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[Maine Gardener: Efforts to bring back the great American chestnut raise hopes](#)

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The American chestnut once dominated the forests of the eastern United States. The trees would live for more than 100 years and grow about 200 feet high.

DIGGING INTO CHESTNUTS

FOR INFORMATION about American Chestnut Day at the Viles Arboretum, go to vilesarboretum.org or call 626-7989.

FOR MORE about the Maine Chapter of the American Chestnut Foundation, go to me-acf.org or call 945 6945. The chapter sells American chestnut seeds as a fundraiser.

About a quarter of the trees in the forests were American chestnuts. The tree produced a light and durable wood and nuts so tasty, they didn't have to be roasted.

It's the tree mentioned by Longfellow in "The Village Blacksmith." It's also the tree wiped out by a blight that arrived in America from China in 1903.

But there is some good news.

First, American chestnut trees still can grow long enough to produce nuts in the right conditions. And American chestnuts survive longer in Maine than in any other state, according to Alan Markert of Farmington, a researcher with the Maine Chapter of the American Chestnut Foundation.

There are two programs devoted to producing blight-resistant chestnuts that are having some success.

The Viles Arboretum, at 153 Hospital St. in Augusta, will celebrate the American chestnut from 10 a.m. to noon Saturday. Visitors will be able to take a short hike to view the arboretum's collection of 80 chestnuts from Maine stock.

"That is a day that the chestnuts are very likely to be in full bloom," said Mark DesMeules, executive director of the arboretum, "and they are absolutely, incredibly beautiful."

Eric Evans, science coordinator and vice president of the Maine chapter, said his group is bringing eight chestnut seedlings from around Maine to plant at the arboretum on Saturday.

"These eight plants and the other plants at the arboretum we use as part of our gene bank in the breeding program," he said.

The Maine chapter does sell American chestnut seeds that are not disease-resistant as a fundraiser, and there are a few disease-resistant seeds available from Virginia for special ceremonial, public plantings, Evans said.

Maine's program is about eight years from producing disease-resistant seeds -- which are actually the nuts -- from Maine stock.

The blight does not kill young American chestnuts. In the wild, good-sized trees still sprout from the roots of the huge trees killed by the blight decades ago.

But when a tree reaches a certain size, the blight girdles the tree under the bark, strangling it so nutrition will not go up to the top.

Markert filled me on the breeding to create disease-resistant trees, and it is fascinating.

He said the Chinese chestnut is resistant to the blight, so researchers have cross-pollinated American chestnuts with Chinese ones. They infect the results with two forms of the blight, and select the ones with resistant genes -- until they have a blight-resistant hybrid chestnut that is 15/16ths American chestnut and 1/16th Chinese chestnut.

"The tricky final stage, when we've got the top 15/16ths American chestnut, is to get the ones that will breed true," Markert said, which means that when the actual nuts are planted, they produce trees that are genetically the same as the parents.

The goal of the breeding program, Markert said, is to reintroduce the American chestnut to the forests.

But he says that because the Chinese chestnut is much smaller than the American chestnut, the 15/16ths trees might not grow tall enough to get above the forest canopy, so they might not get enough light to produce nuts.

Markert said there is a program at the College of Environmental Science and Forestry at Syracuse, N.Y., to create genetically modified, 100 percent American chestnuts by adding three totally unrelated genes -- including one from a mollusk. He is not sure how that program is going.

Despite all the research, Markert still loves the 100 percent American chestnuts.

"Personally, I am more interested in keeping the pure American strain going," he said. "They will produce nuts if they get enough sunlight."

He has some trees in his yard that have produced flowers five years after he planted them, and it usually takes eight years.

And he knows of a man in Mercer who has trees that are about 25 years old and producing nuts.

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