

Culture Notes

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Bio Pots: How They Stack Up Against Plastic

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ELLEPOT

GROWER: DENNIS MOBLEY | Mobley Plant Farm | Dacula, Georgia

Potting Mix: It took Mobley Plant Farm some time to figure out what type of potting mix the specialized Ellepot machine would and wouldn't accept, finally realizing that too much bark was a recipe for disaster. They are now using a 10% bark mix; anything higher and the machine won't make an Ellepot. "It took us about two months to figure out, but now, five years later, we haven't had a problem since," says Dennis Mobley.

Crop Timing: The first time Dennis trialed the Ellepot, he filled half of his greenhouse with 700 flats of True Blue pansies in Ellepots, and the other half with 700 flats of True Blue in plastic. Normally True Blue takes about seven to eight weeks in a 288 plastic flat. Mobley's Ellepots were ready in four to five weeks. "You'll cut your crop time on the bench by almost one third," Mobley says. "I didn't have the money to expand my business too much, and I thought, how can I turn these houses quicker? It's amazing what you can do with Ellepots; the airflow around the pot makes them root faster."

Irrigation: If there is a down side, Mobley says, it's that Ellepots take a little more water because the pot dries out faster. But that's not as bad as it sounds, he's quick to point out. "Ellepots won't stay wet for days," Mobley says. If you don't have the sun out and you're in a regular plastic pot, it's going to be a while before that plant needs some water again. It's a situation that can cause disease. With the Ellepot and the fans running, that pot will dry out anyway."

Nutrition: Because Ellepots dry more quickly, Mobley finds he can fertilize more often for crops he needs to push out the door for his customers. "Being able to have the opportunity to fertilize a crop that's drying is a lot better than waiting on it for two or three or four days," Mobley says. "If you put more water on a plastic pot and it's already wet, you're going to have root problems."

Price: Mobley says he's run the numbers many times, seeing if plastic or Ellepots are more cost effective. He concludes that money-wise, it's a wash, but there are lots of advantages—using less plastic, growing faster, turning the greenhouse faster. And for the landscapers who buy his

product, planting Ellepots directly into the ground is a time saver—about 35% faster. Plus they don't have to worry about disposing of or recycling the plastic pots.

FERTIL POTS

GROWER: **STEVE USSERY** | Iwasaki brothers | Hillsboro, Oregon

Iwasaki Brothers uses Fertil pots made of biodegradable wood fibers (primarily spruce) and without the use of additional binders. Steve had been looking for an OMRI-listed (Organic Materials Review Institute) container for its line of organic herbs and vegetables, and Fertil's organic DOT Pot filled the bill.

Trays: Since Fertil doesn't make a tray for its pots, Steve had to find a plastic manufacturer with trays that would fit his different sizes of pots, but would also provide the airflow needed to air prune the roots. Another consideration was a tray that could help keep the DOT Pot's shape. "When Fertil pots are moist they tend to lose a portion of their integrity," Steve says. This poses a problem when the tray requires the pot to be removed by grabbing its lip.

Irrigation: Similar to the Ellepots, Fertil pots dry out more quickly. "Because the sides of the pots are ideally exposed to air circulation, they are going to lose water at a faster rate than a plastic pot," Steve says. He adds that this isn't such a bad thing; this makes it difficult to overwater the crop. "You can water the heck out of them and that's not going to significantly affect the crop."

Nutrition: Steve hasn't seen a difference between fertility when growing in plastic versus the Fertil pot.

Handling: Steve points out that there are two retail-related handling considerations with Fertil pots that plastic pots don't encounter. First, if the Fertil pots are displayed at retail in a tray that promotes air circulation, those pots will continue to dry out at an even faster rate than in the greenhouse. The retailer needs to be aware of this so the plants don't dry too severely. The Fertil pot's integrity also requires some stabilization so it doesn't come undone when the customer picks up the pot. "Because of that, we put a PLA sleeve on our pots; that provides a handle for the consumer, and it also provides information on planting and plant care," Steve says. They put the sleeve on when the pots ship out. "It covers the outside of the pot, so we no longer have that evaporation from the pot surface," he adds. Once that sleeve goes on, the roots aren't pruned by the air and they begin to come out through the pot. "The consumer can see the nice white roots growing out. It just looks like a healthy plant."

RICE HULLS POTS

GROWER: **PAUL TROUTMAN** | Cascade Cuts | Bellingham, Washington

Trays: Paul Troutman was one of the first growers to use the Circle of Life brand of rice hull pots when they were introduced in 2005. He learned quickly that one of the big differences between rice hull and plastic pots was in choosing the appropriate tray. He had been using the 4-

in. round pot with Dillen's 15-count shuttle tray; the pot seemed to fit nicely with little tolerance as a plastic pot would. As the plants grew and the pots swelled, the pots stuck in the tray. Learning from that lesson, Cascade Cuts is now using a pot and shuttle tray combination that allows more tolerance and sticking is no longer an issue. (The Circle of Life rice hull pots and corresponding trays have since been redesigned to make sure they work together without issue.)

Irrigation: As with the other bio pots, rice hull pots also lose water more quickly than plastic. "It's dries about 25% faster," Paul says. "This could become an issue for retailers, as well; they need to be able to stay on top of that loss." Cascade Cuts grows them side by side with crops in plastic and "we haven't altered anything we do at all; it hasn't been a problem at all."

Crop Timing: According to Paul, crop timing for rice hull pots is in sync with traditional plastic pots. "I haven't really noticed any timing difference with production," he says. "We grow violas side by side in rice hull and plastic, and I haven't noticed a difference at all."

STRAWPOTS

GROWER: **HENRY MARTINEZ** | Ivy Acres | Claverton, New York

On a visit to Sri Lanka, Jack Van de Wetering of Ivy Acres was inspired by the straw mats he saw to develop a biodegradable pot from the same materials. Today, StrawPots are a sustainable alternative growing container.

Soil: According to Ivy Acres' head grower Henry Martinez, the soil preparation for the StrawPot is exactly the same as growing in plastic. Filling the pots, however, is slightly different. "There's a little more labor involved putting the pots into the flats, but other than that, there's no difference," Henry says. "We put the pots in the flats manually before they go into the line." The pots are placed into 6- or 8-unit carry packs, and those packs are then placed onto a production flat. At this stage, there's also an optional galvanized 18-gauge sheet metal cover that you place over the pots as the tray goes through the filling machine; holes in the cover allow soil to fill the pots and prevents soil from filtering down into the tray. With a set of five covers, you can remove and reinsert the covers to keep the production line moving.

Irrigation: "From the filling line, the pots and trays go through a water tunnel to wet the soil before transplanting," Henry says. The pots will dry out somewhat more quickly than growing in plastic, Henry cautions, and advises learning how to adjust when first growing in StrawPots. **Planting and Timing:** Transplant three plugs into each pot, making sure each plug has buds, Henry says. This helps turn the crop within three weeks.

Nutrition: Henry keeps his StrawPot crops on the same fertility regimen that he uses for crops grown in plastic.