

Special Research Report # 703: Public Benefits

The Appeal of Biodegradable Packaging to Floral Consumers #3

Charles Hall¹, Bridget Behé², Ben Campbell¹, Jennifer Dennis³, Roberto Lopez³, Chengyan Yue⁴
¹Texas A&M University, ²Michigan State University, ³Purdue University, ⁴University of Minnesota



*FUNDING INDUSTRY SOLUTIONS TODAY
& TOMORROW*

Phone: 703-838-5239

Fax: 703-838-5212

E-mail: afe@endowment.org

Website: www.endowment.org

BACKGROUND

Currently, one of the most widely discussed topics in the floriculture industry, which is promulgated by consumers exhibiting greater degrees of environmental awareness, is the issue of environmental sustainability. This has led to a desire for products that not only solve the needs of consumers but are also produced and marketed using sustainable production and business practices. Consumers increasingly place a greater emphasis on product packaging and this has carried over to the greenhouse/floral sector in the form of biodegradable pots.

While various forms of these eco-friendly pots have been available for several years, their marketing appeal was limited due to their less-than-satisfying appearance. With the recent availability of more attractive biodegradable plant containers, a renewed interest in their suitability in the

floriculture sector and their consumer acceptance has emerged. The objective of this study was to determine the characteristics of biodegradable pots that consumers deem most desirable and to solicit their willingness-to-pay (WTP) for this type of product.

METHODOLOGY

This study utilized a conjoint analysis internet survey and experimental auctions to elicit floral consumers' WTP for biodegradable containers. This report focuses specifically on the conjoint analysis survey. The benefit of these types of surveys is they allow researchers to simultaneously investigate a number of product attributes and to determine the relative importance of each attribute in the consumer's preference.

The survey was administered via the internet including a representative sample of consumers from Indiana, Michigan, Texas, and Minnesota.

For this study, we consulted with industry experts in order to identify the attributes and their corresponding levels that were considered to be environmentally important to consumers, while controlling for other attributes considered

to be of lesser importance. Attributes (and levels) identified were price (\$2.49, \$2.99, \$3.49), container type (plastic, wheat starch, rice hulls, straw), carbon footprint (neutral, saving, intense), and waste composition (0%, 1-49%, >49%).

RESULTS AND CONCLUSIONS

The internet survey was implemented by Knowledge Networks during July 2009. A total of 1,113 respondents started the survey; however, 279 respondents were eliminated since they did not purchase any plants during the past year. Another 299 respondents were eliminated due to missing ratings or lack of variation among the conjoint ratings, thereby, leaving 535 respondents.

An important element of utilizing conjoint analysis is the ability to classify survey respondents into clusters or market segments. As stated in report#702 in this series, the single most important factor influencing the consumer's decision to buy flowering potted plants was container type, followed by carbon footprint, price, and waste composition, in that order. While these results show the decision across all survey

respondents, we were able to segment consumers into five distinct clusters: (1) extremely price conscious; (2) sensitive to carbon footprint labeling; (3) those who favored straw pots; (4) those that disliked straw pots; and (5) those that were influenced by both the carbon footprint label and container type.

After assigning respondents to a cluster, a multinomial logit model was used to identify any relationships between cluster membership and the explanatory variables. These variables consisted of several demographic and socio-economic variables, recycling behaviors, and respondent recycling behaviors and beliefs.

Price conscious consumers tended to spend less on horticultural products and plants and *vice versa*. Increased spending on plants and horticultural products resulted in consumers who were less likely to be price conscious. If the consumer always bought plants in plastic containers, they were 20% less likely to be price conscious compared to consumers who never bought plants in plastic containers.

Interestingly, ethnicity only mattered in the case of straw pots. If the consumer was Caucasian, they were 10% more likely to dislike straw pots and if they were African-American, they were 33% more probable to like straw

pots compared to other ethnic groups.

If the consumer indicated that they had heard of the term sustainability, they were 12.5% less likely to be price conscious compared to consumers that were not sure they had heard the term. Also, consumers who expressed an interest in buying conventional bedding plants were 4.4% more likely to be price conscious.

Consumers who expressed interest in purchasing plants grown with organic fertilizers were 2% less likely to be in segment #5 (sensitive to carbon footprint and container type). However, consumers who expressed an interest in plants grown in energy efficient greenhouses were about 2% more likely to be in segment #5.

If consumers indicated they check to see if the package was recyclable when buying (about 24% of respondents), they were 10% more likely to be price conscious and 13% less likely to like straw pots.

When consumers expressed that recycling pots was more important than if they are biodegradable, they were 6% less likely to be price conscious and 6% more likely to like straw pots.

When asked how often they recycled the plastic pots when they bought plants, 14% indicated that they always did,

13% indicated they usually did, and 13% said they sometimes did.

Fewer consumers indicated that they recycle plastic plant tags, with 6% saying they always do, 7% usually do, and 13% sometimes do. When they usually recycle the tags, they were 21% less likely to like straw pots and 27% more likely to be price conscious.

IMPACT TO THE INDUSTRY

Through intelligent packaging and system design, it is possible to “design out” the potential negative impact of potted flowering plant packaging on the environment and society. In this case, the prominent amount of plastic produced as requisite to the greenhouse industry.

Industry participants can utilize these findings in marketing biodegradable options to specific consumer segments identified.

This research will greatly benefit the floral consumer by ensuring that environmentally-friendly products marketed to them in the future truly meet their “sustainability” needs and/or expectations.

2009 © Copyright The American Floral Endowment. All Rights Reserved
For additional information, contact chall@ag.tamu.edu.

