



# What Are Growers Doing About Sustainability?

Growers are willing to implement some sustainable practices into production, but they aren't as sure about others.

by **ROBERTO LOPEZ, JENNIFER DENNIS, BRIDGET BEHE, CHARLIE HALL, CHENGYAN YUE** and **BEN CAMPBELL**

**C**ONSUMER and market interest in green, environmentally friendly, organic, local and sustainable products has encouraged much discussion and debate about sustainable production practices and certification in the commercial floriculture industry. Many ask: "What is sustainable production and why should I become certified?"

Depending on who you ask, you will get a variety of opinions and answers. Broadly defined, the goal of sustainable production is to reduce environmental degradation; maintain, enhance agricultural productivity and profitability; promote economic viability; conserve resources and energy; and maintain stable communities and quality of life.

As we all know, the floriculture industry is not alone when it comes to selling ornamental plants. It is part of the collective \$148 billion green industry that includes nursery and greenhouse producers and landscape service providers, as well as wholesale and retail distributors. Therefore, it is important for us to determine what the entire green industry is doing in terms of sustainability.

## The Questionnaire

In order to determine this, we developed a questionnaire that was distributed to about 1,000 greenhouse and nursery operations across the United States. The objectives of the survey were to create a benchmark of the current and future sustainable production practices of greenhouse and

nursery producers, their future plans and to determine if differences exist based on attitudes and perceived obstacles by income, grower type and business classification.

By examining producer differences, marketers and suppliers may have a better idea which growers would be more likely to adopt the alternative methods and which impediments dissuade businesses to not adopt sustainable production practices or certification.

## Grower & Operation Demographics

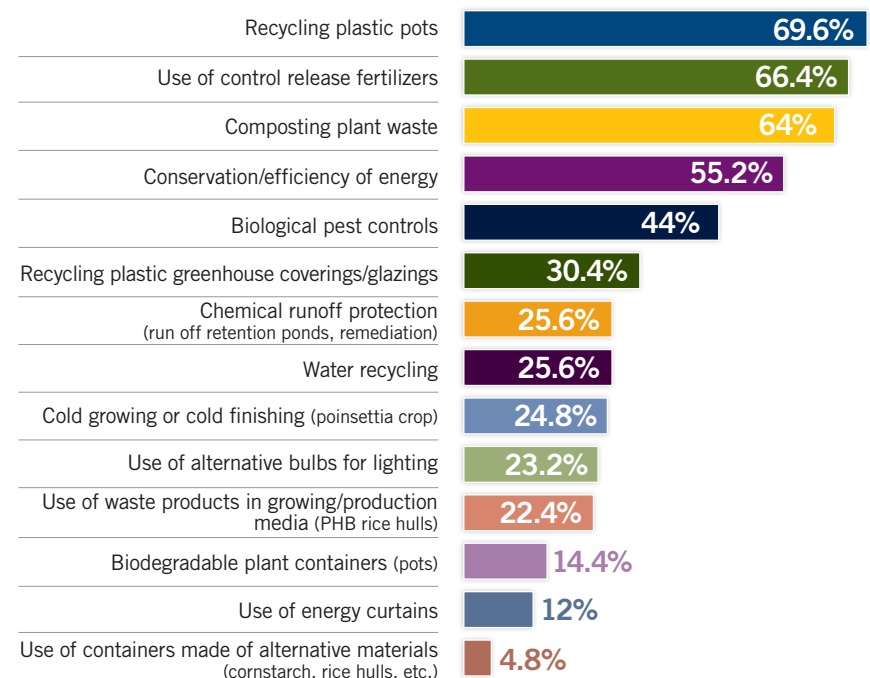
Florida (16.8 percent) had the highest percentage of survey returns followed by California (10.4 percent), Pennsylvania (8.8 percent), North Carolina (8.9 percent), Texas

## About The Series

What, if anything, makes biodegradable containers attractive to consumers? Researchers share details from their container study in the Demand For Sustainability series.

- Part 1:** Consumer willingness to pay for biodegradable containers (January)
- Part 2:** Producer sustainability adoption rates (February)
- Part 3:** Floral consumer recycling behaviors (March)
- Part 4:** Container style preferences (April)
- Part 5:** Levels of interest in local/organic plants (May)

**Figure 1. Growers were asked to indicate all the sustainable practices they currently had in place.**



(5.6 percent) and New York (5.6 percent), thus showing appropriate representation from key green industry production areas.

Survey respondents' average total square footage and covered production area were 515,822 and 120,536 square feet, respectively. The average uncovered production area was 474,674 square feet.

Fewer than half (46.6 percent) of re-

spondents reported gross income less than or equal to \$99,999, with the second largest category (14.4 percent) reported as gross sales between \$100,000 and \$249,999 showing a large portion of green industry businesses were small based on income.

The majority of respondents classified themselves as growing shrubs and woody ornamentals (36.8 percent) followed by

container perennials (14.8 percent) and bedding plants (10.9 percent). Based on income reported, the largest percentage of sales by customer group was to cash-and-carry customers (34.3 percent), followed by landscape service providers (18.1 percent). Survey respondents were equally classified as retailers (22.4 percent), wholesalers (18.4 percent), growers (22.4 percent) or some combination (28.8 percent).



**Take a close look  
at PBH.**

**Discover the best rice hulls  
in the business.**

- Improved processing verifies cleanliness, consistency
- Independently tested for purity
- University researched, greenhouse proven
- Optimum porosity, drainage
- Non-dusty material
- Naturally renewable resource
- Lower basic cost than perlite



**870-673-5575**  
[www.riceland.com](http://www.riceland.com)

**Don't settle for less. Ask for PBH by name.**

PBH Nature's Media Amendment is a product of Riceland Foods, Inc. 

### Current & Future Sustainable Production Practices

We asked respondents about their views of sustainability, practices used in their businesses and practices they wanted to implement in the future. Most survey respondents stated the two most common definitions of sustainability were "minimal or no negative impact on the environment," as well as "going green" as it relates to conservation of water, land and resources.

Respondents were asked to check a list of sustainable production practices that were already being implemented in their operations. The most widely used practices included: recycling plastic pots (69.6 percent), use of controlled-release fertilizers (66.4 percent), composting plant waste (64.0 percent), conservation/efficiency of energy (55.2 percent), use of biological pest controls (44.0 percent), recycling plastic greenhouse coverings/glazings (30.4 percent) and water recycling and chemical runoff protection (25.4 percent).

Survey respondents were also asked which practices their companies planned to implement in one to three years. These included (in order of frequency): biodegradable plant containers (12.0 percent), irrigation water conservation measures (12.0 percent), wind as an alternative/supplemental energy source (9.6 percent) and sun as an alternative/supplemental energy source (9.6 percent). All of the respondents stated their operation was not certified sustainable. However, one in four (25.8 percent) were interested in becoming certified.

### Green Industry Opinions About Sustainability

We asked respondents to state how they felt about sustainability using a 5-point Likert scale with 1 equaling "strongly disagree" and 5 equaling "strongly agree." Overall, respondents had a neutral opin-

ion about most statements but had the highest agreement rating (3.9) regarding “people in my company value sustainable horticulture practices.” Respondents had the lowest rating (2.6) regarding “my state has strict water regulations that affect my company’s production practices.”

We also asked respondents to indicate the biggest obstacles that would affect the adoption of sustainable production practices. On a scale of 1 equaling “small obstacle” to 10 equaling “biggest obstacle,” respondents rated other factors such as “unavailability of biodegradable pots” and the “economy” as the biggest obstacles (8.0), followed by “inadequate financing to change to sustainable production practices” (7.0) and “little incentive to growers to convert to sustainable practices” (6.8). The smallest obstacle was based on “customers not valuing sustainability” (4.6).

### Green Industry Attitudes By Percentage Crop Grown

We asked respondents to identify the percentage of crops grown in their operations, which was later categorized into four categories based on a 70-percent classification or higher into: nursery only, greenhouse only and greenhouse/nursery. We then separated their attitudes and biggest obstacles toward sustainability based on each group.

Grower groups varied on where they placed the highest importance on attitudes about sustainability based on a 1 (1 equaling strongly disagree) to 5 (5 equaling strongly agree) scale. For example, the greenhouse-only group placed the highest importance rating (3.8) on “the amount of energy used by our company is a concern to the business” and “people in my company value sustainability.”

Based on a scale of 1 equaling “small obstacle” to 10 equaling “biggest obstacle,” all groups stated that “inadequate cash flow to change to more sustainable production practices” and “little incentive to convert via tax credits or federal grants to sustainability” were the two biggest obstacles in switching to sustainable practices. The greenhouse-only group rated these two items the highest as obstacles as shown by the mean ratings for cash flow (7.0) and little incentive to convert (8.8).

Although respondents agree on the big-

gest obstacles facing conversion to sustainable practices, two obstacles significantly varied by group: “Insufficient knowledge of potential financial effects of sustainable practices on the business” was a higher obstacle for the greenhouse-only group (6.8) than the greenhouse/nursery group (5.9). The greenhouse/nursery group (5.2) thought “some sustainable production

practices were not compatible with existing systems of production.” Thus, making it an obstacle was a medium concern compared to the greenhouse-only group (1.5), which thought it was of minimal concern.

### Green Industry Business Classification

Finally, growers were asked to classify themselves as retailers, wholesalers, grow-





**AquaSav™**  
Coco Liners

U.S. Patent 6,789,355  
and 7,621,075



**PRIDE**  
GARDEN  
PRODUCTS

Fresh water is our planet’s most precious resource and an essential part of our industry. AquaSav™ coco liners save millions of gallons of water every day, enabling growers, retailers, and consumers to reduce their environmental footprint while still producing and enjoying beautiful, healthy plants.

To learn more about AquaSav™ coco liners and containers, please call 1-866-304-2626 or visit us at [www.AquaSav.com](http://www.AquaSav.com).



# GRO MOR<sup>®</sup>

Watch our seeders in operation at [www.gro-morent.com](http://www.gro-morent.com)



## VIBRO HAND SEEDER<sup>®</sup> Model VHS - 1

\$55.00 U.S.  
Plus \$17.00 S&H

Model  
TM-1 \$598.00 plus S&H  
Call for ship quote

TM-2 \$275.00 plus  
\$17.00 S&H  
Vacuum Adaptor  
Package.

TM-3 \$389.00 plus  
\$17.00 S&H  
Venturi Pump  
Package.



## Gro Mor Wand Seeder<sup>®</sup>



Fast Reliable Plug Removal

## PLUG PUSHER<sup>™</sup>

## PLUG PUSHER<sup>™</sup> Model PP-1

Available in 512 PT, 384,  
406, 392, 288, 200, 128  
& custom sizes.

\$38.00 U.S. plus \$17.00 S&H

Box 44, Adams, MA 01220 Phone (413) 743-2064 Fax (413) 743-2935  
e-mail [gromor@verizon.net](mailto:gromor@verizon.net) web [www.gro-morent.com](http://www.gro-morent.com)



PLANT TISSUE CULTURE LINERS

**Perennials • Grasses  
Ferns • Foliage  
Carnivorous • Aquatics**



19825 SR 44 • Eustis, FL 32736  
352-589-8055 • [www.ag3inc.com](http://www.ag3inc.com)

## Profit Center Special Series

ers or combined. Four categories were created based on their percentage allocation of 70 percent or higher into retailers only, wholesaler only, growers only and combined. Attitudes about "the amount of energy used by our company is a concern" were different for retailers (3.2/5.0) and growers (4.0/5.0), with growers having the highest concern about energy. Wholesalers saw the issue of customer sustainability – "our customers value sustainable practices" – as a bigger obstacle than retailers (6.3/10.0), whereas the retailer group stated it was a small obstacle (3.2/10.0).

Our results show operation size and customer type may influence an operation's motivation for engaging in sustainable activities now and in the future. Past Purdue research shows that smaller operations in floriculture were more willing to adopt sustainable practices, but size alone was not the only predictor. Positive attitudes toward sustainability, as well as the grower's ease of implementation and perceived level of production risk, also played a role in adoption.

Operations within the green industry have different concerns that may affect their perceived value of risk to implement sustainable production practices. Each segment of the industry will have different issues that will affect their perceived risk and ease of implementation for sustainability.

Interestingly, none of the green industry respondents in this survey were sustainably certified, but at least one quarter (25.8 percent) was interested in certification sometime in the future. The lack of certified firms could be due to the size of the operations surveyed because past research shows large greenhouse growers have more incentive to become certified sustainable. In a 2008 survey, 38 percent of floriculture producers were interested in certification, with 60 percent and 21 percent having heard of VeriFlora and MPS, respectively. **GG**

**About the authors:** Roberto Lopez is an assistant professor and floriculture Extension specialist at Purdue University; Jennifer Dennis is an associate professor at Purdue University; Bridget Behe is a professor at Michigan State University; Charlie Hall is a professor and Ellison Chair in International Floriculture at Texas A&M University; Chengyan Yue is an assistant professor and Bachman Chair in Horticultural Marketing at the University of Minnesota; Benjamin L. Campbell is a research scientist at the Vineland Research and Innovation Centre.