

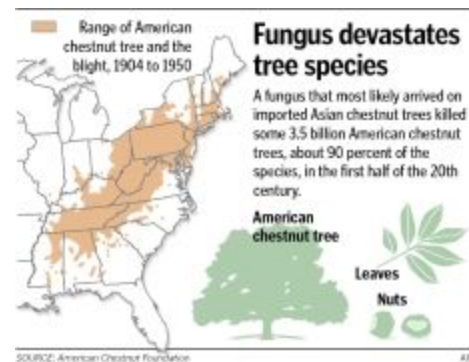
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Researchers work to save American chestnut trees from blight

By Tonia Moxley

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An American chestnut tree shows the early signs of an Asian strain of chestnut blight, an orange canker swell.

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NELSON COUNTY -- A much-mourned American legend still grows in the woodlands of the southern mountains.

Quietly, on Appalachian hillsides millions of its progeny peek through the leaf litter.

A few of those American chestnut trees escape the deadly orange kiss of *cryphonectria parasitica* for up to a few years -- long enough to delight those who stumble on them and assume they are a miracle.

But most are doomed to shrivel eventually, taken by the blight spores still carried on fickle mountain breezes.

Only a fraction of the celebrated hardwoods truly resist the dread disease that decimated the fortunes of the eastern hill country early in the last century.

But in that small number lies hope of renewal.

Effort to save chestnut trees dates to 1970s

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For as long as the American chestnut tree has been dying, people have wanted to preserve it.

Thought to have been imported on Asian nursery plants about 1900, by 1950 the chestnut blight had destroyed an estimated 3.5 billion canopy American chestnuts. No comparable devastation of a species exists in recorded history, said Gary Griffin, a plant pathologist at Virginia Tech and co-founder of the American Chestnut Cooperators' Foundation.

Like the American Indians killed relentlessly by the diseases of European invaders, the native trees that for centuries dominated forests from Maine to Georgia died in droves.

They still do.

The killing spores enter a wound or fold in the bark, burrow in and attack the tree's food source, often killing it within a growing season.

Because the disease is windborne, some trees escape the fungus temporarily, and may grow for years. Hikers who come across large, healthy chestnuts in the forest are most often witnessing a temporary escape, not a tree with immunity, foundation Executive

Director Lucille Griffin said.

Once the blight blows in, as it always does, the tree is doomed.

One of the better-known efforts seeks to interbreed blight-resistant Asian chestnut trees with American trees to create a hybrid that can co-exist with the blight.

But the lesser-known American Chestnut Cooperators' Foundation, based near Blacksburg and affiliated with Virginia Tech, has worked since the 1970s to breed naturally resistant, pure American chestnuts.

It's a process of science and vision and is supported by volunteers who tend the trees on both private and public land.

Full restoration, if that is possible, is still generations away. But the foundation's successes cultivate hope.

While most American chestnuts are struck down within five to 10 years, a handful of the foundation's trees have lived for more than 30 years and grown taller than 70 feet.

"It is not beyond the grasp of science to restore the American chestnut to economic importance. It could be accomplished within the next 50 years," Gary Griffin said.

Since the group's inception, cooperators have planted about 190,000 new trees, many with the potential to resist the blight.

15 percent of harvested nuts now blight-resistant

It's hard to catch Lucille Griffin in her maroon Toyota Tundra gliding over the Blue Ridge Mountain roads of Nelson County.

Fueled by a boiled egg and banana lunch, she shoots off Interstate 81, wasting no time on a cloudy Thursday afternoon, getting to the woodland nursery where she tends a crop of resistant American chestnuts.

Griffin has been, in her words, the senior field hand of the group since the 1990s, tending American chestnut orchards in Nelson, Montgomery, Giles and Craig counties.

The trees she tends are remarkable because they are the offspring of older native trees found in Virginia and West Virginia that resisted the blight. And with human care and help from science, they live on.

Today, Griffin is planting a third-generation crop of nuts from resistant trees, hoping that within the folds of the buttery flesh lie the genes to fight the blight.

"Fifteen percent of the nuts we're harvesting now are blight resistant, and that's a good start," she said.

When they grow to just under two inches in diameter, Gary Griffin will inject them with a killing strain of the blight. If they resist, they stay. If they sicken, they are cut down.

From their ongoing research, the Griffins know this much: naturally resistant trees can grow large and live long, if they are planted in the right places.

They need rich soil on well-drained but moist slopes at or below 2,500 feet in elevation.

The trees can be helped by an inoculation of a weakened form of the blight from Italy, which acts similar to a vaccination.

Loss of trees left 'hole' in households across region

In 1990, Lucille Griffin joined her husband in the effort to restore the American chestnut.

Her dream would be "if I would live long enough to see this plantation grown up as tall as those tulip poplars," she said, pointing to a nearby stand of skinny trees more than 100 feet tall.

"I'll keep myself in shape so I live to see it. Otherwise, I'll have to fortify my faith that I'll be able to look down on it from above -- or below, whichever the case may be," she said, laughing.

The project started in earnest on Salt Pond Mountain in Giles County.

There Ruth and Miles Horton owned about 150 acres, and both had fond memories of chestnut trees from their childhoods. The Hortons met the Griffins, who were tending promising chestnut trees on a neighboring hillside, and joined the effort to restore the American chestnut.

Today anyone with suitable land (preferably an old farm, not just a back yard) and \$20 to donate can become a cooperator and receive chestnuts from resistant trees.

The money funds student workers who help Gary Griffin in his lab dedicated to chestnut research, as well as pay for some maintenance of the orchards.

Ruth Horton, now 91 and a widow, moved to Warm Hearth retirement village in Blacksburg in 2003. Two chestnuts planted by Lucille Griffin now grow near Horton's new home.

Over an afternoon snack of chestnuts, Horton recalled the chestnut trees on her family farm in Augusta County.

"I remember fondly day trips when we gathered up a bushel basket of chestnuts. We would roast them at night. And during the day, we would eat them raw," she said.

She remembers two old chestnut trees that were precious to her as a girl -- one by the barn, and another in the family orchard, where she spent many nights teaching turkeys to roost on the limbs -- a common job for farm children of the time.

In the 1930s, the family sold a large stand of old-growth chestnuts for lumber to pay taxes. In those days, chestnut trees were a kind of currency, particularly in Appalachia, where livestock grew fat grazing on the nuts. Families enjoyed them as a treat, and in lean years, as a staple food.

Strong and light, with straight grain, chestnut splits easily into lumber. Naturally rot-resistant, it was used for everything from telephone poles and house framing to fine furniture. It has sometimes been said that when the chestnuts dominated the forests, money literally grew on trees.

The blight killed it all.

When the trees came down on Horton's family farm, "it left a tremendous hole, physically and emotionally," she said.

But the hope of renewal has kept her involved.

While it may take a hundred years or more for American chestnuts to again spread through the eastern forests, Gary Griffin is confident it can happen.

"Restoration is going on right now," he said.