

Can the American chestnut tree be revived?

Saturday, December 03, 2011

By Doug Oster, Pittsburgh Post-Gazette



Doug Oster/Post-Gazette

Sara Fitzsimmons hugs an American chestnut tree found growing in the wild near the orchard she helped plant. This tree is about 40 feet tall and is producing nuts but shows signs of chestnut blight.

During the long and bumpy ride to the top of Chestnut Ridge in Derry, Sara Fitzsimmons reminisces about her first time looking over the site where an orchard of chestnut trees has been planted.

"It was during a driving blizzard in knee-deep snow," she said with a laugh.

The rough gravel roads that lead to the orchard are desolate, mainly used by hunters and a few locals.

Mrs. Fitzsimmons, 34, is the American Chestnut Foundation's regional science coordinator and a Penn State research technologist working to reintroduce the American chestnut back into the forests of the East Coast.

As we reach the top of the ridge, she gets out of the truck, unlocks an 8-foot electrified gate and steps into the orchard of 1,000 trees planted from seed in 2007. The fence keeps out the deer, and the electricity deters the bears who will tear a tree in half to feast on the nutritious, tasty nuts.

As the wind howls across the field, the West Virginia native talks about her personal connection with the blighted species.

"The basement of my house was paneled in wormy chestnut, and my grandfather spoke very fondly of the species. It's something that's been a part of my family's culture for some time."

The American chestnut grew for centuries from Georgia to Maine, accounting for 25 percent of the trees in the forests. A fast-growing straight tree, it produced an easy-to-work, rot-resistant lumber used to build everything from bassinets to caskets. Chestnut was the wood that took people from cradle to grave.

The trees can grow 110 feet high and 15 feet wide in the right climate, produce a wealth of nuts to sell, and are great food for wildlife. Chestnut trees reliably produce nuts, as they bloom later in the season than oaks, avoiding flower-killing frosts.

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In the mid- to late-1800s, Asian chestnuts were imported to America for their large nuts but brought along a nasty fungus, *Cryphonectria parasitica*, which causes chestnut blight. Within 50 years, 400 million American chestnuts were wiped out by the disease.

The tree persists in forests, but according to Mrs. Fitzsimmons it is "functionally extinct or endangered." Sprouts emerge from American chestnut stumps, live maybe eight to 15 years, get the blight and die, sometimes producing nuts in the process. The species has ceased being sustainable.

That's where the American Chestnut Foundation comes in. The focus of its work is to create a tree with an American growth characteristic but with the blight resistance of the Asian varieties. Even though the Asian varieties produce large nuts, they don't grow straight like the American tree and are therefore not prized for lumber. By using a series of breeding techniques, crossing and back crossing American trees with Asian varieties, there's hope that the tree will be brought back.

As Mrs. Fitzsimmons walks through the tall brown grass examining the trees in this orchard, she estimates that about three-fourths of them will be blight-resistant and retain the sought-after American growing characteristics.

But only time will tell, as the trees can live 20 or 30 years, be blight-free, and then succumb to the disease.

This orchard is filled with what are called B2F3 trees, some of which are already 15 feet tall. There's another orchard of 900 trees nearby, filled with the latest cross called B3F3. It's the species that the ACF hopes will be the future for the American chestnut. Both orchards belong to an anonymous grower who's passionate about the foundation's mission.

The ACF is always looking for help growing from interested parties. They are also searching for surviving American chestnut trees to increase diversity in the breeding process.

School groups, garden clubs and individuals all can make a difference bringing the tree back from its endangered status. That's just what the Martha Washington Garden Club in Washington, Pa., did when they spent \$100 for two small seedlings planted at the Frontier History Center in Washington Park to honor the club's 75th anniversary.

Dressed in 18th-century garb, club member Kathy Wells gently guided the sapling into the soil. The irony of living on Chestnut Street doesn't escape her, and the historical connection of the tree to Native Americans and settlers was on her mind.

"I hope that over time that it will produce chestnuts and give people an idea of just how important that tree was to their way of life."

Mrs. Fitzsimmons isn't sure she'll see the resurrection of the species in her lifetime but hopes her work will benefit coming generations. She explains why it is important for foundation members and individuals to act now.

"To see people looking forward into the future and doing things not for themselves, but for their grandchildren or great grandchildren."

For more information from the Pennsylvania chapter of the American Chestnut Foundation, go to www.patacf.org or call 1-814-863-7192.

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First published on December 3, 2011 at 12:00 am

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