

GROWERTALKS

Features

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Container Ecology

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The conundrum of the horticulture container is that it must be so many things. It fills the role of consumer packaging, production receptacle, transportation container, and it can also be the most obvious waste product our industry produces.

In the last decade, as the horticulture industry has struggled to create inspiring packages and more recently, to appeal to the eco sensibility of consumers, a flurry of material options have emerged in the container manufacturing world. You're now faced with recycled content, recyclable, bioresins, biofibers, biodegradable, compostable (yes, there's a difference), plantable and the list goes on. If you visit any trade show, you'll find folks flocked around the booths, goggling over the latest options—be it color-printed plastic pots, a fancy moss basket or the latest “eco”-tainer.

All this elicits the inevitable question: Which one? Well, it depends. They all have strengths, weaknesses and conditions in which they make the most sense. The short response to an unanswerable question is that you'll probably need to make decisions on four levels: environmental concerns, marketing, production logistics and economics. Your business philosophy, your customer and their customers will all figure into how heavily you weight each of these components.

The survey

Before you start researching specific products, evaluate your needs.

- Production environment. Do you grow on the ground or on benches, in the greenhouse or outdoors? What's the irrigation environment (flood, drip, overhead)? Will you be limited by or benefit from a container that dries out quickly? Do you have automation with which the container should be compatible?
- Crop length. How long do you need these containers to hold up—in your facility, at retail, at the consumer level?
- Reuse. Are you interested in containers that you can reuse? If so, do you have a system set up to collect, clean and store these second-hand containers?
- Recycle. Can you recycle? Do you want to recycle?

- What do your customers want? Ask them. Some retailers may hone in on the slick packaging of a printable pot while others may prefer the aesthetics and environmental message of a simple biodegradable pot. Landscapers may want a plantable pot. What's important to them?
- Communication. The benefits of some of these containers can be lost if their attributes aren't communicated to the end user. Are you or your customers capable of passing the information down or enabling the end customer to recycle, reuse, plant, compost or otherwise handle the container?
- Ideals. Finally, there's the question of how important this "package" is to the identity of your business? What do you want it to convey about your product? How do you want it to add value? How important is the material it's made of?

Questions for your supplier

Based on the above questions, you should begin to get an idea of what you're looking for and what questions you'll need to ask potential suppliers.

These might include:

- What's the lifespan in the warehouse and in production?
- How will it affect my growing regime (especially moisture management)?
- Automation compatibility?
- Cost?
- Lifecycle? (See sidebar for more information.)

Bioresins

Want the attributes of plastic without the petroleum base? Look into containers made from bioresins. They may be derived from renewable resources such as corn, rice hulls, wheat and so on. The plastics industry has seen the technology of bioresins boom, particularly in the face of last year's skyrocketing petroleum prices. Last year, for example, we saw Ball partner with Summit Plastic to work on bioresins for packaging products. While some growers have gravitated toward the idea of a corn-based pot, for instance, others feel that some of the bioresin input materials may also prove to be unstable in price and availability.

The misc.

It's a shame to lump these under the "other" category, but these days you can find everything from containers made from your standard fiber and peat to those composed of cow manure, the waste cellulose of sugar cane and straw. Each has different properties and attributes. Some, for example are plantable; others degrade in the compost pile. Some utilize waste products, while others don't. So keep those initial questions and life cycle issues top of mind as you look at different options.

Speaking of which, this is a lexicon you'll need to familiarize yourself with:

Biodegradable: This simply means naturally occurring microorganisms will break down a container over an unspecified amount of time. Under this classification however, it's permissible for the waste to contain toxins. (Compostable, thus, is the level you're looking for if it's going into the compost pile and back onto a vegetable garden, for instance.)

Compostable: Like biodegradable, the container needs to break down under the influence of

naturally occurring microorganisms. However, it must break down into carbon dioxide, water and biomass that isn't considered toxic, and it must degrade at the same rate as paper. The resulting compost must be able to support plant growth.

Degradeable: The container undergoes a significant change in chemical structure. However, there's no requirement that it has to degrade under the action of "naturally occurring microorganisms" or any specification on any toxic residues.

As with recycling, the degradable benefits of such a container depend on educating and enabling the end user to "do the right thing" with it.

Plastic recycling

A number of container manufacturers stress that they've been utilizing recycled content for some time; they just haven't been promoting it. Likewise, we're starting to see more of them put recycling information on the pot itself. Remember, a product can contain "recycled content" and/or it can be recyclable. The pros of recycling plastic containers include the possibility of creating a closed-loop system in which you no longer use virgin plastic. Ideally, you have a product whose material has an infinite lifespan. The flipside is, of course, that recycling also requires energy and resources. The big if in the case of recycling, though, is that the end user needs to put that container into the recycling stream. Without a system and instruction, such a container could very well end up in the landfill.

That leads us to how to recycle containers. Our e-mail newsletter, GreenTalks, has published the accounts of numerous growers, retailers and organizations that have set up collection centers. Some have had great success collecting pots at their greenhouse—often reusing whatever they can—and then finding a recycling company or manufacturer who will take the rest for recycling. A few things to keep in mind: You definitely need to at least knock the dirt out of the pots, as it can contaminate the plastic as they grind it up and reprocess it. You may need to sort out trays and pots by the type of plastic, such as #2, #5 or #6.

Beware that more than one grower who's offered to take back pots from customers has ended up with a buffet of containers, many of which come from other operations, making the sorting/reusing process a headache. While one grower wrote in to tell us the recycling was a big mistake from this perspective, others have found it to be positive. Loma Vista Nursery, Ottawa, Kansas, collects (and accepts on-site dropoffs, as well) containers and trays from their customers. They've even built receptacle bins on pallets to drop off at their retail customers for consumer-level collection. They use a recycling company in St. Louis, who picks up the containers as well as their greenhouse poly. "The one thing I can't stress enough is the reaction we get from people. I think everyone cringed at the amount of waste they were creating, but didn't have an alternative readily available," says Caitlin Hupp, marketing director.

A few notable organizations that have the recycling program dialed in include the Missouri Botanical Garden and the Minnesota Nursery and Landscape Association. On the manufacturer side, East Jordan Plastics is one of the manufacturers who's been testing out retrieving used containers from their grower customers with great success. You'll find a list of recycling resources (including those mentioned) at www.growertalks.com/archive/articles/2652.asp. Also check with your local recycling companies to see if they'll take horticultural plastics.

Reuse

When it comes to saving money, reusing containers can save the day. A recycling program can easily lend itself to allowing you to reuse containers as well, particularly with crops that have short turns. Just make sure to account for the labor to sort and clean the containers. Likely, you'll want to sanitize pots and trays to avoid disease problems.

Grower Walter Gabrielsen, for example, put a 5-cent return deposit label on each of his branded pots. In three years, they've collected more than a quarter of a million pots from gardeners. Last year, he says, they didn't have to purchase a single 5-in. round pot.

In the end, the container conundrum is about researching your options. Listen to your suppliers and ask them lots of questions. While it needs to fit with your wallet and your flat filler, don't forget that in the consumer's eye, the pot is the package.

Lifecycle Analysis

If you want to evaluate the sustainable aspect of a product, a common tool companies in all industries have begun to use is the lifecycle analysis. In simple terms, it's a transparent view of what goes into making and consuming a product and the waste created in the process. While other industries also attach a carbon footprint to this analysis, we haven't seen this data in relation to horticultural containers yet. This lifecycle analysis should give you the big-picture view of the resources needed to create a product, and if you read into it a bit, you'll also see where price fluctuations and availability might be affected by factors such as oil prices or demand for raw materials. Don't be afraid to ask your supplier (of any product) to provide this life cycle analysis. Here's what it typically includes:

- Raw materials that go into the production process (details will also include whether these are renewable or recycled resources, where they come from, etc.).
- The energy used to produce the product.
- Waste generated during production.
- Where the product is made and the transportation used to get it to market.
- Lifespan of the product.
- What happens at the end of the lifecycle (landfill, recycled, biodegradable).