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Make like a tree

Professor works to save American Chestnut

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Arbor Day was founded more than 130 years ago in Nebraska as a way to set aside a special day for planting trees. And today it is observed by every state and countless communities.

Even Gov. Sonny Perdue participated in the planting of a maple tree on the grounds of the state capitol prior to Arbor Day in just one of many such occasions planned by governments and organizations in the state.

The National Arbor Day Foundation coordinates events nationwide and, locally, the Georgia Forestry Commission helps sponsor events. The whole idea is that healthy trees make healthy cities that make for healthy people.

In fact, today green space is a political issue that sometimes infiltrates new commercial and housing developments. Often, developers clear away all trees when they prepare land for development, while others seek to conserve or save particular trees.

The National Arbor Day Foundation gives annual awards to people and organizations that help preserve trees. In 1998, a couple from Northeast Georgia, Donald and Nancy Panoz, were given the Project Award for the construction of the Chateau Elan vineyards and golf course in Braselton for saving 6,000 trees and relocating 2,500 other trees.

Over the past seven years, a few other Georgians and organizations have received the national awards for showing the importance of trees in the environment.

One example of man's effect on trees happened about 100 years ago when a foreign fungus was imported into the country and the results changed the Eastern landscape. The American chestnut, a huge tree, one of the most massive in the East, virtually was wiped out by this blight.

And today there are groups working to rescue this tree that was once so important as a source of wood and food. The American Chestnut Foundation is spearheading this research and recently obtained the endorsement of former President Jimmy Carter. And locally, University of Georgia forestry resources professor Scott Merkle has been pursuing an answer in the laboratory.

"I came here over 20 years ago to learn how to do tree- tissue cultures and I started looking at different trees I could work with and make a difference. The chestnut is such an emotional story and nothing had been done as far as tissue culture or genetic engineering," Merkle said.

So he took on the daunting task in the late '80s.

"It's challenging and a difficult system to work with," he said.

"There is a breeding program by the American Chestnut Foundation. They are crossing the American tree to the Chinese chestnut, which is resistant to the chestnut blight. It's a long-term program. They want to end up with a tree that looks like an American tree - a big tall canopy tree - and one that has the resistance of the Chinese tree," he said.

When they reach a point of having a blight-resistant tree, there will be a huge demand, Merkle predicted.

"We work with propagation of trees in tissue culture. One thing we do is figuring what is the best way we can make hundreds of thousands or even millions of chestnut trees with just a few resistant trees," he said.

One company providing funds for the research is ArborGen in Summerville, S.C.

"They're not interested in chestnuts as a commercial tree, but are interested in demonstrating to the public that genetic engineering can be good for everybody," he said.

The chestnuts, some with trunk diameters of 6 feet across, were once dominant on the ridges of the Appalachians, where Merkle said it was an incredible source of wildlife food with nuts high in nutrition.

"They're full of starch and different from most nuts in that their storage product is starch and not fat," he said.

And the wood was decay-resistant and used for building cabins, barns and fences.

A few old large living chestnut trees still can be found in Georgia.

"The biggest I know of is not far from Helen, but I don't know if it's still there. I haven't seen it for about eight years," he said.

Strangely, the blight did not kill the root system of the American chestnut, so it's still common to find small chestnut trees in their native habitat that continue to sprout from these root systems.

"When they get up to a certain size, they get killed back," Merkle said.

Liz Caldwell, a wildlife biologist with the U.S. Forest Service headquartered in Eatonton, said she has seen those sprouts. She knows of one near Monticello.

"It bore some chestnuts and it was just a stump sprout. Every now and then you run across one," she said.

Caldwell, who grew up in Stephens County, said she has explored the Cohutta wilderness in the North Georgia mountains and seen the evidence of what was once a magnificent tree.

"I've seen the stumps left from the chestnuts and they were huge," she said. "You stand in awe that the trees were that big."

Today, she said the U.S. National Forests, with almost one million acres in Georgia alone, are becoming more important than ever for its trees.

Many trees are disappearing with urban development and the expansion of cities, she said. And timber companies, such as Weyerhaeuser, have been selling off timber tracts that are being divided into five and 20-acre tracts, which means more trees will disappear to development.

"Without the forest service, we wouldn't have all the beautiful trees we have," she said.

"We've planted 100 acres of trees this year and that's the most we've planted in 10 years," Caldwell said. Some projects are due to the healthy forest initiative approved by President Bush, where they are thinning timber and planting oaks to restore them on lands once planted in pines but better suited for oaks.

"I've always had a love for the trees," she said.