

SECTION 11

Marketing

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Section 1 and Section 13 may contain related titles.

University Programs to Support the Landscape Industry

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Nature of Work: The landscape industry in Georgia was surveyed to gather information that would (1) help nurserymen develop marketing plans, (2) enhance cooperation in the nursery/landscape industry and (3) assist university personnel in development of support programs. This paper summarizes the opportunities identified for university personnel in two surveys of the landscape installation and landscape maintenance industries.

Results and Discussion: The key opportunities identified by landscape installers for The University of Georgia personnel, by all size firms, were: (1) to provide telephone hotline support for immediate advice to the commercial industry (21%), (2) to provide in-house training (21%), (3) to facilitate testing and introduction of new plant varieties (16%), and (4) to provide updates of available information and research findings (14%), (5) to provide more information on plant care in the landscape (9%), (6) to continue to tie all segments of the industry together (New Alliance program) (7%) and (7) to provide faster soil test results (4%). Eight percent responded that university personnel were currently doing a good job helping landscape installers. With one exception, the degree of importance of the seven opportunities identified for university personnel to assist landscape installers were agreed on by all size firms. The notable exception was the most frequently listed opportunity by large firms. They assigned the highest priority to the continuation of the current university effort (New Alliance program) to encourage all segments of the Green Industry to work together (28%). This may be related to the fact that large firms have a significantly larger percentage of their projects designed by landscape architects and are most affected by decisions of landscape architects.

The feedback from landscape installers suggests that a university outreach program to target this industry should include several components:

(1) A quick response mechanism to solve landscaper problems. This could include a manned telephone line to answer immediate problems, and regular site visits by university personnel to diagnose problems. The nature of respondent comments suggests that a 1-900 telephone line would be acceptable if it were staffed with a professional dedicated to problem resolution. This position should be centrally located and able to coordinate with county, area, and state specialists for quick-response site

visits. University diagnostic labs could isolate commercial samples for soil tests or pest identification and expedite information transfer to the landscaper. Georgia landscapers would pay more for faster soil test service, an indication that service quality is more important than price. If universities are not financially able to provide a quick response service, they might consider assisting in the set-up of such in the private sector and serving as an on-going resource. The quick response service was of particular interest to the large number of small and medium sized firms.

(2) University extension programs should provide on-site training, with at least a portion of the program tailored to the host firm. The industry appears to have two types of training needs: (a) general professional development that results in certification which confers a degree of professionalism to the industry, and (b) on-site training that addresses problems/opportunities in the industry and also deals with problems of the host firm. The former should be conducted in a central location and should address fundamental industry skills.

On-site training may be time-consuming but it provides an opportunity for immediate impact and enhances the chances for implementation of new procedures and technology. In Georgia, half of the landscape firms are located in the metropolitan Atlanta area, which increases the feasibility of on-site training. Generally landscaping activity is associated with metropolitan areas and higher income. The concentrated audience provides an opportunity to make efficient use of time and resources. In addition, initial focus on the large firms could result in a significant economic impact with a small number of sessions.

(3) The landscape installation industry desires greater access to current research and extension information. State extension specialists might consider mailing an annual list of all extension literature relating to landscape installation and maintenance. Landscape installers identified pest management as an area of particular interest. The publications list should include all available material related to business management, plant selection, installation, and estimating cost of projects. Extension specialists could be proactive in promoting the available literature to the target industry so that the university is viewed as an important source of current information.

(4) The landscape installation industry in Georgia would like the University of Georgia to have an active role in the evaluation and introduction of new plant varieties. The industry is interested in plant material that performs well under low maintenance conditions, including less use of water and pesticides. If landscape architects are also exposed to new, low maintenance plant material, they can help landscape installers achieve low maintenance landscapes by specifying these new low maintenance plants.

(5) The concern of large firms that competitors bid below what is viewed as the reasonable cost of a job suggests the need for continued efforts to educate the industry on how to estimate job costs.

(6) A sizeable portion of the large firms surveyed suggested that university personnel continue the current effort to foster a closer working relationship between segments of the landscape industry. This suggests an important role for university personnel to enhance the interaction between different segments of the industry as well as serving the needs within a given segment. University personnel can serve as a non-biased third party that develops ways for the industry to improve efficiency through effective interaction and/or marketing between different segments of the industry.

(7) The importance of producer sponsored trade shows in the selection of plant material for landscape projects by landscape installers and landscape architects makes these events an attractive forum for transfer of university technology. University-sponsored displays could include (a) new plant introductions and their proper use in the landscape, (b) proper installation of caliper-size trees, (c) display of extension publications, trade journal articles and other landscape publications and (d) demonstrations on how to use new technology or equipment. Industry trade shows attract large audiences and could serve as an efficient and highly visible forum for technology transfer.

The top 3 opportunities for university personnel to better assist landscape maintenance firms, accounting for about 73% of the response for all firms, were to provide training and certification courses (37.9%), provide landscape maintenance publications including information on pest management (19.7%), and increased accessibility of staff through on-site training (15.2%). All size firms placed the greatest emphasis on training and certification among all the opportunities rated. The small firms' need for maintenance publications (25.9%) and staff for on-site training (22.3%) were substantially greater than for medium (6.7% and 13.3%, respectively) and large (6.3%, both) firms. In fact, the top 3 opportunities accounted for about 89% of the responses for small firms.

Other less important opportunities identified for university personnel were to communicate seasonal maintenance problems (7.6%), educate the consumer on plant maintenance (7.6%), provide a list of new laws and regulations (6.0%) and improved cost and timeliness of soil-lab testing (6.0%). The needs identified for university personnel suggest that a university support program for the landscape maintenance industry should include extensive on-site training and diagnostic assistance as well as regular communications with a check list of potential pest problems. These needs are very similar to that identified by landscape installers.

The landscape maintenance industry values the plant material information provided by nurserymen and university personnel. These groups could better serve the landscape maintenance industry by directing more of their plant material information to landscape architects. Added emphasis should be placed on plant maintenance requirements including insect and disease resistance. This information could help landscape architects to select low maintenance plants thereby reducing the need for pesticides in the landscape. Based on consumer complaints received by landscape maintenance firms, it is important that landscape architectural and landscape maintenance firms receive information on recommended turf varieties for specific sites and proper weed control measures. The opportunities identified in this study should help the industry to reduce the cost of landscape maintenance and to improve the quality of the landscape

To determine the influence of landscape architects on plant material purchases by landscape installers, respondents were asked to identify the percentage of their projects designed by landscape architects. Large installation firms had a higher percentage of their projects (84.3%) designed by landscape architects than did small (29.0%) or medium (40.2%) sized firms. Using the value of plant material purchased by each firm and the percentage of their projects designed by landscape architects, an estimated 76% of the plant material purchased by the Georgia landscape installers was specified by landscape architects. This demonstrates that landscape architects substantially influence the choice of plants purchased by landscape installers and in turn demand at the nursery level. If university personnel want to influence which plants will be in demand, an appropriate level of educational resources should be directed to this important group of decision makers.

Significance to the Industry: Data from these surveys summarize the priority needs of the landscape industry for university support and should provide guidance for research and extension program development to serve this industry.

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Consumer Perceptions of Plant Quality

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Nature of Work: Product quality can be described as the presence or absence of measurable product attributes (Garvin, 1984). Likewise, plant quality can be described in terms of attributes such as symmetry, density and foliage color. Previous studies have identified plant quality as a key factor explaining how consumers choose garden centers and plants for purchase (Safley and Wohlgenant, 1995; Doerr, 1995), but comparatively little information is currently available describing what consumers mean by "plant quality". The objectives of this study were to develop a better understanding of woody plant quality from the consumer's perspective, and to examine potential differences between the industry and consumers in perceptions of quality. A larger study, of which this is a part, will investigate relationships between quality attributes and the prices consumers are willing to pay.

Three focus group meetings were conducted in North Carolina during July and August of 1995 and October 1996. The focus groups were made up of individuals who did not work professionally in the green industry, but had visited a nursery or garden center at least once during the previous year. Participants were shown 8 x 12 color photographs of red maple (*Acer rubrum*), white flowering dogwood (*Cornus florida*), 'Compacta' holly (*Ilex crenata* 'Compacta'), nandina (*Nandina domestica*), and 'Pink Ruffles' azalea (*Rhododendron* 'Pink Ruffles') and were asked to identify characteristics that would be important to them when making a purchase decision. A purchase intent survey was then developed for azaleas. Seven 8 x 12 color photographs of 'Hinodegiri' azalea were presented to respondents, who then indicated their willingness to buy on a scale of 1 to 5: 1 = definitely would buy; 2 = probably would buy; 3 = might or might not buy; 4 = probably would not buy; 5 = definitely would not buy. We obtained 97 survey returns from green industry professionals at the Green and Growin' conference and trade show in Winston-Salem, North Carolina, and 135 from garden center customers in Gainesville, Florida.

Results and Discussion: Important quality attributes as identified by focus group participants are presented in Table 1. Full and dense foliage, symmetry or growth habit, new growth, stage of flowering, color of foliage and healthy appearance were the most commonly mentioned attributes for azaleas, and were used in selecting photographs for the purchase intent survey. No significant differences were noted between consumer and industry preferences for azaleas in the purchase intent survey results (Table 2). The most preferred of the seven azaleas, by

both sample groups, was full and dense, had good symmetry, and was in full bloom.

Significance to the Industry: Plant quality is one of the keys to attracting customers and making sales. Standard marketing research techniques such as focus groups and preference surveys are available to provide the industry with a better understanding of consumer perceptions of plant quality.

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Table 1. Important plant quality attributes as identified by focus groups in North Carolina.

Azalea	'Compacta' holly	Dogwood	Nandina	Red maple
fullness	fullnessfull	foliatedense	foliage	dense foliage
symmetry	symmetry	symmetry	symmetry	symmetry
new growth	new growth	new growth	new growth	new growth
healthy	healthy	healthy	healthy	healthy leaves
green foliage	green foliage	good leaf color	good leaf color	not wilted
not pot bound	not pot bound	lower branches	not pot bound	not pot bound
full bloom	shiny foliage	removed	berries present	lower branches
	centered in pot	straight trunk	multiple stems	removed
		trunk not too	stems hidden	trunk not too
		skinny		skinny
		no weeds in		straight trunk
		container		branch structure
		branch structure		

This listing does not place attributes in order of importance to participants.

Table 2. Mean responses of garden center customers and industry professionals in azalea purchase intent survey.

	customers	industry
azalea 1	2.98	3.13
azalea 2	4.72	4.69
azalea 3	2.53	2.63
azalea 4	2.13	2.23
azalea 5	3.75	3.54
azalea 6	1.54	1.62
azalea 7	2.40	2.44

The JC Raulston Arboretum Selections Program: A Partnership with Industry

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Nature of Work: The forerunner of the JC Raulston Arboretum Selections Program was conceived in the late 1980's as a collaboration between the JC Raulston Arboretum at NC State University (then the NCSU Arboretum) and the NC Association of Nurserymen. The program, then called the NCAN/NCSU Arboretum Plant Introduction Program, was designed to select well adapted, quality plants with strong mass market potential for the nursery industry. The plants are chosen for their adaptability to the southeastern and mid-Atlantic United States, for ease in propagation, and for high marketability. In 1997, the program was renamed in honor of the Arboretum's late founding director, Dr. JC Raulston.

The selection process has several stages. First, a wide range of plants are evaluated as a part of the ongoing research at the Arboretum. Candidates may be genetic variations of existing nursery crops, superior forms of native plants, new species from plant exploration or seed exchange, or old plants that have been overlooked and are underused. Plants that are judged to meet the criteria are chosen by the Arboretum director for presentation to the Plant Selection Board. The winning candidates are built up for distribution to wholesale producers, who in turn build up production for sale to retail garden centers. Sale of the stock plants to wholesale producers helps provide funding for the program.

To date, the JC Raulston Arboretum Selections include *Eleutherococcus sieboldianus* 'Variegatus,' *Ardisia japonica* 'Chirimen,' *Campsis grandiflora* 'Morning Calm,' *Gardenia jasminoides* 'Kleim's Hardy,' *Ilex* x 'Carolina Cardinal,' *Ilex* x 'Carolina Sentinel,' *Hydrangea macrophylla* 'Pia,' *Illicium parviflorum*, *Liquidambar styraciflua* var. 'Rotundiloba,' *Loropetalum chinensis* var. *rubrum*, *Rosa* x 'Petite Pink,' and *Viburnum awabuki* 'Chindo.'

In 1996 and 1997, two changes were made to improve and invigorate this program. The first was made possible by a grant to the Arboretum from the NC Association of Nurserymen for the construction of two propagation greenhouses. Previously, stock plants were contract grown by several producers, leading to variation in size and quality of stock plants. Propagation of plants by a single operation on site at the Arboretum will increase uniformity.

The second is a new marketing approach conceived by David Johnson, an NC nurseryman and member of the selections committee, and spearheaded by Johnson and Bill Wilder, executive director of the NC Association of Nurserymen. Beginning in August 1997, sales of Raulston Selections will be supported by a comprehensive package of promotional and educational materials.

Plant tags, identifying the plants as a part of the program, will be available to wholesalers and retailers for attachment to each plant. Attractive display boards, including full color photos of the plants, will enhance marketing at retail outlets. Leaflets developed for each plant will provide cultural information for the retail customer, as well as background on the program and a spot for the retailer's logo. Ongoing information on the plants and on the program itself will be disseminated through trade publications and through the popular press.

Results and Discussion: Today, some of the Raulston Selections, such as *Hydrangea macrophylla* 'Pia,' *Illicium parviflorum*, and *Gardenia jasminoides* 'Kleim's Hardy,' are readily available at the retail level. Others, such as the *Ardisia japonica* 'Chirimen,' require additional build-up and promotion. The changes in the initial propagation strategy and the introduction of the new marketing approach will streamline the process and improve the success of both previous and future introductions.

Significance to Industry: Ongoing plant evaluation programs at the Raulston Arboretum promote a wide range of plants for a variety of markets, ranging from mass market plants to those appropriate only for the specialty growers. The Raulston Selections Program provides a vehicle to promote a few plants with excellent mass market potential. This assists both the wholesale grower and the retail garden center in planning and executing production and sales strategies for superior new plants. As a result, these new plants will enrich wholesale and retail markets while providing high quality, well adapted plants for an increasing sophisticated and demanding gardening public.

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Consumers Preferences for Poinsettia

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Nature of Work: Consumer flower-color preferences are of interest to plant producers and retailers because this information can help them more accurately anticipate the sales product mix in which their customers are interested in purchasing. Research has shown that consumers prefer red roses (1) and red geraniums (3) over other flower colors. Hermann and Voigt reported that 46% of consumers interviewed in Philadelphia, Pa., and Washington, D.C., had purchased a poinsettia for Christmas, and that 79% of those were red (2). Red poinsettias dominate sales in most retail outlets and appear to have the greatest market share. Our objective was to determine consumer preferences for 47 poinsettia cultivars.

Individuals over age 18 who visited the Franklin Park Conservatory and Botanical Garden in Columbus, Ohio, during November and December, 1995, were asked to examine 47 poinsettia cultivars on display and rate them on how well they liked each plant. Participants were asked to rate all plants on a scale from 5=strongly like to 1=strongly dislike. They were also asked to provide information regarding their past poinsettia purchases and demographic characteristics (age, household income and size, and gender). There were 24 red, 7 white, 7 pink, and 9 novelty poinsettia cultivars on display for this study. Four of the cultivars were experimental cultivars.

Results and Discussion: Of 124 participants, 65% of the participants were female, 20% were male, and 15% chose not to answer the question regarding gender. Age ranged from 20 to 95 years, with an average of 55 years. Number of persons living in the household ranged from 1 to 9, with an average of 2 persons. Responses to household income in 1994 were distributed among 10 categories ranging from under \$10,000 to \$90,000 or more in \$10,000 increments. The category with the greatest percentage of responses was over \$90,000 (13%), followed by \$40,000 to \$49,999 (11%) and \$60,000 to \$69,999 (11%). Median household income was between \$40,000 and \$49,999.

Sixty-seven percent of the participants had purchased a poinsettia in 1994, 23% had not, and 10% chose not to respond to this question. Forty-four percent had purchased a red poinsettia in 1995, 15% had purchased a pink poinsettia, 10% had purchased a white poinsettia, 11% had purchased a multi-colored poinsettia, and 6% had purchased a salmon or peach colored poinsettia.

Only 12 cultivars received a rating of 4.0 or higher on a 5.0 scale (Table 1). Sonora, a red cultivar, received the highest average rating of any cultivar (4.6), regardless of bract color, and 83% of participants rated it good (4.0) or excellent (5.0). Ten of the top 12 cultivars were red. Two exceptions were Monet, a peach cultivar, and Angelika Pink. Monet was rated good or excellent by 77% of the participants and Angelika Pink was rated good or excellent by 69% of the participants. An experimental cultivar from Mikkelsen's (#95500) was the top-rated white cultivar with a 3.8 average rating which was similar to Angelica White and Nutcracker White. No white cultivars were rated 4.0 or higher. Only one pink cultivar, Angelika Pink was rated 4.0 or higher, which was statistically similar to V-14 Pink, and Pink Peppermint. V-14 Pink had the greatest percentage of consumers rating it good or excellent when compared to the other pink cultivars. Monet was the highest rated novelty cultivar with a 4.4 average rating and 77% of the consumers indicating it was good or excellent. It was followed by Jingle Bells III, a marble cultivar. Lemon Drop, a yellow cultivar, was the lowest of all cultivars rated.

We compared people who had purchased a poinsettia with people who had not and found that poinsettia buyers rated Jingle Bells III higher (4.3) than poinsettia buyers (3.8). We compared consumers who had purchased a red poinsettia to those who had purchased non-red colors and found that consumers who purchased red poinsettias rated Sonora higher (4.9) than non-red-poinsettia buyers (4.5). We compared the preferences of men and women. Men rated Red Elegance higher (3.7) when compared to women (3.3) whereas women rated Freedom White higher (3.1) than men (2.4). These were the only rating differences found when comparing groups.

Significance to the Industry: We had a relatively extensive number of poinsettia cultivars on display for this consumer preference study. Since 10 of the top 12 cultivars were red, this may indicate that consumers preferred red cultivars over other colors, a finding consistent with previous studies. Many of the red cultivars received statistically similar ratings. This may indicate that consumers did not see distinct differences between them. We found few differences when comparing men and women, non-buyers with buyers, and non-red-buyers with red-buyers. With few differences identified in several group comparisons, we concluded that these poinsettia buyers were a relatively homogenous group in terms of poinsettia bract-color preference. This would indicate either a single marketing approach may be effective for many typical markets. If the market were truly homogeneous, a uniform marketing strategy would be effective in markets similar to the one tested here and may be effective elsewhere. If other variables not investigated here contribute to consumer preferences (ie. price), then a uniform marketing strategy may not be effective in marketing poinsettias in markets similar

to the one tested here. We feel the latter deserves further examination, but that clearly outlined strategies may be effective in multiple markets.

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Table 1. Average rating of poinsettia cultivars (bract color and supplier) rated 4.0 or higher in consumer evaluation and the percent of consumers rating it 4 (good) or 5 (excellent).

Cultivar(color)	Supplier	Percent Rating Cv Good or Excellent	Average Rating ²
Sonora (red)	Fischer	83	4.6 a
Red Sails	Paul Ecke Ranch	71	4.4 b
Eckespoint Success	Paul Ecke Ranch	70	4.4 b
Freedom Red	Paul Ecke Ranch	84	4.4 b
Cortez (red)	Fischer	70	4.4 b
Monet (peach)	Paul Ecke Ranch	77	4.4 b
Stop Light(red)	Express Seed Co.	73	4.3 b
Red Delight	Mikkelsen's	67	4.2 b
Lilo Red	Paul Ecke Ranch	68	4.2 b
Dynasty(red)	Oglevee	60	4.1 bc
Angelica Pink	Paul Ecke Ranch	69	4.1 bc
Jolly Red	Ball	59	4.0 c

²Average ratings were compared in pairs using a Student's t-test with $\alpha \leq 0.05$. Numbers followed by identical letters are statistically similar.

How Important are Flower Color, Leaf Variegation, and Price in the Consumer's Decision to Purchase Geraniums?

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Nature of Work: Consumers generally base their decisions to buy products a variety of characteristics, rather than just a single factor. Asking consumers how much they like one aspect of the product (ie. flower color) may not be the best indication of their willingness to buy or how important that factor is in the purchase decision. Conjoint analysis allows market researchers to determine how important each factor is in the purchase decision. Other researchers have used this technique successfully to identify the importance of factors in buying floral arrangements with roses (2), fresh flower bunches (3), potted chrysanthemums (4), rhododendrons (1), and other ornamental plants (5). Our objective was to evaluate the relative importance of flower color, leaf variegation, and price in the consumer's decision to purchase geraniums. A secondary objective was to test a method of determining consumer response to a potentially new plant—a blue geranium because this research method is ideal for testing new kinds of products not yet on the market.

Starting with 35 mm negatives of geranium cultivars provided by Oglevee (Connelsville, PA), we used digital-imaging technology to construct 25 photographs of various combinations of geranium characteristics. The colors chosen were red (Sincerity), lavender (Danielle), pink (Ben Franklin), white (Snowwhite), and a simulated light blue flower created by digitizing the color onto the Snowwhite image. Leaf variegation included plain green leaf, dark zonal stripe on green leaf, and white margin on green leaf. Prices for geraniums (shown in 4-inch containers) were \$1.39, \$1.59, \$1.99, \$2.39 and \$2.79. The photographs contained a similar number of flowers and buds.

The survey was conducted during the month of May 1996 in one garden center in each of five states: Alabama, Delaware, Georgia, North Carolina, and Texas. Respondents were asked to rate each of the 25 photographs on a scale from 1 ("definitely would buy plant") to 5 ("definitely would NOT buy plant"), and to answer ten additional questions on their gardening habits and demographic characteristics.

Results and Discussion: Respondents from the five stores returned 702 useable surveys. Analysis revealed that flower color dominated the other two factors in importance, accounting for 60% of the buying decision. Leaf variegation was a distant second, with about 25% relative

importance. Price was least important, with about 15% relative importance (Table 1).

Red and lavender were the more preferred colors. Blue, white and pink were less preferred. For a given color, the zonal and plain green leaves were somewhat preferred to the leaves with white margins. Lower prices were preferred to higher prices. Table 2 ranks the combinations from most- to least-preferred by state, when price is held constant at any given level.

There were few market segments identifiable by single-factor demographics. In the Alabama and Georgia garden centers, women placed more relative importance on flower color than did men. In the Texas market, men placed more emphasis on price than women.

Significance to the Industry: Flower color was the most important factor in choosing geraniums (56 to 62% of the decision to buy), with red and lavender preferred among the choices tested. Leaf variegation and price were much less important. On the average, consumers do not appear to be very sensitive to the price of geraniums. Marketing strategies should stress flower color, and new cultivars should be introduced by flower color rather than emphasizing other attributes. Geranium flower colors should be coordinated in a merchandising display with other flower colors.

The simulated blue geranium was not as popular as we had anticipated. However, it provided an effective test of our ability to measure consumer reactions to simulated plant products using digital-imaging technology, and this may prove useful in testing other new or proposed products in the future. Marketers probably could not capture a significant portion of the market for geraniums by developing a blue flower.

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Table 1. Relative importance of geranium flower color, price, and leaf variegation by state.

State	No. of respondents	adjusted R ²	Relative importance ¹ (% of buying decision)		
			Color	Leaf	Price
Alabama	68	0.35	59 ab	23 b	18 a
Delaware	151	0.47	62a	22 b	16a
Georgia	129	0.47	59 ab	26 ab	15 a
North Carolina	220	0.54	61 ab	24 b	15 a
Texas	134	0.52	56 b	30a	14a

¹Numbers within a column that are followed by the same letter are not significantly different using the Bonferroni t-statistic at a 90% family confidence level.

Table 2. Geranium combinations, ranked from most- to least-preferred by state, holding price constant.

		Alabama		Delaware		Georgia		North Carolina		Texas	
Rank		Color	Leaf	Color	Leaf	Color	Leaf	Color	Leaf	Color	Leaf
most	1	red	green	lavndr	zone	red	green	red	green	red	green
	2	red	zone	red	zone	red	zone	red	zone	lavndr	green
	3	red	white	lavndr	green	lavndr	green	lavndr	green	red	zone
	4	lavndr	green	red	green	lavndr	zone	lavndr	zone	lavndr	zone
	5	lavndr	zone	lavndr	white	red	white	red	white	red	white
	6	white	green	red	white	pink	green	pink	green	lavndr	white
	7	white	zone	pink	zone	white	green	pink	zone	white	green
	8	lavndr	white	pink	green	lavndr	white	lavndr	white	blue	green
	9	pink	green	blu	ezone	pink	zone	pink	white	white	zone
	10	pink	zone	white	zone	white	zone	white	green	blue	zone
	11	white	white	pink	white	pink	white	white	zone	white	white
	12	pink	white	blue	green	white	white	blue	green	pink	green
	13	blue	green	white	green	blue	green	blue	zone	blue	white
	14	blue	zone	blue	white	blue	zone	white	white	pink	zone
least	15	blue	white	white	white	blue	white	blue	white	pink	white

Analyzing Trade Show Attendance, Marketing Channel Selection and Method of Advertisement for Tennessee Nursery Producers

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Nature of Work: Sales of Tennessee's nursery crops increased from about \$63 million in 1987 to \$78 million in 1992 and the value of grower sales of bedding and garden plants increased from \$8.4 million to \$16.9 million within the same period (Brooker, et al., 1996). In Tennessee, wholesale value of floriculture crops from producers with \$10,000+ sales climbed to \$34 million in 1995 -- an 8% increase over 1994 values. Floriculture has become one of Tennessee's most valuable crops out-ranking soybeans, cotton, tobacco, corn, hay and wheat (Battle, 1997).

This paper provides information on trade show attendance, marketing channels selected and methods used by Tennessee producers to advertise their products. A survey of two-hundred and sixty randomly selected producers of greenhouse/nursery products was conducted in 1992 by Tennessee State University researchers as part of continuing efforts to provide information about the industry. One-hundred and five useable surveys were analyzed using the Statistical Package for the Social Sciences (SPSS, Inc., 1996).

Results and Discussion: Survey participants identified themselves as either wholesale/retail nurseries or greenhouses, garden centers or landscape contractors. Wholesale nursery businesses was the largest (98.1%) business type identified by survey respondents. Only 5% of the respondents identified their businesses as retail greenhouses/garden centers. Seventy-five percent of respondents who were wholesale nursery producers identified themselves as proprietorships, 12.0% as partnerships and 14.0% as corporations.

Trade shows can be used to advertise nursery products even though they serve other uses (Bonoma, 1983; Grey, 1995; Haydu and Meerow, 1994; Kerin and Cron, 1987; McIvor, 1995). Nursery producers spend large sums of money preparing and attending trade shows even though there is little research on their effectiveness as an advertising tool (Kerin and Cron, 1987). No Tennessee producer with less than \$10,000 in annual gross sales attended any trade show in 1991. Further analyses revealed that 22 (40%) of all producers attending less than three trade shows in 1991 had annual gross sales of less than \$100,000 while 49.1% had annual gross sales of between \$100,000 and \$500,000.

Twenty-two producers attended between 3 and 6 trade shows in 1991 and out of these, 4.5% made less than \$100,000; 68.2% made between \$100,000 and \$500,000 while 27.3% made over \$5 million. As should be expected 66.7% of producers making over \$5 million in 1991 gross sales attended between 6 and 9 trade shows while 75% of all those who attended more than 9 trade shows belonged to this sales category. A decision to attend a trade show is reflective of the costs associated with attending such shows. Results of present research, however, indicated that there were significant differences ($\chi^2 = 32.29$, $p \leq 0.001$) in the number of trade show attended by the level of gross annual sales (Table 1).

Results of the survey shows that nursery producers in Tennessee used different systems to market their products. As many as 81.0% of the nursery producers who participated in this survey used rewholesalers to market their products. Landscapers were used by 79.0% of the respondents to market nursery products followed by garden centers (67.6%), retailers (55.2%), retail nurseries (37.1%), direct farm sales (25.7%) and mail orders (25.7%). About 14.3% of nursery producers surveyed used brokers to make their sales and only 9.5% used chain stores. As was to be expected only 1.0% of respondents used wholesale florists to market their products while only 7.6% used contract growing (Table 2). Most sales conducted by businesses were done through owner/manager negotiations (80.6%), in-house sales people (26.8%), territory representatives (25.5%), firm representatives (22.3%), brokers (22.7%) and walk-ins (21.4%).

Trade magazines were the most popular method for advertising nursery products. About 70% of respondents used trade magazines to advertise, 69.0% used trade shows, 18.0% word-of-mouth, 9.0% used newspapers and 3.0% used radio. As expected, many respondents indicated that they used more than one channel to advertise their products. Brooker, et al. (1996) provide information on distribution of advertising budget by selected advertising media for different sizes of Tennessee greenhouses.

Significance to the Industry: Results of this survey should be of interest to producers, buyers of nursery products and researchers interested in providing information about the industry in general and trade show attendance, marketing and advertising of nursery products by Tennessee nursery producers in particular. Although findings are specific to Tennessee, they could be used as a point of departure in examining the same issues in other states.

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Table 1. Trade Show Attendance by Gross Annual Sales, 1991

Number of Trade Shows attended	Gross Annual Dollar Sales (in '000) (% Responses)		
	Less than \$100	\$100-500	Above \$500
< 3	40.0	49.1	10.9
3 - 6	4.5	68.2	27.3
6 - 9	0.0	33.3	66.7
> 9	0.0	25.0	75.0

$\chi^2 = 37.51, p \leq 0.001$

Table 2. System of Marketing Used to Market Nursery Products by Nursery Producers

Marketing System	% of Responses*
Rewholesalers	81.0
Landscapers	79.0
Garden Centers	67.6
Retailers	55.2
Retail Nurseries	37.1
Mail Orders	25.7
Direct Farm Sales	25.7
Brokers	14.3
Chain Stores	9.5
Contract Growing	7.6

* Responses reflect yes/no responses to using listed marketing system to sell nursery products.

Marketing and Advertising Methods Used By Nursery Growers in Tennessee

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Nature of Work: The nursery industry in Tennessee has been growing over the past few years. From 1992 to 1995 cash receipts from farm marketing of nursery crops have been steadily increasing, reaching a high of \$130 million in 1995 (Tennessee Department of Agriculture, 1996). Despite increases in cash receipts, the nursery industry is faced with competition from other nursery-producing states. The objective of this paper is to analyze the marketing and advertising methods used by nursery growers in Tennessee. Specific objectives are to: (1) identify advertising methods used by nursery growers in Tennessee, (2) analyze advertising practices used by the growers, and (3) discuss the characteristics and system of channels used for marketing. Two-hundred and sixty producers of greenhouse/nursery products were randomly selected and surveyed. This survey was conducted in 1992 by Tennessee State University researchers. Of the two-hundred and sixty surveys mailed, one-hundred and five completed surveys were returned (40% response rate).

Results and Discussion: Some of the nursery growers surveyed had been in business since 1887 and many were established as recent as 1986. Survey results showed that seventy-seven (73.3%) of the producers surveyed were proprietorships, fourteen (13.3%) were corporations, and thirteen (12.4%) were partnerships. Respondents were given six categories of business organizations to classify their operations in: wholesale nursery, retail nursery, wholesale greenhouse, retail greenhouse, garden center, and landscape contractor. Many of the respondents selected more than one business organization-type to describe their company. All seventy-seven proprietors identified in the survey classified their businesses as wholesale nurseries. Respondents identifying their businesses as corporations indicated that they operated as wholesale nurseries (13.6%), retail nursery (20%), wholesale greenhouse (16.7%), and retail greenhouse (20%). None of the partnerships identified classified themselves as retail greenhouses.

Marketing of a product is essential to the success or failure of a business. Respondents were asked to select from nine systems used to market their products. Analysis showed that Tennessee nurserymen used re-wholesalers, retailers, landscapers, contract growing, broker, mail orders, direct farm sales, garden center, and chain stores to market their products. The top three system of marketing selected were: re-wholesalers, landscapers, and garden centers.

Sales-channeling is a crucial component of successful advertisement. The type of sales-channeling selected greatly influences the promotion of the business. Consumer knowledge of a product is effected by the type of sales channeling the business uses. Analysis of data collected indicated that the majority of nurserymen chose owner/manager negotiation as their method of sales- channeling. Seventy-four proprietorships (77.1%), fourteen corporations (14.6%), and eight partnerships (8.3%) utilized owner/manager negotiations in their marketing strategy. Each of the business organizations second sales-channeling method was in-house sales people. Analysis of collected data also showed that the majority of businesses surveyed did not have contracts with their regular buyers. There were two basic types of sales transactions used by nurserymen: negotiated and non-negotiated. Trade show orders that were negotiated were selected as the primary means of business transactions by forty-seven proprietorships (70.2%), ten partnerships (14.9%), and ten corporations (14.9%). On the other hand, the number of sales transactions made by trade show orders that were non-negotiated were significantly lower for the type of businesses identified. Only seven (6.6%) proprietorships, seven (6.6%) partnerships, and five (4.8%) corporations used this type of sales transaction. Generally, analyses indicated that businesses opted to use sales transactions that were negotiated rather than non-negotiated. Other important findings of this study were that most businesses did not have salesmen who traveled to represent their firms on their payroll, and many did not have a sales broker working for them. Several respondents also stated that most of their business was conducted with repeat customers and buyers. Of the nurserymen surveyed, sixty-nine proprietorships (71.9%), fourteen corporations (14.6%), and thirteen partnerships (13.5%) dealt with repeat customers. It was found that only a small portion of the sales were done with new customers. This result is consistent with other studies that have suggested that, in the green industry, it is more difficult to sell to a new customer than selling to one that is current (Helms, 1997). Analysis revealed differences between type of business and the type of advertising method used. Research findings indicated that in the 1990-1991 data year, sixty-eight proprietorships (73.9%), fourteen corporations (15.2%), and ten partnerships (10.9%) devoted funds to advertising for their business. Some of the advertising media used included: radio, trade shows, word of mouth, and trade magazines. The majority of advertising for proprietorships and corporations was done through trade magazines, while partnerships were more likely to use trade shows to advertise their products and services.

Significance to Industry: Advertisement plays a very important role in the nursery business and this survey provides information which should be of relevance to the nursery industry. Advertisement "is any paid form of presentation of a product or service. It is categorized under the mass

selling methods of promotion" (Singh et. al., 1994). As nursery growers become more interested in expanding their customer base, they need to understand factors that influence advertising. Some of these factors include: the nature of the product (life cycle), nature and scope of the market, competition, channels of distribution, availability of media and funds, government regulations, pricing strategy, and outlays for other forms of promotion (Donnelly, 1992). By studying advertising methods, practices, characteristics and system of channels used by nursery growers, researchers can then inform growers how to better advertise their products. The type of research reported here can help Tennessee nurserymen better advertise their products to compete effectively with nurserymen from other nursery-producing states.

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Enhancing Customer Service Through the Use of Informational Displays in Garden Centers

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Nature of Work: To attract and retain customers, garden centers must refine their marketing strategies. Niemera et al. (3) cited a national sales plan developed by the Horticultural Research Institute that considered nursery consumer education to be the most essential element in achieving sales. Studies have shown that garden center customers express a need for information relative to the planting, selection, and maintenance of plants (2, 3, 4). Offering this type of information increases repeat business and improves customer perceptions of the garden center (1, 2).

Providing information to customers is important. However, educating them in an efficient manner may be a more difficult task for garden center operators (GCOs). Becker and Poorbaugh (1) noted that verbal contacts between staff and customers is time-consuming, and its effectiveness depends upon the level of training and knowledge of the employee. They suggest that providing visual materials with essential plant information will benefit customers as well as employees. The objective of this study was to create and erect informational display units in South Carolina garden centers and to evaluate their impacts on satisfying the educational needs of customers, attracting and retaining customers, and enhancing garden center services and sales.

Wooden informational display units were specifically designed for use in this project and looked like market aisle end caps. Each unit stood 7.5 ft. high with a 9 sq. ft. base. A vertical panel had seven framed slots for displaying information and the base had three shelves for additional educational materials and/or commercial products. Information in the form of 8.5 in. x 11 in. laminated cards designed by project personnel were displayed in the wooden frames. Each card contained a photo of a pest or a cultural technique and may have the following information: pest life cycle; cultural, mechanical, and biological controls; proper cultural techniques; and ideal treatment times. A total of 110 cards were developed and organized in the following categories: Beneficial Insects, Cultural Tips, Lawn Diseases, Lawn Insects, Ornamental Diseases, Ornamental Insects, Vegetable Diseases, Vegetable Insects, and Weeds. The coded cards were organized in a three-ring notebook for easy access and storage and included a "Table of Contents" and a "Monthly Recommendations" section, which listed by code the information cards that would be suitable for exhibiting each month.

Through the cooperation of 14 County Extension agents, informational display units entitled "This Month in Your Garden" were placed in 28 garden centers throughout South Carolina in July 1996. Each GCO received one display unit and a notebook of information cards. All of the GCOs changed the information cards on their units on at least a monthly basis.

To evaluate the impact of the display units, postcard surveys were placed on each unit. After responding to the questions and returning the postcard to the project staff, each respondent received a more detailed survey in the mail. To encourage completion of the detailed survey, names of those who returned the detailed survey were entered in a drawing for tickets to the Clemson University vs. University of South Carolina football game. Of the 118 postcard surveys received, 66 people (56%) completed and returned the full-length surveys. Data were coded and analyzed using the SPSS/PC Statistical Analysis Package.

To determine the impact of the informational display units from the GCO's perspective, County Extension agents conducted face-to-face interviews of 15 GCOs. Interview questions asked GCOs their perceptions of the impact of the display units on customers, garden center staff, and garden center business.

Results and Discussion: Slightly more than half of the survey respondents were male (55%). Most of the respondents (60%) had college degrees. When asked to rate the level of importance placed on a number of factors used when deciding to shop at that particular garden center, the following top eight were chosen (based on a 1 to 5 scale, where 1 = not important at all to 5 = very important): knowledgeable employees (mean value = 4.5); plant quality (4.5); selection of products (4.3); plant selection (4.3); helpful sales personnel (4.3); plant labels, signs, or literature (4.2); prices (4.1); and location (3.8).

The informational display units captured the attention of 94% of the respondents. Of the 92% who read the information on the display, all of them felt the information was clear, and 93% learned something from the display. When asked: "What did you learn?", the following topics were selected by respondents: that they did not need to use a pesticide to control a problem (86%); cultural methods such as planting or pruning (76%); the right time for applying pesticides to control a pest (74%); other ways of controlling pests besides chemicals (73%); identifying a plant disorder (68%); when to look for pests in the garden or landscape (67%); and knowing how to identify an insect, disease, or weed (55%).

Forty-seven percent of the respondents indicated they had used the information from the display in their garden or landscaped areas in the

following ways: adopted a different method of controlling pests (88%); changed a cultural technique such as planting, pruning, watering, etc. (84%); correctly identified a pest problem or plant disorder (76%); or purchased a product or service to improve their garden or landscape (73%).

When asked the question: "When you need information about your garden, landscape, or potted plants, who helps you determine what, if anything, to do?" Retail nursery or garden center (77%) was rated the most important information source and the one most often used. Deciding by self (76%), relative, friend or neighbor (71%), and magazines (53%) were used less frequently and less often.

A majority of the 15 interviewed GCOs operated nonfranchised retail garden centers (independently owned and operated traditional garden centers) and had the display units in their garden centers for 2 months or more. Almost all of the GCOs felt that the topics presented on the display information cards was timely, appropriate and helpful. They also reported customers using the display and its information to make purchases. The GCOs felt that the display unit provided new information or knowledge to their customers, including the GCOs and their staff. Although all of the interviewed GCOs perceived customer satisfaction with the displays, few of the GCOs felt that the display units brought repeat business from their customers.

The major GCO concerns about the display were the size and design of the units. Most of the GCOs felt that the display was too large and occupied too much floor or sales space. Most also felt that the display did not attract new customers, mainly because of a lack of advertising or publicity about the display units.

Overall, all but two of the GCOs felt that the display was a valuable tool for their store. The most often mentioned aspects of the display unit by GCOs were the photographs that helped customers and garden center personnel identify a particular pest or disease problem, and the availability of a wide variety of useful information. However, when asked: "Would you like to continue to use this display in your store?", only half of the GCOs said "yes." Those who said "no" mentioned the size of the display and inadequate retail space as the overriding issue.

Significance to Industry: Appropriately sized informational display units can be used to improve garden center service quality and efficiency. Informational display units provide customers with an opportunity for self-learning and can improve overall customer:staff relationships. The GCOs interviewed in this project indicated that the display units were beneficial to their customers and that their customers should receive as much timely and accurate information as possible. Finally, an improvement in gardening knowledge and skills may translate into more satisfied customers and increased sales at the garden center.

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The Stability of Target Markets for Retail Outlets of Landscape Plants

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Nature of Work: Retail outlets for landscape plants continue to experience an increasing demand for their products. Americans spend a greater amount on outdoor landscaping plants than anyone else in the world. Although global per capita expenditures estimates for environmental horticulture are not available, industry analysts believe U.S. consumers spend 2-3 times more on outdoor plants/flowers than consumers in other developed countries. In 1997, U.S. consumers will spend \$37 billion on environmental horticulture products, or about \$138 per capita (Johnson).

For retailers of landscape materials, a primary component of any marketing strategy is to segment and target their market, and then position themselves in that target market. Turner and Fletcher investigated the socioeconomic characteristics of consumers that could be used by different types of landscape plant retailers to segment their market. One limitation of their study was that the data analyzed was only from the 1988 year. This study extends the Turner and Fletcher work by using an additional eight years of data from 1989 to 1996 to investigate target markets for retailers of landscape plants. Thus, the objective here is to investigate the stability of target markets for landscape plants over a nine year period.

Data: The Survey Research Center of the University of Georgia conducts a random telephone survey of Georgia residents every fall. Included in the questionnaire are questions about the dollar amount of landscape plants purchased during the year, the percent of purchases at different retail outlets, home ownership and market value, and various other economic and demographic characteristics, such as family income, education, age, sex, and marital status. These variables are consistent with the 1989 Turner and Fletcher study.

The different outlets analyzed in this study were large retail stores (Kmart, Walmart, etc.), large lawn and garden centers (Pikes, etc.), and local lawn and garden centers. Producers, mail order, and other outlets were cited by respondents but the percentage of plants purchased at these outlets was small relative to the first three outlets.

Results and Discussion: Economic models were developed to identify factors that would explain the percentage of plants purchased at different outlets. The following models were estimated for each year of the study (1988-1986),

$$\text{LRET} = f(\text{AGE, AGESQ, EDUC, MAR, RACE, INC, HMV, SEX}) \quad (1)$$

$$\text{LGC} = f(\text{AGE, AGESQ, EDUC, MAR, RACE, INC, HMV, SEX}) \quad (2)$$

$$\text{LOC} = f(\text{AGE, AGESQ, EDUC, MAR, RACE, INC, HMV, SEX}) \quad (3)$$

where all variables are as defined in Turner and Fletcher. Each equation was estimated using a tobit procedure. The tobit procedure generates superior parameter estimates when the dependent variable (LRET, LGC, LOC) is limited at either the lower or upper end of the range (0-100). Results are discussed below. A significance level of .10 is used to identify segmenting factors.

For large retail stores, the original Georgia target market was segmented by age, race, income, and the market value of homes (Turner and Fletcher). Middle-aged, nonwhite, lower income persons with homes of lower market value were the target market for these retail outlets. When the model is estimated for the additional eight years of this study, the age and income factors appear to be less stable (only significant in one other year), while the race and home market value variable appear to retain their significance throughout the period. Especially strong is the race characteristic with the nonwhite factor being significant in five of the eight years after 1988.

In the 1988 study, marriage and home market value were the significant explanatory factors for large lawn and garden centers with nonmarried households owning homes of greater market value being the target market (Turner and Fletcher). As concerns stability for this type of retail outlet, home market value is a consistent (positive) and stable (six out of eight years) segmenting variable. Marriage, or lack thereof, does not remain a significant segmenting variable for this type of outlet. Possible replacement segmenting variables include age, education, and sex. Education (persons with higher levels of education purchase higher percentages of plants at large garden centers) is probably the best candidate since it is consistent and is significant in three of the eight years. Parameter estimates for the last year (1996) indicate the target market for large garden centers are more educated females with higher market value homes who are getting older.

For local garden centers, the target market as identified in 1988 was white, married females. This retail outlet exhibited stability in its target market only with respect to race, which was significant in five of the eight years. Marriage was significant in no other year while sex was significant in only one other year. Age is a potential segmenting variable since it was significant in three of the eight years. A curvilinear relationship appears to exist between age and purchases at local garden centers, with purchases decreasing as age increases.

Significance to Industry: These results confirm previous results that different target markets exist for different types of retail outlets for landscape plants. The problem appears to be the lack of stability of the identified target markets. Although some identified factors appear to be significant over a nine year period, most of the identified segmenting variables did not. The results presented here warrant attention because of the instability of the identified target markets. Target market identification should be an ongoing process which firms use to respond to changing clienteles.

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Serious Business Problems and Critical Assistance Needs Among Retail Nurseries

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Nature of Work: A retail nursery, as an agribusiness, is unique within the business world. For example, Beierlein, Schneeberger and Osburn [1995] report that agribusiness is uniquely influenced by weather, disease, technological change, changes in government policies, institutional factors, and the perishable nature of its products (plants). An earlier reference, Downey and Erickson [1987], also emphasizes natural, societal and structural factors which they claim distinguish agribusinesses, including retail nurseries. These factors include the tremendous number and variety of like agribusinesses; the close relationship between the agribusiness and its inputs or products suppliers; the diversity in size; the relatively free market in which the businesses compete; the typically conservative nature and family-community orientation of agribusinesses; the seasonality of many activities; and the vagaries associated with nature. Additional differences between agribusinesses, such as retail nurseries, and non-agribusinesses are noted by Torok and Schroeder [1992].

The objectives of this paper are to provide survey results that outline unique, yet serious business problems faced by retail nurseries, and to identify technical assistance needs of retail nurseries, including managerial policy implications and caveats. Personal interviews were conducted during late summer and early winter months during 1994-1996 of 116 retail nurseries. These nurseries are located throughout the 13 Southeastern States, and contact was made at trade conferences and educational seminars. The survey asked detailed questions on specific problems and barriers faced by the firm, and an indication of the extent to which an item was a problem for their retail nursery. The survey also asked the respondent to identify any technical assistance needs the business faced, such that strategies and technical assistance resources could be recommended to reduce particular problems.

Results and Discussion: Thirty problems/needs were presented to the respondents. However, the responding firms were expected to have few serious business problems, so that the number of observations as a "serious problem" was likely to be low. As sample size decreases, the results of common statistical tests, such as the chi-square test of independence and the Fisher's exact test of independence, become nullified. Therefore, a weighted average score was calculated for the most acknowledged problems/needs using a five-point Likert scale ranging from

1 = "of no consequence in our operations" to 5 = "has a significant negative impact and likely to put us out of business."

The perceived serious business problems and critical technical assistance needs can be classified into five areas: (1) accounting; (2) labor; (3) marketing; (4) sources of capital; and (5) technology. The weighted scores for the more prominent problems/needs are reflected in the accompanying table.

Retail nurseries appear concerned with basic accounting and bookkeeping, especially the ability to problem solve and make decisions using managerial accounting. This may indicate the relatively thin or small margins within which they operate.

Labor problems are more societal in nature than economic as the costs associated with wages and benefits scored lower than getting and retaining good employees and the communications between employees and employers (management). A retail nursery is a labor intensive business with customer-employee contact responsible for many sales, thereby explaining this observation.

Personal selling techniques follow as a logical marketing need. Having a documented business or marketing plan appears as another problem while many general marketing topics also surfaced as issues. As a retail operation, these observations are consistent with marketing problems/needs.

Although the concept of new technology for a retail nursery may be questionable by some individuals, there have been "new" plant maintenance technologies and new retail customer service technologies employed. An apparent lack of available information on new technologies as well as implementable technologies, plus the seemingly high costs of adoption are deemed problems.

Significance to Industry: These empirical observations have implications for technical assistance providers to retail agribusinesses, such as retail nurseries. First, sporadic responses (the low number of observations) for each of the 30 problems/needs suggest any educational efforts will have to be targeted one-on-one to be successful, as the uniqueness and variability among businesses does not lead to a single marketing-management prescription. Second, regional or interstate activities among retail nurseries are likely to be effective in nonlegal subject areas. Third, the overall scores for the problems cited in the labor category were the highest among the five delineations (accounting, labor, marketing, capital and technology) representing a major concern as labor effectiveness and efficiency affects both marketing results and financial statement results.

The small sample size may not truly represent the presence nor severity of business problem areas among retail nurseries provides suggestions and strategies for technical and educational assistance to be successful.

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Table 1. Identification of and the Relative Seriousness of Business Problems Faced by Retail Nurseries.

Business Problem or Technical Assistance Need	Weighted Score
Accounting	
✓ maintaining business records	3.4
✓ preparing financial statements	3.1
✓ analyzing financial statements	4.0
✓ preparing tax statements	3.0
Labor	
✓ finding qualified employees	4.0
✓ motivating and keeping good employees	4.1
✓ high wages and salaries	3.1
✓ benefits package costs	3.8
✓ employee-management communications	3.6
Marketing	
✓ business/marketing plans	3.7
✓ inventory control	3.5
✓ advertising strategy	3.1
✓ increasing sales	3.3
✓ product display/merchandising	3.2
✓ salesmanship techniques	3.9
Sources of Credit	
✓ obtaining operating loans	3.2
✓ financing new technology	3.5
Technology	
✓ costs of new technology	3.5
✓ lack of information on new technology	3.6
✓ no local supply of new technology	3.1