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# The American Chestnut Returns to Chestnut Hill

by Maggie Pedersen - posted 10/7/2008

*On Oct. 16, with help from Morris Arboretum, two small chestnuts will be planted to dedicate new Science Center at Chestnut Hill Academy.*

Almost none of us can now remember a time when the forests were full of the American chestnut, *Castanea dentata*, for which Chestnut Hill was named. But just over a century ago this wonderful native tree dominated our landscape, and in its range along the eastern seacoast, from Georgia to Maine, it comprised almost 1 in 4 trees.

Sometimes known as the “king of the forest,” the American chestnut embodied the frontier American spirit: It was adaptable, resilient and fiercely competitive. It was a fast grower and could outgrow most competitors and soar to heights of 110 to 120 feet, with trunks that were 8 to 10 feet in diameter, in a relatively short time.

It was the third largest forest tree in the U.S. behind sequoia and redwoods. The wood was straight grained and had excellent rot-resistant qualities that were highly prized.

As a food source, the nuts were high in protein with a good flavor not found in other chestnuts. Next to corn it was the most important food source for Native Americans in our



*Historic photo of an American Chestnut from Morris Arboretum of the University of Pennsylvania.*

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region.

Our pioneer ancestors in the Appalachian mountains in the 18th and 19th centuries depended on the chestnut as a cash crop as well as a food source for livestock. It was an unbeatable tree that is greatly missed in our gardens, all the more so because the name Chestnut Hill reminds us of its former glory.

Then came the chestnut blight.

The disease was first noticed in 1904 at Brooklyn Botanical Gardens by William Murrill, who at first thought it to be *Cytospora* canker. *Endothia parasitica*, however, is an aggressive fungus disease that came in with plant stock from Asia at the turn of the last century, and within a generation had devastated over 4 billion trees. One can only wonder what John and Lydia Morris, owners of the estate that is now Morris Arboretum, must have thought at the time.

By 1940 this venerable 60,000-year-old species was virtually wiped out.

One odd feature of the disease is that it does not kill the roots immediately and so, like a phoenix, within a few years many of the relict stumps had regenerated new sucker sprouts that promised hope of return. Alas, as these juvenile plants reached maturity in 6 to 7 years, most succumbed to the blight as well.

A select few, however, did not, displaying a natural resistance to the disease.

In the 1970s, plant geneticist Charles Burnham thought of applying some genetic backcrossing techniques to the problem, and began a restoration project. His thought at that time was that it would take 7 generations of crossing and backcrossing with the blight-resistant species Chinese chestnut to achieve a tree that was 15/16 American chestnut and at the same time had the blight resistance of its Chinese cousin.

The problem was that each of these generations need to reach maturity before they can reproduce, making the restoration project a 50-year endeavor. Furthermore, only 1 in 64 of each of the crosses will show enough blight resistance to be worth saving.

Much of his work lives on now through the efforts of the American Chestnut Foundation, as they encourage the development of many small nurseries where seedlings from these crosses can be grown up. Many of these plants are now reaching the 6th generation, and we all hope that within a few years we will see this native beauty restored to its rightful place in our gardens.

In the meantime, some very promising crosses of *Castanea dentata* from the Kentucky State champion chestnut, and several resistant crosses have become available to the Morris Arboretum through an Arboretum friend by the name of Tim Womack.

Tim, who is the founder of Trees Ashboro in Ashboro, North Carolina, is intensely interested in restoring the native chestnut to our American landscape, and has made it his life's work to

accomplish this.

Most often seen on his bike, Tim travels throughout the country helping to plant and celebrate trees in general and chestnuts in particular. Known as "the 21st-Century Johnny Appleseed," Tim will join with Morris Arboretum on Oct. 16th at Chestnut Hill Academy, as two of his chestnuts are planted to dedicate the new Science Center -- and begin a small inroad toward restoring the chestnut to Chestnut Hill.

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