



# Factors Affecting the Willingness to Adopt Sustainable Floriculture Practices

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Sustainability has grown into a familiar term in the floriculture industry, yet no scientific research has been performed to better understand grower attitudes about sustainability. Therefore, at the 2008 OFA Short Course, growers were asked to participate in a Purdue University-sponsored survey that asked questions regarding this topic. The survey was also promoted through several trade press outlets and state horticultural associations from June through October of 2008. One survey objective was to identify factors that influenced growers' willingness to adopt sustainable floriculture production practices. "Willingness to adopt" was defined as a person's desire to adopt a new innovation, technology, or practice in their business.

As there are no peer reviewed articles on growers' perceptions of sustainable floriculture practices, research in other agricultural industries was used to identify potential factors that may influence adoption. Based on previous research, five factors were used to examine grower attitudes toward adopting sustainability: the influence of environmental regulations, the perception of customer value, attitudes of growers' toward sustainability and the environment, the influence of age on adopting sustainable practices, and operation size. Hypotheses were created to examine environmental regulations, growers' attitudes toward sustainability and the environment, and growers' perceptions of sustainability based on age. Two additional hypotheses created were growers with customers who value sustainability are more likely to adopt sustainable practices, and operation size would have no effect on a grower's adoption of sustainable practices.

## Results

### Grower and Operation Demographics

The average grower was 57 years of age, male (64.2%), a college graduate (81.0%), and Caucasian (95.4%). Although commercial floriculture growers participated nationwide, the highest response was from the Midwest region (48.2%). On average, growers classified their operations as wholesalers (35.7%) or growers (34.6%) who predominately grew bedding plants (27.9%). Growers identified their primary customer group as cash-and-carry customers followed by landscapers, independent garden centers, and other small venues. Twenty-six percent of growers had gross sales of less than \$100,000 with an average gross sale of \$500,001 to \$1 million in 2007. The majority of respondents had a covered greenhouse production area of less than 1 acre (< 43,560 square feet), with an average size of 30,000 square feet.

### Sustainability and Sustainable Practices

Overwhelmingly, 95.5% of respondents had heard of sustainable floriculture and the majority (65.2%) viewed sustainable practices as "very important" to the environment. Sixty-three percent of growers indicated they had sustainable practices in their operations, and 24.3% were in the process of becoming sustainable. Recycling plastic pots and/or greenhouse glazing materials were the most common sustainable practices in place followed by water recycling and/or conservation. Ranked in order of importance, growers indicated they wanted to pursue recycling of plastic pots/greenhouse glazing materials and biological controls, followed by conservation of energy, water recycling/conservation, and alternative energy sources. These results show that growers had similar-ranked priorities in the practices they have already implemented and/or want to implement and are the most prevalent practices in converting to sustainable practices.

### Factors Affecting Adoption

Growers view sustainability as important to the environment, and these positive attitudes greatly improve adoption rates of sustainable practices. Yet positive attitudes alone were unable to predict a grower's behavior toward sustainability. Concerns about the ease of implementation was the most significant factor affecting the adoption of sustainable practices, followed by the perceived production risk. The effect of environmental regulations, customer value, and age were insignificant factors on the adoption of sustainable practices. Demographic factors, such as the operation's location and size, had significant effects on the adoption of sustainable practices. Midwest growers with small acreage (1 to 5 acres) have greater odds of adopting sustainable practices than growers who live outside of the Midwest with an operation size greater than 10 acres. Therefore, based on this study, the grower most likely to adopt sustainable practices will be located in the Midwest, have 1 to 5 acres devoted to floriculture production, and exhibit positive attitudes toward the environment and sustainability. Although these findings indicate smaller Midwestern operations will adopt sustainable practices, it must be noted that 68.7 percent of the survey respondents had small operation sizes and 48.2 percent of respondents were located in the Midwest.

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## Discussion

Although these findings represent opinions of 112 growers and cannot be projected to all floriculture operations, at least one of the findings is consistent with marketing principles. This study found smaller operations were more likely to adopt sustainable practices and is consistent with marketing texts that show small businesses can use their size to quickly convert to new technologies and innovations. Smaller businesses can use this quick conversion as a core competency, which can lead to a competitive advantage. Small businesses tend to have more flexibility to make changes in their operation, giving them a niche in the marketplace, as they can capture new trends in the industry faster than larger operations.

Even though this study showed smaller operations were more likely to convert to sustainable practices, size alone was not the only indicator and other variables did impact whether growers were likely to adopt. For example, growers who had negative perceptions about sustainability were less likely to adopt. These negative perceptions may stem from uncertainty about what constitutes sustainability or the lack of information on new systems once they decide to convert. These negative perceptions may stem from the amount of production risks involved due to limited information and the degree to which consumers acknowledge and value sustainably produced crops.

The desire to “do the right thing” and the lack of impact from environmental regulations appear to indicate that floriculture growers are being proactive in caring for the environment. These growers emphasize that being sustainable is a worthy cause and

investment to get involved in, and that it is their responsibility as a business owner.

This research provides information useful to growers and industry educators about the current perceptions of sustainability. Based on these findings, growers are seeking information on the best approach to implementing sustainable practices. Growers need educational assistance from Extension personnel as well as industry experts to decrease the production and marketing risk of converting to this newer technology. Showing the benefits of sustainability is also important to help improve customer value for sustainable products. To view the complete results of our research, please refer to an upcoming article in *HortScience*.

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## ofa Education

### Floriculture Education: Is It What It Should Be?

by Peg McMahon

Producing and selling ornamental plants are demanding professions that require dedicated and educated individuals. Understanding and using principles of business and the biological and physical sciences are a part of the daily life of horticulturists. But do we need colleges and universities with floriculture programs?

I have heard several greenhouse professionals say that young people coming into the industry do not need to know horticulture, that they can learn that on the job. What new employees need, they say, are people and business skills. I would

argue that in addition to the need for new employees to learn business and personnel skills, an understanding of horticulture through education programs is a must. It is critical to know that a plant is dry and how to water it, but it is just as important to know biology and soil science to understand the consequences of drought stress in both short- and long-term plant growth and development. The same goes for understanding all aspects of plant growth and plant/environmental interactions. Without that kind of science-based knowledge, good growing decisions cannot be made. If a business wants to hire young people who

