

Transcript for Podcast: USFS Northern Research Station - American Chestnut Restoration

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Narrator: I'm Kelly van Frankenhuyzen with the U.S. Forest Service Northern Research Station. Today I will be talking to a forester and scientist with the U.S. Forest Service about American chestnut restoration and research.

Scott Tepke: My name is Scott Tepke, I'm a forester on the Allegheny National Forest in Marionville, Pennsylvania. I've been interested in American chestnut and its story probably for a good 20 years. When you find an American Chestnut that's producing nuts, you know that it's a dominate tree and you also know there are other dominate mature chestnuts in the area to cross pollinate. The American chestnut was the most abundant tree here in the eastern United States. In the 1800s the American chestnut's range was from southern Maine to southern Georgia. In the early 1900s, around the New York City area they started discovering this disease affecting American chestnut and they found and identified it as chestnut blight. It was a fungus. It's air carried. The winds would move the spores all around the place, so it moved very fast. So with its discovery in the early 1900s by the 1920s it had pretty much conquered most of the Mid-Atlantic State, throughout Pennsylvania and then by the 1950s American chestnut was endangered throughout its entire range.

Leila Pinchot: My name is Leila Pinchot, I'm a research ecologist and I'm located in Delaware, Ohio. Historically, chestnut was an important part of the eastern deciduous forests. My interest is figuring out how to put this tree back out into the forest. Once we have a tree that is resistant to the blight, what are the best type of forest conditions that we should choose for reintroducing the tree?

In thinking about how humans use chestnut, there is a rich cultural heritage, of our use of this tree from Native Americans who ate the nuts to settlers to more modern communities. There are many uses we have benefited from. The wood was extensively used, it was an important tree for its lumber, for home construction. I grew up in house that was built in the 1770s and we have a couple of rooms with chestnut wood paneling which is really neat to think that those panels from chestnut have been there for hundreds of years.

Ecologically, chestnut was an important source of food for many wildlife species in these forest from turkey to deer to bear to grouse. It has high carbohydrate and protein content compared with some of the other tree nuts.

It still means a lot to quite a few people today. This has led to the success of restoration. The American Chestnut Foundation is a nonprofit whose mission is to restore American chestnut to the eastern deciduous forests and they lead tremendous effort to bring together volunteers, and scientists, and different state and federal agencies, including the U.S. Forest Service together to restore this tree.

Partnerships are absolutely vital to this effort. One of our most vital partners is the University of Tennessee Tree Improvement program head by Dr. Scott Schlarbaum. I work with the Connecticut Agricultural Experiment Station, who actually is the pioneer of American chestnut restoration, Sandy Anagnostakis is the lead scientist on chestnut at that program.

We are working with a whole variety of different people who have different interests in American chestnut, bringing different strengths to the program and really enhancing the success of the program.

Change in the forest can be fast, but the type of change I am looking at takes a long time to happen. The really interesting results in looking at ecosystem restoration, species restoration, takes many years. We're not just talking 1-2 years, we're talking 5, 10, 15, 20 years to see how well the trees we have planted have established, to see what factors affect the establishment to see how they can resist the blight. This is not going to happen overnight.

One of my new studies, which I'm really excited about, looks at site quality, which is essentially how rich the soil is, effects chestnut establishment. Chestnuts growing on sites with soils with more nutrients and more soil moisture tend to grow faster and larger- just like your vegetable garden with more fertilizer, more water, and your tomatoes will grow faster. Basically the same concept. However, on these sites, other species will also grow faster, so we are looking at how chestnut can compete with other fast growing species on these sites with high levels of nutrients and soil moisture. And so you have to take all these different factors from light level to site quality, the level of competition of other seedlings and saplings and how those interact with each other to affect the survival and growth of the chestnuts that are planted. Essentially forest systems are so complex, we have to look at all these different interactions and how they affect the variables of interest but that's also what makes forest ecology really exciting.

The American chestnut is a part of our cultural heritage. We have a rich history of using this tree. It's fascinated naturalists for centuries. Its inspired poems, songs, paintings and has brought together people diverse backgrounds. This is what makes it a cultural icon.

Narrator: For more information on the Forest Service Northern Research Station, visit www.nrs.fs.fed.us

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