

Small Trees Make a Forest

By Craig Reed

Fourteen million seedlings were all in the ground and growing this past year at the 261-acre D.L. Phipps State Forest Nursery in the Coast Range near Elkton.

Seven million 2-year-old seedlings were due to be harvested this winter, and planted throughout the state this spring. The other 7 million were 1-year-old seedlings. They were scheduled for harvesting and planting the following winter and spring.

Growing millions of trees has been a constant for the state nursery through the years. But as veteran Oregonians know, there is nothing constant about the state's weather.

Back on October 31, the temperature at the nursery dipped to 16 degrees. The thermometer dropped to 17 on each of the next two days, before there was a warming trend.

As a result of that cold spell, millions less trees at Oregon's only state-owned forest nursery were harvested and processed in January and February for spring planting.

The harvest totaled 10 days. During mild weather conditions it's a 35-day process.

"Severe early freezes such as this inflict at least some damage on plants at all nurseries," says Harry Brown, manager of the Phipps nursery. "Some damage is apparent soon after the incident. Other damage takes time to show, and some damage may not be apparent until the following May or June, after out planting. We will not risk a customer planting dead trees, or trees that will not survive."

The nursery put off the beginning of its seedling harvest for a month, until the second week in January, so there would be more time for the 18- to 30-inch-tall

State Nursery plans to bounce back after frost damages trees



Juanita Dickson of Oakland, puts bundles of seedlings on a circulating table where a saw cut the ends off the root.

trees to show any damage, so they could be culled.

Brown estimates that of the nursery's 14 million seedlings, "about 75 percent of mostly Douglas fir were either injured or killed by the October frost."

As a result, this year's harvest at the nursery amounted to only about 1.5 million 2-year-old seedlings. Those trees were noble fir, pines, Englemann spruce and true firs that are acclimated for colder and drier climates.

"They are genetically programmed to set their buds early, so they can survive the extreme temperatures common to their provenance," says Harry. "Predictably,

they suffered no damage in this freeze."

Suffering the most were westside Douglas fir, western hemlock, western red cedar and Sitka spruce, all of which grow in a warmer, moister climate, where early freezes—until last fall—were unheard of.

Harry says that cold stretch was the coldest ever recorded at the nursery since it was relocated to its present location in 1957. The previous coldest October 31 at the nursery since that year was 25 degrees in 1985. The nursery's average low temperature for October prior to 2002 was 45.1 degrees, and for November it was 36.8.

"This is the first time we've lost so many trees," says Fern Walton of Elkton, a 23-year seasonal employee of the nursery.

Other forest nurseries in the state also suffered similar freeze damage to their young trees, according to Harry.

The state nursery, which is operated by the Oregon Department of Forestry, grows seedlings for state forests, and nonindustrial private woodland owners. It relies on its seedling sales to be self-sufficient, and will continue to do so, according to Harry. He says the nursery has a small financial reserve and crop insurance—something former manager Paul Morgan began carrying five years ago, after the nursery's trees became diseased.

"We filed for \$4 million in losses, and we hope to receive it all," Harry says of the freeze damage. "We've been growing trees for 75 years, and we expect to be for another 75."

The nursery has grown 1 billion trees since 1927.

"If anything, we're going to roll up our sleeves and work harder at it," says Jenny Solomon, the nursery's growing operations manager.



A tractor pulls a blade beneath the roots of seedlings at the Phipps State Forest Nursery, loosening the soil, and helping the trees grow. Millions of trees were destroyed last fall by an early frost.

She says they are planning the installation of an upgraded irrigation system, which could help warm temperatures during a freeze.

For this winter's customers, the nursery is working with them to roll their orders over to next year. Some customers also are working with state service foresters, obtaining waivers and getting an extra year to replant harvested timberlands.

The Forest Practices Act makes it mandatory in Oregon that all land that is logged be replanted within one year. The state nursery provides many of the seedlings used to satisfy the act. The nursery's entire inventory is native to Oregon.

"We're proud of what we do here," Jenny says. "We try to grow a tree here that will do well out there (on forestland)."

During a mild winter, seedlings are harvested from December to March, depending on the species and the region they are going to. The seedlings go through a conditioning period prior to being harvested. To give them a more natural feel for the wild, waterings are gradually decreased.

"We want the trees to get used to the idea of not having so much TLC," Jenny says.

Property owners are encouraged to plant the trees within a week or two of receiving them. In some cases, they are planted the same day they are harvested at the nursery.

Jenny says a key to survival of the trees is site preparation where the seedlings will be planted. She says preparation can vary, but clearing an area of weeds and brush is

important, so seedlings do not have competition for available water and sunshine.

"The key is to give the tree a jump-start out in the woods," says Jenny. "The best Douglas fir seedling has a good stout top and nice full roots, so when it's planted it'll respond with buds and not go into shock. It has to be able to deal with a lot of predation in the woods, such as contending with brush and weeds and with deer and elk."

Jenny says the survival rate of the nursery's seedlings after being transplanted varies from 95 percent to 98 percent each year. ■

Nursery tours are available for schools and other groups. Contact the nursery at (541) 584-2214 to make advanced arrangements.