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PRESS RELEASE

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Spruce seed collectors help restore forests, but annoy squirrels

(Fairbanks, AK) – Squatting next to the top of a white spruce tree that had been cut down to clear a new woodcutting road off Standard Creek Road south of Fairbanks last week, Kevin Meany methodically plucked spruce cones off the tree like he was picking blueberries.

“These are a lot more open than they were last week, but we’ll still be able to get some seeds out of them,” said Meany, a resource forester for the Alaska Division of Forestry (DOF) in Fairbanks, as he dropped the cones in a burlap sack in front of him.

As Meany worked, four other forestry division employees scoured the woods around him, searching for stashes of cones to pick from fallen trees; or, better yet, a squirrel’s nest filled with cones that had already been buried by enterprising rodents preparing for winter.

Every year in mid- to late-September, state forestry personnel take to the woods around Alaska to collect spruce cones to re-stock the division’s supply of white spruce seeds. The cones are sent to the Alaska Plant Materials Center in Palmer, where they are dried, then put through a shaker to extract the seeds. The seeds are then sent to a nursery in Canada to be grown for planting as seedlings the next year.

The Fairbanks Area forestry office plants 40,000 spruce seedlings every other year in areas that have been logged, to help replace trees that were harvested in timber sales.

“You figure a 70 percent germination rate, and you need 40,000 seedlings so that’s a lot of seeds,” Meany said.

This year didn’t necessarily bring a bumper crop of spruce cones, but it was enough to yield a supply that will bolster DOF’s supply of seeds for the Fairbanks area, Meany said. The state is split up into seed zones, and seeds are planted in the same zone from which they were harvested.

“Our seed stock (for the Fairbanks area) is getting pretty low, and the longer they sit in the storage the worse the germination rate gets,” Meany said.

White spruce trees produce cones in a two-year cycle. Trees produce cone buds in the first year, and cones develop and mature in the second year. Female spruce seed cones typically occur on the upper third of the tree, while the fairly inconspicuous male pollen buds occur on the lower third of the tree to reduce self-pollination. Male pollen from the buds is carried to other trees by wind to pollinate female cones.

Cone production is influenced by climate and stress. Trees that undergo stress one summer will produce a healthy cone crop the following summer if conditions are right. Last year’s hot, dry summer in Alaska was followed this year by a wet summer -- a recipe for plentiful cone production.

“The production of spruce cones is pretty tenuous,” Meany said. “They estimate once every 15 years for a bumper crop.”

The best time to collect cones is right before they open up and start dropping seeds, typically in late fall. Each cone produces a relatively small number of seeds, so it takes a lot of cones to collect an ample supply.

“If you cut one open a cone and get three or four seeds you’re doing pretty good,” Meany said.

Each seed is about the size of a flea and attached to a tiny wing. Once released from its cone, the winged seed is borne away by the wind to a future as a new seedling, or maybe just as a quick meal -- spruce seeds are a delicacy for squirrels, who cache them in nests called middens and use them as a winter food source.

As Meany and fellow forester Jeremy Douse leaned against the back of a state forestry pickup loaded with several burlap sacks full of spruce cones they had collected last week, the chattering of squirrels echoed through the forest.

“I think we ticked off some squirrels,” Douse said with a chuckle. “If they’re making noise, we’re doing good.”

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Cones on a white spruce tree south of Fairbanks 10-2-2020



Forester Jeremy Douse of DOF returns with a bag of spruce cones collected south of Fairbanks on 10-2-2020



Jeremy Douse picking spruce cones south of Fairbanks 10-2-2020



White spruce cones in hand