

Recruiting new commercial accounts, communicating with existing accounts, capitalizing on peak holidays and occasions, promoting the most frequently purchased products, and implementing forms of promotion and advertising are important in developing marketing strategies for commercial customers. Based on the florists' and businesses' responses, better marketing strategies could be created for florists to stimulate commercial sales. From our research, we concluded that commercial accounts are a virtually untouched market for the retail florist. However, we did find that commercial account sales are on the increase. This increase is occurring with little communication between florists and businesses. Better communication with potential and established commercial accounts could stimulate florist sales even further.

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## Using Focus Groups to Determine Market Potential for Wildflower Sod

Susan S. Barton, Jo Mercer, and Charles J. Molnar

**Additional index words.** marketing, consumer preference, product evaluation

**Summary.** Two focus-group sessions were conducted to determine the market potential of a new horticultural product—wildflower sod. One session included homeowners with suburban lots and an interest in wildflowers. Another session included landscape professionals, property managers, and garden center operators. Participants viewed a slide presentation about the uses of wildflowers and wildflower sod, a videotape illustrating wildflower sod installation, and a demonstration plot planted with wildflower sod. The discussion was conducted by an unbiased facilitator. Participants cited the instant effect of wildflower sod as a major advantage. The price was viewed as acceptable for small areas, especially if sod was broken apart and spaced as plugs. Comments from the participants were used to develop an ideal product description and yielded merchandising recommendations.

The need for improved marketing strategies is widely recognized by the nursery and landscape industry (Gineo, 1988). Techniques such as telemarketing, written

surveys, personal interviews, and focus-group studies have been used to collect consumer preference and market characteristic information. On-site personal interviews with garden center customers revealed a need for plant culture and descriptive information (Niemiera et al., 1993) and the importance of plant quality, availability of professional help, and plant selection for purchasing nursery stock (Khatamian and Stevens, 1994). A mail-in survey of 140 landscape firms was used to discover types of services provided by different types of firms (Florkowski et al., 1994). A random telephone survey supported the premise that different retail outlet types have different target markets (Turner and Dorfman, 1990). Day (1994) used in-depth personal interviews and focus-group discussions to discover consumers' reasons for choosing a retail outlet.

Qualitative research, such as focus-group interviewing, is appropriate when investigating a topic about which little is known. It permits participants to speak in their own words; to elaborate on, explain, or qualify responses; and to share personal views and frustrations (Greenbaum, 1993). Focus groups provide the opportunity to discover new issues and insights unbiased by a researcher's beliefs and expectations that usually are programmed into questionnaires (Seymour, 1988). Focus groups can give the marketer early clues about the marketability of a new product and are used to confirm anticipated customer needs as well as to reveal unsuspected customer desires (Hauser and Clausing, 1988). Focus groups offer an open format for exploring and probing the key characteristics of a new product or service (Worden, 1987). This method will not reveal how many people will buy the product, but it will give insights as to how and why products and services are appealing, if people like the idea or concept, or areas of potential concern (Kreuger, 1988). Although focus-group interviewing is used widely in market research in many other fields, to our knowledge, this technique has been used in only one other published study concerning horticultural products or services (Day, 1994).

There are often a discrepancies among characteristics valued by particular market segments. Florists rated the performance of suppliers' physical distribution services higher than mar-

<sup>1</sup>Extension Specialist, Department of Plant and Soil Sciences, University of Delaware, Newark, DE 19717-1303.

<sup>2</sup>Horticulture Agent, New Castle County Cooperative Extension, 910 South Chapel Street, Newark, DE 19717-1303.

<sup>3</sup>Owner, EastCoast Ecoscapes, 12 Melvern Court, Willington, DE 19810.

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keting services and product quality (Prince et. al., 1991), whereas garden centers and landscapers felt that product characteristics were more important than supplier services for making purchase decisions (Makus et. al., 1992). Since focus groups are made up of a fairly homogenous group of representatives from the market, they can be constructed to provide information about that market segment's preferences (Paley, 1995).

Stiff competition in the nursery industry dictates the use of consumer-based marketing strategies. Nurseries, retailers, and landscapers must know the desires and needs of customers before investing in a new product or in service development. Wildflower sod is a relatively new product for the nursery industry. Little is known about customer acceptance of the product and consumer preferences for packaging, timing of availability, and species mix. Many other disciplines have used focus groups as a quick and inexpensive research technique to discover consumer preferences (Paley, 1995).

In Delaware, most wildflower sod production problems have been overcome. Growers must focus on marketing this new product. Our objectives were to evaluate the market potential of wildflower sod and the use of the focus-group technique as a relatively inexpensive method for gathering quantitative data on consumer preferences for horticultural products and services. By using different focus groups comprised of consumers at several levels of the nursery industry marketing chain, we hoped to discover each consumer segment's preference for packaging and promotion of the product.

## Materials and methods

Completion of the following five steps help make focus group sessions as productive as possible (Paley, 1995): 1) identifying goals, 2) developing the moderator's guide, 3) selecting a location, 4) selecting participants, and 5) preparing a facility.

**Identifying goals.** Clear goals keep the moderator and group on focus. The goals of these sessions were to discover important product characteristics (such as packaging, species mix, cleanliness, presence of weeds, ease of establishment, transplant success rate, and maintenance required), to determine price acceptance, to discover sales and service support required,



Fig. 1. Focus-group attendees toured demonstration plots in which wildflower sod was planted.

and to learn how to merchandise the product.

**Developing the moderator's guide.** This guide begins with an introductory statement explaining the purpose of the session, followed by a list of detailed questions divided into topical areas to provide a logical framework for discussion. Since wildflower sod is relatively unknown as a consumer product, we began each session with a 1-h orientation. Participants viewed a slide presentation about the uses of wildflowers and wildflower sod and a videotape illustrating the technique of wildflower sod installation. They toured demonstration plots (Fig. 1) in which wildflower sod was planted the previous fall (Sept. 1993) and spring (May 1994) at different spacings [solid sod; sod covering 75% of the area; sod covering 50% of the area; or plugs at 30-cm (12 inches), 46-cm (18 inches) or 61-cm (24 inches) centers]. An extension agent in home economics trained as a focus-group facilitator served as moderator. The questions used to facilitate discussion are listed in Tables 1 and 2. Since the facilitator was not a horticulturist, presession training was provided to help her prompt discussion if necessary.

**Selecting a location.** The ideal site should have an informal atmosphere (Paley, 1995). Our focus-group interviews were conducted on 29 June and 27 July 1994. The interviews were held at the Univ. of Delaware to facilitate the demonstration garden tour. The discussions took place in a comfortable conference room.

**Selecting participants.** Focus group participants should be chosen from a pool of actual and potential buyers or users of a product. Fairly homogenous groups provide the greatest potential for free discussion (Paley, 1995). Two categories of potential wildflower sod users were identified—homeowners and landscape professionals. As an inducement for participation, we provided dinner and a 1-year subscription to *Garden Check*, a cooperative extension subscription newsletter.

To recruit participants for the homeowner focus group, we developed a one-page flyer with a clip-off return form and distributed the flyer at libraries and local garden centers. We also included the flyer in *Garden Check*, which has ≈750 subscribers. The questionnaire was used to screen homeowners based on lot size and interest in gardening. We selected a group of nine homeowners with suburban or exurban lots and a high interest in gardening for participation in the homeowner focus-group interview conducted on 29 June 1994.

To recruit participants for the landscape professional focus group, we included an explanation of the project and clip-off return form in the *D.A.N. News*, the newsletter of the Delaware Association of Nurseryman. We also sent flyers to the professional mailing list maintained by the ornamentals extension specialist. Nine professionals, representing four segments of the industry, participated in a focus-group interview conducted on 27 July 1994. One participant was a garden-

center retailer looking for new products. Three landscape maintenance professionals who were responsible for maintaining large facilities (a school, a university, and a retirement community) were looking for a way to reduce lawn mowing and improve unsightly areas with little added maintenance. Three participants, representing de-

sign-building firms, and two participants from a maintenance firm that did some installation and were looking for grass-substitutes expressed an interest in designing more naturalistic landscapes and had few positive experiences with seeding meadows.

**Preparing a facility.** The orientation was conducted in a confer-

ence room by an ornamentals extension specialist and horticulture agent. Participants walked outside to tour demonstration plots. Although not part of the focus group discussion, participants expressed the opinion that both planting times and all the spacings in the trail were providing adequate wildflower cover by midsummer when they viewed the plots. Participants had ample opportunity to question the specialist and agent. Dinner was served in the conference room. After dinner, the ornamentals extension specialist and horticulture agent left, and the interview was conducted by a facilitator. A tape recorder was used to record the sessions. The tapes were transcribed and the results were analyzed.

**Table 1. Questions used by facilitator in homeowner focus group.**

- 
- I. Attitudes about the home landscape.
    - A. What does the home landscape mean to you?
      - 1. Landscape as outdoor recreation/entertainment area
      - 2. Landscaping as a hobby
      - 3. Landscape as status symbol
      - 4. Landscape as family activity and space
    - B. How important is environmentally sound landscaping to you in your landscape?
      - 1. Water conservation and drought management
      - 2. Pesticide use
      - 3. Need for mowing or other fuel-driven maintenance
  - II. Attitudes about wildflowers in the landscape
    - A. How would you envision a place for wildflowers in your landscape?
      - 1. Do they have the neatness you require?
      - 2. Do they seem appropriate for your style of landscape?
    - B. What could be the benefits of having wildflowers in your landscape?
    - C. What could be the disadvantages of having wildflowers in your landscape?
    - D. How would you incorporate wildflowers into your landscape?
  - III. Attitudes about wildflower sod products vs. wildflower seed
    - A. Disregarding labor, how do you feel about the price comparisons between seed and sod?
    - B. How would you describe the differences in ease of installation?
    - C. What are your opinions on the speed of wildflower establishment and bloom?
    - D. What concerns do you have regarding weed control in each system?
    - E. What problems might you foresee with being able to provide water to both planting types.
  - IV. Attitudes about availability of wildflower sod products
    - A. Would you be most apt to purchase in spring or fall?
    - B. Would you prefer to purchase as rolls or flats?
    - C. What mix of species would you like to purchase?
      - 1. All annuals, all perennials, or mixed annuals and perennials?
      - 2. Single or multiple species or colors?
      - 3. Plants that all bloom for a short time, once in the season?
      - 4. Bloom in plant mix goes on throughout the season?
    - D. How do you feel about the cleanliness and handling ease of wildflower sod?
    - E. What level of weeds in the sod is acceptable to you?
      - 1. None at all
      - 2. 5%
      - 3. 15%
  - V. Attitudes about sales and service support
    - A. How important is a knowledgeable sales staff at the retail outlet?
    - B. Would informational brochures or technical sheets be useful when you are considering or making a wildflower sod purchase?
    - C. What portions of the installation would you do yourself?
    - D. What portions of the installation would you hire out?
      - 1. Planting service offered by the sod retailer
      - 2. Other professional landscape service company
      - 3. Neighbor, friend, odd-jobber or domestic staff
    - E. Do you think you would install a solid mat of sod or cut it up into plugs?
    - F. What information would you need on packaging or at the point of purchase?
  - VI. What are your thoughts on other plant products in sod form?
    - A. Ground covers
    - B. Bedding plants
    - C. Herbs
- 

**Results and discussion**

There were many similarities and a few differences in the way homeowners and landscape professional reacted to wildflower sod (Table 3). An instant result, an informal look, and an environmental alternative to turf were cited as primary benefits of wildflower sod by homeowners and landscape professionals. Landscape professionals, who had unsatisfactory experiences with establishing wildflower meadows from seed, were impressed by the lack of weeds and high apparent success rate of wildflower sod.

Both groups expressed concern about county legislation that might block using wildflowers and control of weeds and unwanted animals. Specifically, the need to differentiate between weeds and wildflowers was identified. Landscape professionals were concerned about keeping the meadow looking good after the first year, but homeowners perceived meadows as a landscape alternative with reduced maintenance.

Homeowners and landscape professionals wanted to buy sod from retail outlets in the spring, but landscape customers could receive sod in the fall. Rolls of wildflower sod would be most useful to professional landscapers. Homeowners would like to buy sod in flats to be used as plugs. Both groups wanted easy-to-handle packaging for retail sale. Homeowners wanted to buy sod with a combination of annual and perennial species. Landscape professionals were split, with half of the group suggesting all perennial sod (annuals seeded in later) and half suggesting an annual and perennial

mix. Homeowners wanted a product in which all plants would bloom and the bloom times would be spread throughout the season. Landscape professionals suggested offering two products—a splashy one-time bloom sod and an all-season bloom sod. They also suggested adding grasses for a true meadow and fall interest. Grasses were not mentioned by homeowners.

The price of wildflower sod, when used as plugs, was acceptable to both groups. At \$9 per flat, wildflower sod was deemed inexpensive compared to a flat of perennials (\$60 per flat) (Greenleaf, 1994). When viewed as price per square foot of garden, solid sod was too expensive at \$3 per square foot, but \$0.10 to \$0.30 per square foot for sod spaced as plugs was fine. Landscape professionals noted that sod would be easy to install and reduce landscape labor costs.

Point-of-purchase materials were critical for marketing according to homeowners and landscape professionals. Homeowners wanted photographs of wildflowers (to help differentiate them from weeds), easy-to-follow planting instructions, spacing diagrams, and month-by-month descriptions of plants in bloom. Homeowners trusted the written word more than the spoken message of a minimum-wage clerk to explain the product and installation procedure. Homeowners and landscape professionals recognized the need to train retail employees to answer questions and provide expert advice on wildflower sod use and installation. Homeowners wanted to see examples of wildflower sod used in demonstration gardens throughout the garden center. They also believed that wildflower plantings throughout the community would promote the purchase of wildflower sod.

Landscape professionals thought the industry must take more responsibility for marketing wildflowers, but most professionals do not have the knowledge necessary to educate clients, help them make good choices, and break down consumer resistance to wildflowers. Professionals and customers need more education. Even with these problems, all the participants would like to add wildflower sod to their businesses or gardens.

## Conclusions

**Wildflower sod.** The instant effect of wildflower sod was its most

appealing advantage. Homeowners and landscape professionals believed that establishment success was guaranteed. Landscape professionals, probably due to greater knowledge and experience, were concerned with maintaining attractiveness in the wildflower planting in future years. This concern must be addressed by the industry to prevent long-term customer dissatisfaction.

Based on the consensus of both groups, an acceptable wildflower sod product should meet the following description: weed-free, sold in flats (to be split into plugs), mixed species (annuals and perennials), mixed colors, and species that bloom consecutively. Homeowners wanted a product in which all plants bloomed. Therefore, additional consumer education would be required to incorporate the landscape professionals' suggestion of adding grasses to the mix.

Homeowners offered several good

marketing suggestions. They believed marketing efforts should include printed material (including photographs of wildflowers for weed differentiation, easy-to-follow instructions, spacing diagrams, a list of the species included, and expected flowering dates by month); sales expertise; a special display in the garden center, including demonstrations and signs; and demonstration wildflower plantings throughout the community. Homeowners suggested promoting wildflower sod as a way to avoid weeds, as an alternative landscape for small, controlled areas, as a substitute for turf in larger areas and as a slope stabilizer.

These results offer some valuable insights into homeowners' and landscape professionals' perceptions of wildflower sod. The marketing suggestions are particularly useful for landscapers and retailers considering adding wildflower sod to their product mix. Areas in which consumers need more educa-

**Table 2. Questions used by facilitator in landscape professional focus group.**

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- I. Attitudes about wildflowers in the landscape
    - A. Where in the landscape do you envision a use for wildflowers?
    - B. Why do customers want wildflowers?
    - C. What objections have customers expressed about wildflowers?
    - D. Would you add wildflowers to your business?
  - II. Attitudes about wildflower sod products vs. wildflower seed
    - A. What do you think about the price differences between seed and sod?
    - B. How easy or difficult is wildflower sod installation?
    - C. What are your opinions on the speed of wildflower establishment and bloom?
    - D. What are your weed-control concerns?
    - E. Are you concerned about adequate water supply?
  - III. Attitudes about availability of wildflower sod products
    - A. Would you be most apt to purchase in spring or fall?
    - B. Would you prefer to purchase as rolls or flats?
    - C. What concerns do you have about plastics disposal?
    - D. What species and combinations would be most desirable?
      1. All annuals, all perennials, or annual and perennial mixture?
        - a. Single species or colors
        - b. Multiple species or color?
      2. Plants all bloom at same time—one blast per season?
      3. Subtle bloom continues all season long?
    - E. What level of weeds is acceptable?
      1. None at all
      2. 5%
      3. 15%
  - IV. Attitudes about sales and service support
    - A. How would you market wildflower sod?
    - B. What sales support is required for retailers?
    - C. Would you use solid sod or cut up pieces of sod as plugs?
    - D. What price would or could you charge for wildflower sod?
  - V. What are your thoughts on other plant products in sod form?
    - A. Ground covers
    - B. Bedding plants
    - C. Herbs
    - D. Ornamental grasses
-

**Table 3. Similarities and differences between homeowner and landscape professional conclusions.**

<b>Variable</b>	<b>Homeowners</b>	<b>Landscape professionals</b>
Advantages of wildflower sod	Instant gratification Full grown now Attractive informal look Good environmental alternative to turf Reduced maintenance Cheaper than individual plants Water requirements evident by wilting	Instant results Lack of weeds Appealing informal look Useful alternative to turf, for renovation of disturbed sites, and for areas where turf is difficult to grow Success rate compared to wildflower seed
Concerns about wildflower sod	County legislation Weed control (identification and use of selective herbicides) Unwanted animals	County ordinances Ability to differentiate between weeds and wildflowers Perception of animals Neighbors who misunderstand unkempt look Difficult to keep it looking good
Purchasing preferences for sod	Time—spring Rolls for solid sod use (landscapers) Flats for use as plugs (homeowners) Easy to handle packaging Combination of annuals and perennials One species/flat is a possibility Bloom time spread with mix of colors All plants should bloom No weeds present	Time—spring (retail) and fall (landscape clients) Rolls for landscape installations Retail shelf life is critical (plugs, flats, market packs, or 2 × 3-foot sod pieces) Small, cute, use-friendly packages for retail Two opinions—all perennials and seed in annuals or perennial and annual combination Customize installation with one species Offer two products—splashy one-time bloom and an all season bloom Include grass for a true meadow and fall interest
Installation	Sod do-it yourself Seed—hire a professional	Installation as plugs (could overseed)
Price	Acceptable as plugs	Plugs are reasonable
Marketing	Point-of-purchase materials should include photos of wildflowers, easy-to-follow instructions, month-by-month description of plants in bloom Expert available to answer questions Demonstration area in garden center, including good signs and examples of use Demonstration sites throughout the community Market as a way to avoid weeds; an alternative landscape for small, controlled areas; a substitute for turf in larger areas; and a slope stabilizer	Point of purchase materials should include color brochure showing success and installation instructions Need training for employees Signs for retail display Magazine articles

tion about wildflower sod also were identified. These results, due to the qualitative nature and small sample size of focus-group studies, do not warrant the deduction of definitive conclusions or generalizations of the findings. They suggest areas for future consumer preference research in the area of wildflower sod.

**Focus-group technique.** Focus-group interviews usually are described as inexpensive methods of gathering information about a new product, service, or concept (Paley, 1995). Because wildflower sod is a complicated product, we included an extensive product orientation. This necessitated the development of demonstration

gardens and the production of a video tape. Other costs included flyer development, postage, dinner, and tape transcription. Depending on the product, service, or concept discussed, the focus group may or may not be expensive. We gathered a large amount of qualitative information about the product. The homeowner group expressed

greater agreement than the landscape professionals group, perhaps because they were more homogenous. The landscape professionals had different opinions because they represented a variety of segments of the industry—landscape installation, landscape maintenance, and garden center. Each had their own concerns. A more homogenous focus group might result in more consensus. The information provided by this group was varied but valuable. Focus groups are mechanisms for collecting qualitative information and cannot be used to estimate the size of a market or to make broad assumptions about the entire market. They do supply factual and perceptual input into the managerial decision-making process (Paley, 1995).

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- and Kyle, 1925), and soil compaction (Wood and White, 1986) can influence growth and performance of pecan transplants, although these fundamental aspects of pecan establishment have received little objective study. My purposes was to assess 1) use of bare-root vs. containerized transplants, 2) small trees vs. large trees, 3) tap root or lateral root pruning vs. no root pruning, 4) time of year to transplant, 5) amount of the tree trunk to remove at time of planting, and 6) influence of subsoiling the planting site before planting on transplant performance.

# Establishing Pecan Transplants

Bruce W. Wood

**Additional index words.** containers, season, bare-root, size, pruning, cultivars, roots

**Summary.** Pecan [*Carya illinoensis* (Wangenh.) K. Koch] nursery transplants performed best on establishment in nonirrigated orchards when using large trees planted early in the dormant season. After 6 years, growth and survival of bare-root transplants were equal to that of containerized transplants when established during the dormant season. Reducing transplant trunk height by  $\leq 75\%$  at planting did not affect subsequent tree survival, although rate of height growth and tree vigor increased such that there was no difference between pruned and nonpruned trees after 3 years, except that pruned trees appeared to possess greater vigor. There also were no differences in growth or survival between augured and subsoil + augured planting sites within 6 years of transplanting, and there were no differences between root pruned (severe tap or lateral root pruning) and nonpruned trees.

Nursery-produced pecan trees often are transplanted in yards or in small orchards in which supplemental watering is highly irregular or lacking. Under such conditions, transplant survival and subsequent growth can be poor. The increasing popularity of pecan in such plantings merits greater understanding of how transplanting practices influence survival and tree growth. Factors such as root pruning (Overcash and Kilby, 1978; Romberg and Smith, 1939; Woodroof and Woodroof, 1934), shoot pruning (Smith and Johnson, 1981), containerization (Laiche et al., 1983), tree size (Roper, 1927; Stuckey

and Kyle, 1925), and soil compaction (Wood and White, 1986) can influence growth and performance of pecan transplants, although these fundamental aspects of pecan establishment have received little objective study. My purposes was to assess 1) use of bare-root vs. containerized transplants, 2) small trees vs. large trees, 3) tap root or lateral root pruning vs. no root pruning, 4) time of year to transplant, 5) amount of the tree trunk to remove at time of planting, and 6) influence of subsoiling the planting site before planting on transplant performance.

## Materials and methods

Transplanting strategies were evaluated in a series of four studies on sites [Faceville fine sandy loam (2% to 5% slope) soil] prepared by disking to 15 cm and liming to 809 kg·ha<sup>-1</sup>. Subsequently, in March, trees received an annual treatment of 454 g of 10-10-10 (10N-4.4P-8.3K) per 2.54 cm of trunk diameter until age four, and then they received dolomitic lime at 809 kg·ha<sup>-1</sup> and N, P, and K, at 247 units/ha broadcasted in March (also based on 2.54 cm of trunk diameter). Transplants were compound trees (generally 3:1 types, or 3-year-old roots and a 1-year-old scion) planted in augured 0.46 × 0.91-m holes. Data were analyzed using SAS's analysis of variance, GLM (SAS Institute, Cary, N.C.). The amount of rainfall the plantings received the year of transplanting is depicted in Fig. 1. Transplants were established within 1 week of digging.

**Amount of stem removal.** The response of transplants to different degrees of trunk removal was assessed using compound trees of 'Desirable' scions on 'Elliott' seedling rootstocks. Trees were between 2.4 and 3 m in height, excluding roots, and were planted Feb. 1989. The experimental design was a randomized block (15 blocks) consisting of five pruning treatments per block (n = 75) where 0%, 10%, 25%, 50%, or 75% of the original trunk length was removed. Transplants were irrigated with  $\approx 20$  L of water at time of planting to pack soil around the roots but were not watered after the initial watering, except by natural rainfall (Fig. 1). Dependent variables were tree height, trunk diameter at 30 cm, and total length of the five longest limbs. Data were evaluated for linear, quadratic, and cubic effects.

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