers with an average of 12 seconds shopped, and the end-cap had 16 visitors for an average shopping time of 7 seconds.

Location 2: Over a four hour period two plants [pineapple sage (*Salvia rutilans*) and Louisiana iris (*Iris louisiana*)] were removed from the traditional display and purchased. The customer profile was a male between the ages of 45 and 54 with a household income greater than \$60,000. The customer was shopping for native plants and bought the plants as hurricane replacements for his garden. The display area affected his purchase behavior and he was pleased with the quality of the plants. Over the four hour period 59 customers visited the display areas. The island display had 11 visitors with an average shopping time of 21 seconds, the traditional display had

29 customers with an average of 14 seconds shopped, and the end-cap had 19 visitors for an average shopping time of 23 seconds.

Conclusions and Recommendations: Our research shows that the greatest number of customers shopped traditional display structures and plants were removed and purchased only from traditional display structures at both locations. However, the limited data gathered cannot make definitive conclusions about consumer behavior. Retailers should consider displaying plants using different display structures and conducting post-purchase surveys to provide insight into purchase behavior. Future research will measure consumer purchase behavior to display gardens constructed of containerized plants.

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Table 1. Plant species displayed at urban and rural garden centers.

Urban Location	Rural Location
<i>Evolvulus glomeratus</i>	<i>Solenostemon scutellariodes</i>
Blue Daze	Sun Coleus
<i>Cuphea ignea</i>	<i>Petunia x hybrida</i>
Cigar Plant	Wave Petunia
<i>Salvia rutilans</i>	<i>Loropetalum chinense rubrum</i>
Pineapple Sage	<i>Loropetalum</i>
<i>Salvia greggii</i>	<i>Lantana camara</i>
Autumn Sage	<i>Lantana</i>
<i>Scaevola aemula</i>	<i>Hydrangea macrophylla</i> ‘Bailmer’
Blue Fan Flower	‘Endless Summer’ <i>Hydrangea</i>
<i>Spiraea cantoniensis</i>	<i>Lagerstroemia indica</i>
Bridal Wreath Spirea	Crepe Myrtle
<i>Iris louisiana</i>	<i>Coreopsis tinctoria</i>
Louisiana Iris	Tickseed
<i>Zinnia angustifolia</i>	<i>Acer rubrum</i>
Creeping Zinnia	Red Maple
<i>Lysimachia congestifolia</i>	<i>Pyrus calleryana</i>
Golden Globes	‘Freedom’ Bradford Pear
<i>Fraxinus pennsylvanica</i>	<i>Podocarpus macrophyllus</i>
Green Ash	<i>Podocarpus</i>
