

# Special Research Report # 702: Public Benefits

## The Appeal of Biodegradable Packaging to Floral Consumers: Part 2

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### 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, Minnesota, and Texas. For this study, we consulted with industry experts in order to identify attributes and their corresponding levels that were considered to be environmentally important to consumers, while controlling for other attributes considered less important. 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 respondents into clusters or market segments. "Segments" are groups of consumers who are more alike within a group and quite different between groups.

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

**Table 1. Relative importance of factors making up the buying decision for potted flowering plants.**

Attribute	Relative importance
Product Price	24.3%
Container type	33.3%
Waste composition	19.0%
Carbon footprint	23.4%

For all survey respondents, the single most important factor influencing the buying decision was container type, followed by price, carbon footprint, and waste composition, respectively. While these results were true for all respondents, we were able to segment consumers into seven distinct clusters:

1. Those who were extremely **price conscious** (13% of the population) where price made up slightly more than half (55%) of the overall buying decision.
2. Those who demonstrated **environmentally conscious behaviors** (10%) and were sensitive to carbon footprint, but still cognizant of price.
3. Those who were **extremely sensitive to the carbon footprint** label (only 4% of the population). A small segment, but one in which carbon footprint made up slightly more than half of the buying decision (53%).

4. Those who demonstrated a **strong liking to the straw pot** (8% of the population). In this segment, container type made up almost 50% of the buying decision.
5. Those who demonstrated a **strong liking to the rice hull pot** (20% of the population). In this segment, container type made up almost 41% of the buying decision.
6. Those who demonstrated a **strong disliking to the straw pot** (8% of the population). A small group, but container type was very important to them (comprising almost 52% of the buying decision).
7. Those who were **non-discriminating in their preferences** (37% of the population). For this catch-all segment, 23% of the buying decision was based on carbon footprint, 24% was based on price, and 32% was based on container type.

## 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 both the environment and society – in this case, the prominent amount of plastic produced as requisite to the greenhouse industry.

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

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

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**Segments of consumers**

