

Volunteers plant 650 hybrid tree seedlings near W. Kerr Scott Reservoir Thursday

Chestnut comeback

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Chestnut tree work - Judy Sutton and Dylan Hauck measure how tall a chestnut seedling is and record it for their records.

Tuesday, March 7, 2017

The American chestnut was a dominant tree species in Wilkes County and elsewhere in the eastern U.S. before it was decimated by a blight in the early 1900s. About 50 people spent most of Thursday planting about 650 hybrid chestnut tree seedlings near the U.S. Army Corps of Engineers' W. Kerr Scott Reservoir as part of a comeback effort in several states coordinated by the American Chestnut Foundation (TACF).

They included volunteers from TACF and Friends of W. Kerr Scott Lake, students in the Future Farmers of America at West Wilkes High School, biology students at Appalachian State University and staff from the Corps of Engineers and N.C. Forest Service.

The project is designed to learn more about the blight resistance of trees developed through three decades of backcross breeding, help learn which forest planting techniques work best and help restore the American chestnut within its natural range, said Tom Saielli, TACF mid-Atlantic region science coordinator.

A \$21,000 Corps grant funded supplies related to planting and TACF donated the one year-old seedlings, said Johnny Jones, a Corps ranger at W. Kerr Scott Reservoir. Jones said planning for the work has been underway about two years. Corps Ranger Brad Carey suggested the planting site to TACF and applied for the grant when he was assigned to W. Kerr Scott Reservoir. Carey is now assigned elsewhere.

Saielli said most of the hybrid seedlings planted Thursday are about 96 percent American chestnut and about 4 percent Chinese chestnut, resulting from backcross breeding to produce trees with the blight resistance of Chinese chestnut and physical characteristics of American chestnut.

The first cross-pollination between a Chinese chestnut and one of the few surviving pure American chestnuts creates offspring that are genetically one-half American chestnut. The second cross is between one of the 50-50 hybrids back to another pure American chestnut to create trees that are 75 percent American. Backcrossing hybrids with pure American chestnut trees continues until the result is seedlings that are more than 90 percent pure American chestnut.

He said seedlings were planted both in an open field and in the forest understory to determine which conditions allowed faster growth and better survival. Saielli explained that in the field, the trees will be exposed to more sunlight, allowing them to grow faster, but they will have to compete with the surrounding grass for resources, especially water if there is a drought. In the forest, he said, they won't grow fast, but they won't have to compete for resources. "It'll let them get more established," he said.

Trees and brush surrounding some of the hybrid chestnut seedlings will be cut to allow more sunlight in two years and this will be done around the remaining seedlings in four years to determine the impact of limited sunlight for these two periods of time. Saielli said hybrid chestnut seedlings that are 75 percent American and 25 percent Chinese or 50/50 were also planted in the research study.

"We wanted to plant other genotypes that we know have higher levels of resistance and see how they compare long term. The more American they are, the more competitive they are in the forest, so we're also seeing how the advanced hybrids compare to the others when put in that environment," Saielli said.

"Trees grow as a combination of their genetics and their environment, just as you and I are a product of our genetics and environment," he said.

Seedlings were planted in holes 8 to 10 inches deep, with a bit of bone meal for fertilizer. A blue plastic tube was placed around each seedling to protect it from voles and other small pests. Wire fencing is designed to provide protection from deer. "It'll be amazing to see them grow," said TACF volunteer Judy Sutton. "We want to get chestnuts in the wild as the great trees they once were," she said.

Each seedling is numbered and charted to record its height and location and when planted. TACF researchers, with assistance from Appalachian students, will collect data every spring and fall for years. This will include growth rate, height, tree form, timber form, blight resistance and other aspects.

“We’re going to go back in a few months and collect data and make sure they survived the transplant,” said Saielli. He said the work on the Corps of Engineers property is one of many projects TACF is taking on to restore the American chestnut to its past glory, and working with other groups is a key to success. “This is a really great example of how this takes collaboration to get this research done,” Saielli said.

“As a small nonprofit, we can only do things with cooperators. It took a few years and some great partners working hard and it will take many more years, but it’s because of those cooperators we can make things like this work.” Ed Schwartzman, TACF southern region science coordinator, was one of the other volunteers in charge of this project. Saielli said Schwartzman started the project and they worked together to see it through. American chestnut trees were valuable for lumber and their nuts were important for wildlife, as well as popular for people.

He said he hoped the trees would once again be plentiful. “We’ve got a long way to go still, but we are making progress,” Saielli said.



Planting chestnut seedling

A volunteer digs a hole in the forest to plant a chestnut seedling for an American Chestnut Foundation study.