

# Saving the American Chestnut Tree

By Susan L. Wagner

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- SUDBURY – [Wicked Local](#)

Longtime Wayland resident John Emery, who has devoted a considerable amount of time and energy in recent years as a volunteer with The American Chestnut Foundation (TACF), will give an illustrated talk on Sunday, Oct. 5 at Sudbury's Goodnow Library on "Reviving the 'Extinct' American Chestnut Tree."

In its heyday, the American chestnut covered approximately 25 percent of the forested land in an area of about 200 million acres from Maine going south to Georgia and from the Piedmont going west to the Ohio Valley. In the heart of its range, in the central Appalachians, it represented one in four hardwoods. Many grew to be more than 100 feet high.

Highly rot resistant, the American chestnut had a variety of uses – from barn beams to railroad ties, fine furniture and musical instruments. Extant examples of its architectural use can be seen in the meeting room of Lincoln Town Hall, which is completely paneled in American chestnut, as well as in the pews of the Arlington Street Church in Boston.

In the early part of the 20th century, however, a chestnut blight entered the U.S., probably on an Asian tree destined for an estate garden in New York. It was first discovered in 1904 at the Bronx Zoo. The blight spread at a rate of up to 50 miles a year, and, by 1912, could be found in every town in Massachusetts. By 1925, hardly a mature American chestnut remained along the upper Eastern seaboard and the mid-Atlantic states.

The distinction between the American chestnut and the horse chestnut, which was unaffected by the blight, is important.

"They are a completely different specie," Emery said. "The leaf of the horse chestnut looks like a mitten; that of the American chestnut tree resembles a canoe."

The blight – a fungus that kills by girdling tree stems – attacks the plant before it reaches an age and size at which it can be reproductive. The result is that, while there are millions of American chestnut shrubs and sprouts in eastern forests, there are virtually no trees that are capable of reproducing themselves.

After nearly six decades of unsuccessful efforts to breed a healthy strain of American chestnuts, the TACF was founded in 1983. Its mission is simple, but enormous – to restore the American chestnut as an integral part of the eastern forest ecosystem.

The TACF approach to this task is to continually cross blight-resistant Asian-American hybrids with an American parent. Using the most blight-resistant trees produced in each generation, the backcross breeding continues until ultimately, it is hoped, a healthy tree will emerge that is genetically and esthetically American except for one characteristic – blight resistance.

The first step is to try to find that unusual tree that gets beyond the brush stage. Starting with these and then carrying on into the chestnut orchards overseen by Emery and other volunteers elsewhere in the state, a time-consuming three-stage operation is undertaken.

"First, in early July, as the trees begin to bloom, we get up in the branches. To do this, we have to prevail on tree companies that have bucket trucks to lend us their services, and we have a reasonable success rate in doing this. Once up in the tree, we place bags over the blossoms to prevent random pollination. We return about a week later to pollinate each female flower with a hybrid pollen from Virginia. Then, during the first week of October, we harvest the burs."

After this, Emery said, the nuts are extracted from the burs and refrigerated over the winter. The new nuts are then planted and, several years later, when some of the resultant trees begin to bloom, the process starts all over again.

Here in Massachusetts, Emery said, it is hoped that TACF will be able to release blight-resistant trees suitable for the New England climate in about 10 years.

Emery's talk, which begins at 3 p.m. in the Community Meeting Room, is free and open to the public. Light refreshments will be served. For more information call 978-443-1035.