Chestnut trees return to WNC

Written by Karen Chávez

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For more information or to register, call 281-0047 or visit www.acf.org.

Want to tour a chestnut orchard?

Cataloochee Ranch, 119 Ranch Drive, Maggie Valley, offers guided tours of its Backcross Chestnut Orchard at 11 a.m. every Wednesday through the end of October, including lunch, for $15. For more information or to reserve a tour spot, call the ranch at 926-1401.

ASHEVILLE — From a distance, he might look like a mad scientist — chiseling, boring and injecting poisonous fungus into trees on a remote plot of land overlooking the Great Smoky Mountains.

But all of Dr. Paul Sisco’s concocting, cross-breeding, inoculating and experimenting with American chestnut trees over the past 30 years is for the greater good of the Eastern woodland world, as he works to bring back the mighty tree thought to have been wiped off the planet 100 years ago.

The American chestnut is back.

And the American Chestnut Foundation will celebrate its return, discuss its struggles and look toward the tree’s future at the 2012 American Chestnut Summit, which runs Friday-Oct. 21 at the Crown Plaza Resort.

The foundation, now headquartered here, was formed in 1983 by scientists who had the idea and mission of restoring the American chestnut to the Eastern forests.

The plot of land on a scenic slope overlooking Cataloochee Ranch in Maggie Valley, where Sisco has been working, is one of many plots the foundation has planted through the years to test cross-breeding and blight.
resistance in chestnuts. In a joint project between the ranch and the chestnut foundation, the Cataloochee Backcross Orchard was planted in 2007 as a breeding orchard, where American chestnuts are crossed with Chinese chestnuts and deliberately injected with chestnut blight.

“These are my babies,” Sisco said on a foggy tour of the orchard last week. “I’ve watered them, pulled weeds. ... It’s the acid test when you imagine getting the best trees from this orchard, and getting the seeds that will grow blight-resistant trees.”

Anyone watching Sisco walk through the half-acre orchard with some 350 trees, seeing him point out each inoculation injection site on each tree trunk, recalling its exact date of birth and its amount of growth since he last walked the orchard, will know growing these trees has been like raising children.

“We take a cork bore and drill into the tree,” Sisco said. “We take a plug of fungus and plug it in. We do it four times — twice at the bottom and twice at the top — with two different forms of blight, one weak and one stronger. We will measure how far the fungus grows out. The less it’s grown out, the more resistant the tree is.”

Sisco said it is one of the last steps before producing a truly blight-resistant tree. Those that succumb to the blight will be removed next summer, and the strongest surviving trees from each of the “families” of trees will be intercrossed to produce stronger seeds. Those will be planted in the spring of 2014 to create the most blight-resistant trees that will — with hope and good weather conditions — go on to repopulate the Southern Appalachians.

Death of species

The American chestnut, whose leaves turn yellow, golden and brown in the fall, used to reign over the forests of the East, from Georgia north to Maine and from the Piedmont west to the Ohio River Valley.

Paul Franklin, Chestnut Foundation communications director, said one in four trees used to be an American chestnut, which were known as “mighty giants,” growing up to 100 feet tall. In the Southern Appalachians, it is thought that as much as 40 percent of the forests were chestnuts, he said.

Chestnuts could produce some 1,500 pounds of seeds a year, compared with 500 pounds from oaks, Franklin said, making them an important food source for woodland animals, including turkey, deer and bear. People who would sell the nuts and let their hogs run loose to feed and fatten up on the nuts.

The tall, pretty trees grew exquisitely straight, making them perfect for lumber and building materials. The chestnuts were a huge part of the Southern region’s economic engine.

“There was no cash in the culture,” Franklin said. “Families would go out into the woods and forage and gather wagon loads of chestnuts. They used to blanket the hillsides. They were very important to people who sold them. It gave them cash and a rot-resistant lumber for building.”

In 1904, the start of the end began for the chestnuts culture.

A blight from Asia was discovered that year in chestnut trees in the Bronx Zoo. Native chestnuts were helpless to the invasive fungus, which spread quickly down the Appalachian Mountains, reaching Western North Carolina in the 1920s.

By 1950, some 4 billion chestnut trees were dead.

Judy Sutton, a third-generation owner of the sprawling, high-elevation Cataloochee Ranch on the edge of the
Smokies in Haywood County, said her mother, Judy Coker, can barely remember the large trees.

“My grandfather, Tom Alexander, bought the ranch in 1938,” Sutton said. “My mother, who is 78, was just a little girl then and said she remembers seeing dead, standing chestnut trees then. She always kept those trees in her mind. Getting involved with the American Chestnut Foundation was meant to be. My grandfather was a forester. I think trees just run in our blood.”

About 20 years ago, Sutton said, her mother found some chestnuts, which still grow randomly in the wild. She planted three of the seeds on the family’s property — much of which lies in protected conservation easements.

“Yes. Two of them are still alive,” Sutton said of the trees Coker planted. “She contacted the chestnut foundation and ended up getting involved and talking with Paul Sisco. She knew they were doing these backcross orchards and knew the ranch had a beautiful place for an orchard. We planted the orchard in 2007. My mom got it going.”

Coker sat on the Chestnut Foundation board of directors for years, and then Sutton took her place. This summer, Sutton started giving weekly public tours through the Backcross Orchard, sharing the history of the giant trees, their demise and their triumphant return, with anyone who is interested. The trees include Chinese chestnuts, American chestnuts, crossbred trees, canker-blighted trees and healthy trees.

“People really need to see and touch what’s going on. They can read all they want in a book about chestnuts, but when you actually see what’s going on, they’re learning, and they want to learn more about conservation,” Sutton said.

“In two years hopefully we’ll be planting a permanent orchard with the help of the Chestnut Foundation to keep the process going and keep American chestnuts in our forests.”

Getting Asheville, public excited about chestnuts

Scientists with the American Chestnut Foundation began a special breeding process in the 1980s, which in 2005 produced the first potentially blight-resistant trees, called Restoration Chestnuts.

The Asheville-based nonprofit is planting these trees in more than 300 locations throughout the eastern United States. Some groups working to restore hemlocks, which are being devastated throughout the East due to the invasive hemlock woolly adelgid, are looking to the work done by the Chestnut Foundation, Franklin said.

“We have spent 30 years getting to the point where we have a tree developed that is strong enough, blight-resistant enough that we can re-establish an American chestnut population,” Franklin said. “We’re just on the cusp of planting these trees. We have 12,000 planted in forests so far, but in next few years, we’re going to see that number grow dramatically.”

Potentially blight-resistant American chestnut trees have been planted on private property in Weaverville, in the Bent Creek Experimental Forest and Nantahala National Forest, in addition to the Cataloochee orchard. Last fall, the Chestnut Foundation planted two American chestnut trees in the N.C. Arboretum, which abuts the Bent Creek forest south of Asheville.

The trees have been a topic of intense interest, said Clara Curtis, director for design and exhibit assets for the arboretum.

“Yes. People are always asking about the chestnuts,” Curtis said. One of the saplings didn’t survive, but one planted in the azalea collection area is about thigh-high.
“I have that nostalgic desire to see the beautiful forest tree again in the woodlands,” she said. “I’ve only seen the historic pictures and the fallen logs.”

The American Chestnut Summit, which is usually smaller in scope and attracts more scientist types, is aiming to expand, Franklin said.

“This year it’s larger in scope and open to the general public,” Franklin said. “We wanted to let Asheville know that the American Chestnut Foundation is here, in Asheville, since the American chestnut was so important to WNC. Gardeners, conservationists, landowners, foresters, anyone interested in the American chestnut is invited. It’s an exciting time to be involved in the foundation.”

Patrick McMillan, an adventurer, naturalist and host of the award-winning ETV nature program “Expeditions with Patrick McMillan,” will deliver the keynote address at the Summit on Oct. 20. His presentation will focus on the long-lasting impacts of humans on the natural world, for example, importing the chestnut blight from Asia.

The keynote address will be one of 18 presentations and workshops covering the history, culture and ecology of chestnuts, as well as the science of restoring them to the Eastern forests. The weekend programs will include scientific and technical presentations, as well as hands-on workshops in chestnut identification, pest control, planting and maintenance.

The summit is expected to attract scientists, conservationists, environmental and forestry teachers and students and a wide range of people interested in the future of the Eastern forests and the restoration of the American chestnut.

Other event highlights will include a gala dinner featuring the music of award-winning singer songwriter Sarah Tucker and guitarist Elijah McWilliams. The dinner will also feature an auction of chestnut-related items including artwork and woodwork and a presentation by James Hill Craddock, professor of biology at the University of Tennessee who will speak on the “Chestnut Industry Around the World.”

“I didn’t realize until I got involved with the chestnut foundation that there are still chestnut trees out there,” said Sutton, of Cataloochee Ranch.

“Now I’m trying to get involved with the hemlocks. We are stewards of the mountains. These exotic things that come in, whether it’s the chestnut blight or the hemlock woolly adelgid, we’ve got to get a handle on them. And people want to help with that. People aren’t coming here for a shopping spree, they’re coming here for the mountains.”