Chestnut restoration effort has roots in Fauquier

The mighty American chestnut that once ruled the forests of the eastern United States may be on the cusp of a comeback.

"I think we're there," Cathy Mayes, chairwoman of the Virginia Chapter of the American Chestnut Foundation, says of efforts to develop a blight-resistant tree.

The foundation, headquartered in Marshall, for years has been trying to breed a hybrid tree, predominately American with just enough genes of the Chinese chestnut to make it blight resistant. Although unharmed by it, the Chinese chestnut hosts a fungal blight that kills the American variety.
The state office stands in Marshall thanks to George Thompson, who owns the building on Main Street (Route 55) near the village’s eastern edge. The state foundation, with about 650 members, also has offices in Charlottesville and Blacksburg, says President Jack LaMonica of Ada.

“I’ve always been interested in conservation,” Mr. Thompson, an engineer and farmer, says of his support for the foundation. “My father was in the lumber business. I remember going into the woods with him and seeing so many dead chestnuts.”

**Death strikes the forests**
The American chestnut, the softest of native hardwoods, once dominated eastern forests, reaching ages of 600 years, diameters of 8 to 10 feet and heights of 80 to 100 feet. Its light, rot-resistant wood had great value for buildings, fencing, telegraph poles, paneling, fine furniture and much more. Loggers told of an entire railroad car loaded with boards cut from a single tree, according to the chestnut foundation.

“If we could bring back the chestnut, we wouldn’t need so much treated lumber,” says Mr. LaMonica, an architect.

Especially during the holidays, humans prized the nuts, considered the tastiest of all chestnuts. Wildlife and domestic livestock fattened themselves on chestnuts.

Ms. Mayes calls the chestnut restoration project important because “biodiversity has its own value. Our forests are seriously threatened. Without nut-producing trees, what will wildlife eat? Oak trees already are in trouble.”

At the turn of the 20th century, the mighty American chestnut ranged from Maine to Georgia and as far west as Indiana and Illinois. While the tall tree comprised 25 percent of many hardwood forests, it often was the only species on ridges of the Appalachian Mountains.

“Some of the ridges appeared to be pure white when the chestnut was in bloom,”

Biodiversity has its own value. Our forests are seriously threatened. Without nut-producing trees, what will wildlife eat? Oak trees already are in trouble.

— Cathy Mayes, chairwoman, Virginia Chapter of the American Chestnut Foundation

**American Chestnut Foundation**

- **Goal:** To develop a blight-resistant hybrid American chestnut for reintroduction into eastern forests.
- **State office:** 8266 E. Main St., Marshall.
- **State president:** Jack LaMonica of Ada
- **Chapter chairwoman:** Catherine Mayes of Hume
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says Mr. LaMonica.

Discovered in New York City in 1904, the chestnut blight resulted from a lethal airborne fungus that had spread from imported Asian chestnuts, probably from China and Japan. The native chestnut had little resistance to the fungus that spread rapidly, killing 3.5 billion trees by 1940. It hit Fauquier County around 1919.

“It is one of the worst man-made environmental disasters in North America,” says Ms. Mayes.

**How the fungus kills**
The fungus enters the tree through cracks or wounds in the bark, multiplies rapidly and creates sunken cankers that expand to girdle the trunk. That cuts off the upward flow of nutrients, and everything above the canker dies, often within one growing season.

The root systems of many American chestnuts survive to this day, however. New stems, or trunks, sprout from the old root systems, frequently living for 10 to 20 years until they, too, die from the chestnut blight. Virginia still has an estimated 11 million chestnut trees, says Ms. Mayes, calling Fauquier County the “hot spot” for the survivors.

The state champion American chestnut stands in Amherst County near Lynchburg, but a close rival in age and size stands tall on a farm off Route 17 between Warrenton and Marshall. The survivor has grown from the stump of a long-dead chestnut. Only inches away stands a sibling tree, sprouted from the same stump, which has succumbed to the blight.

The fact that the American chestnut keeps fighting for survival against tremendous odds gives hope to the foundation members, scientists and volunteers.

**The backcross breeding program**
The chestnut foundation's largest research farm operates at Meadowview in Washington County in southwestern Virginia. There, researchers work to breed a predominately American chestnut that can survive the blight, grow to maturity and procreate more survivors on its own. Scientists from the chestnut foundation, Virginia Tech, the U.S. Forestry Service and more agencies participate in the restoration project.

The first step was to cross an American chestnut with a Chinese chestnut. The first nuts from a 50-50 American/Chinese tree got harvested in 2005. Those nuts produced trees that got crossed with select American chestnuts to create 75 percent American offspring. Repeating the process has yielded almost 4,000 young trees that are 94 percent American.

Meanwhile, the American Chestnut Cooperators Foundation keeps working to re-establish the species using pure American chestnut stock, Mr. LaMonica notes.

**Chestnuts in Fauquier**
Mr. LaMonica, who restored a chestnut log cabin on his property, has one of the state’s top three surviving American chestnuts, measuring 24 inches in diameter. Other well-preserved survivors stand in Marshall and Delaplane.

“Many of the surviving American chestnuts are found along the Route 29 corridor,” he says.

Mr. LaMonica works with foundation volunteers to locate, identify and manually pollinate large surviving Americans. He tends about 40 wild trees, plus more than 100 seedlings planted from wild and crossbred chestnuts.

“We try to find live (American chestnut) trees in areas where they always have been and cross-pollinate them by hand,” he explains. “We have found quite a few wild survivors in
the Free State area” northwest of Warrenton.

Some of trees stand so tall that it takes a “cherry picker” to collect pollen from the springtime blossoms.

The foundation has three research chestnut orchards in the county, two near The Plains and one off Cannonball Gate Road (Route 690) northwest of Warrenton. A fourth will get this spring. The orchards, each with at least 250 young trees, lie on private property. Highland School students planted the one near Warrenton in 2010. The oldest trees at one of The Plains orchards show signs of blight, says Ms. Mayes.

Nearby research orchards on public property include the Northern Virginia Regional Park at Mount Zion Church near Alkie, Bull Run Mountain Natural Area near Haymarket and the Blandy Experimental Farm and State Arboretum near Boyce.

Mr. LaMonica says a research orchard of 600 trees probably will yield only “four or five good trees.”

Into the wild
Developing a blight-resistant strain of chestnuts with predominantly American characteristics represents only the first phase of the foundation’s long-range plans. It seeks to reintroduce the tree into the wild. It could take as long as 500 years to restore the American chestnut to pre-bligh levels in the eastern forests, Ms. Mayes says.

“A restoration project of this size is monumental,” Mr. LaMonica says. “The trees we put back into the forests will face different pressures (than those grown in research orchards). We need to understand the forest dynamics.”

Deer, for example, present a greater threat to young chestnuts than they did a century ago, he says. “The chestnut is like candy to deer. And the deer population is much, much larger than it used to be.”

Says Ms. Mayes: “We need a tree that is strong enough and healthy enough to continue to evolve on its own. We hope to have it in 30 years. I’m most optimistic.”

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ZCWarranton - February 2, 2013 at 11:23 pm

Great article and very informative. I did not know much about Chestnuts and their connection to Fauquier County. I know much more now!