



Blackmore-EllepotUSA revolutionizes nut, fruit tree propagation and planting

Sierra Gold Nurseries was founded as a bare-root fruit and nut tree propagator in 1951 in Yuba City, Calif. The company now produces both bare-root and containerized trees. Most of the millions of trees produced annually are shipped to nut and fruit growers in California, Washington and Oregon. Some of the trees are sold to growers in the Mountain States and along the East Coast. Most of the trees are produced as 1-year-old trees. The majority of containerized trees are sold in ½- to 1-gallon containers.

Challenge

Sierra Gold Nurseries vice president Cliff Beumel said five years ago Sierra Gold Nurseries produced all of its trees as bare root. During the last four years the nursery has doubled its containerized production every year.

"We were a 100 percent bare root nursery five to six years ago and then we started using the conventional pots that most growers were using," Beumel said. "About four years ago we graduated into being interested in root pruning pots."



Solution

Beumel said Sierra Gold Nurseries took its plants to the next level by moving into Ellepots and putting them in Ellepot trays to do root pruning.

"The entire evolution was a natural outgrowth of being preoccupied with roots, root structure and plant health," he said. "It was simple pots, complex pots and then Ellepots."

"We use Ellepots for a lot of different purposes and different stages. We have been planting product in our nursery in Ellepots for six years. We have been using over 1 million Ellepots per year for different stages of propagation for four years. For the last three to four years we have been delivering product to our customers in Ellepots of various sizes. We use 10 different sizes of Ellepots, from 23 millimeters wide by 40 millimeters deep all the way up to 100 millimeters wide by 240 millimeters deep. Ellepots are becoming a greater percentage of what we ship directly to our customers. Within three to five years we hope to be delivering every containerized tree in some form of an Ellepot."

Beumel said in order to take advantage of the benefits offered by Ellepots they need to be paired with the right trays. Blackmore-EllepotUSA has collaborated with Proptek, a company that specializes in the manufacturing of plant propagation trays and containers.

"Ellepots can only have marginal benefits if they're put in the wrong trays or wrong holders," Beumel said. "Combining Ellepots with the right trays provides root pruning and good air penetration. It makes all the difference. If you're not thinking about what trays or holders you're putting Ellepots in, then you're not really getting the maximum benefits of using Ellepots."

Blackmore-EllepotUSA and Proptek have worked with Sierra Gold Nurseries to design an Ellepot and tray system.

"This was probably the biggest hurdle for using Ellepots," Beumel said. "The progress over the last five years has been really good. The injected molded trays we are using have vertical and semi-vertical surfaces that provide a lot of air along the sides of the cells. The tree roots grow out of the Ellepots and then are air pruned."



Benefits

Beumel said when the company began to incorporate Ellepots into its production that no changes had to be made to the growing mix it was using. The company is making its own Ellepots.

"We did not have to change our mix to take advantage of the Ellepots," he said. "The plants root so quickly in the Ellepots. There are thousands of roots and root tips that hold the Ellepots together. All we have to do is place the Ellepots in the trays and get the plants growing in them. The plants' roots do all the work of holding the Ellepots together much more quickly than in conventional plug trays or pots."

Beumel said rooting the trees in Ellepots has enabled the company to use drip irrigation, which improves the efficiency of water and fertilizer usage.

"Ellepots have allowed us to become better stewards of the environment since we are limiting runoff," he said. "Using Ellepots with our growing media, it only takes one drip tube per pot to get thorough wetting. Besides the water and fertilizer savings, the production cycle is shorter. The trees are able to grow faster."

A major benefit of healthier roots and plants is being able to cut production time and being able to ship sooner.

"For us it's an ability to grow trees in a greenhouse for two months that other growers hold for 15 months in a field nursery before their trees are ready to ship," Beumel said. "We were able to drastically reduce the production time to two to three months from the time of sticking. The rapid root development in Ellepots allowed the plants to grow much more quickly. This enabled our customers to transplant growing trees into their fields where the trees continued to grow and thrive.

"In plastic pots or poly sleeves, there are losses and stunting because of transplant shock. It wasn't just a case of shaving off a few weeks of production time. It was actually transforming and revolutionizing the entire supply chain of some trees."

Beumel said Ellepots have been able to change the timing of when growers have to transplant their trees.



"By producing the trees in Ellepots growers can transplant their orchards at radically different times than they ever imagined," he said. "It's a transformation, not a slight incremental change. We see orchards planted here in the U.S. usually once a year, in winter and spring. We have done trials using Ellepots where we could see growers being able to plant at two to three different times during the year to establish their orchards. It will change things radically not incrementally."

Beumel said trees in Ellepots are easier for his customers to plant because they don't have to deal with all of the containers. "We send the Ellepots consolidated in flats," he said. "The plants in the Ellepots are loose in the trays so they're ready to go into the ground. Growers don't have to be concerned with cutting a bag or pot away from the root ball in order to plant them."

Beumel said one of the major benefits of using Ellepots is the improvements in plant quality and uniformity. "For any tree crop, whether it is nuts or fruit, uniformity is absolutely essential for the economics to work," he said. "Any time an orchard doesn't start out uniform, for whatever reason, and regardless the size of the nursery, it is a major economic hit to the grower. That is the first place that a grower is going to lose money, if the orchard starts out highly variable with some plants dying, some plants growing slow and some growing fast. The last thing a grower needs is to start with a nonuniform orchard because the grower is going to have other factors that will impact the orchard over its lifetime, such as weather events and crop prices. Starting the plants in Ellepots, the likelihood of uniformity is much higher across all tree types and all rootstocks."



Another benefit that Beumel has seen with the Ellepots is the ability to ship trees during any season regardless of the weather conditions. "We can ship products that typically can't be shipped because they are actively growing," he said. "We don't have to be concerned as much with transplant shock. That offers tremendous flexibility. And of course, we can ship earlier because the plants are ready to be transplanted. Pulling an equivalent age plant out of a black plastic pot, the root ball often falls apart because of inadequate rooting. Often we would have to wait another two to three months before a plant like this could be removed from its plastic pot.

"Plants in Ellepots also remain at a higher level of quality if they have to be held longer than when held in an equivalent size plastic container. The plants don't degrade as quickly. It all goes back to root pruning and the ability to continue to produce roots in the Ellepots."

Growing in the Ellepots also makes it possible to ship in the Ellepots thus making it possible for Sierra Gold to eventually ship all of their trees without the plastic pot. This saves a lot of unnecessary transportation cost and it ensures that all the growing containers stays at the greenhouse and never leaves the company.

Quote

The trees grown in Ellepots are able to go into our customers' fields at an earlier stage," said Cliff Beumel, Sierra Gold Nurseries vice president. "Growers can plant earlier than they used to, at the same time or later. Ellepots give them much more flexibility than trees grown in plastic pots or poly sleeves."

For more information
Sierra Gold Nurseries
T: +1 (800) 243-4653
T: +1 (530) 674-1145
www.sierragoldtrees.com

Ellepot USA
www.ellepot-usa.com

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