Chestnut tree revival?

By Joe Wiercinski / Herald Staff Writer | Posted: Sunday, August 10, 2014 7:00 am

Park ranger Kraynak with Dewey Sheatz

Park ranger Kyle Kraynak shows Dewey Sheatz, 6, the blossom of an American chestnut tree.

At one time, American chestnuts were the king of trees in the eastern United States. They were known as the “redwood of the East.” Almost all of them are gone now.

They were killed by a blight that in just a few decades wiped out the towering hardwoods that were as important to humans as they were to the animals that lived in them or depended on their nuts for food. The trees were so valuable that government agencies, universities and a private foundation have been working for decades to bring the American chestnut back to the nation’s woodlands.

That was the message recently from the U.S. Army Corps of Engineers for campers at Shenango River Lake. American chestnuts were also on the agenda two weeks ago when members of the Mercer County Woodlot Owners Association heard about how they can help with the effort coordinated through Penn State Cooperative Extension to develop trees that are resistant to the fungal disease that all but destroyed the native forest of chestnuts.

Park Ranger Kyle Kraynak showed campers a presentation on the outdoor screen in the amphitheater at Shenango Campground. The Corps of Engineers is in a partnership with the American Chestnut Foundation aimed at developing blight-resistant trees for eventual reintroduction to their once extensive range.

There were nine billion to 12 billion chestnut trees on 200 million acres from Maine to Georgia and into the Midwest.

“The leaf canopy was so dense that it was said a squirrel could travel from Georgia to Maine without ever setting foot on the ground,” Kraynak said.

The group of interested campers listened as Kraynak explained why the American chestnut was so important to both wildlife and humans.

A single tree could produce as many as 6,000 nutritious nuts, packed with protein, carbohydrates and other nutrients. They were used as food by humans and by animals as small as mice and squirrels to turkeys, deer and elk.

Chestnut trees were tall enough for their trunks to be used as masts and spars on sailing ships. They could be milled into posts, beams and boards for barns and commercial buildings.

“Some were as big as 17 feet around and more than 100 feet tall,” Kraynak said, citing historical information. “Chestnut lumber was as strong and durable as oak and more rot-resistant. It was much lighter than oak which made it easy for Native Americans and settlers to use it for building.”

Settlers used chestnut to frame buildings, for flooring and siding. They split it for rail fences and made furniture with it. Chestnut was also turned into charcoal to fuel stone furnaces that smelted iron.

“In 1900, about 50 percent of logging revenue was from the American chestnut,” Kraynak said, citing information from historical records.

Members of Misty Nalepa’s family were among the group of campers listening when Kraynak told them a fungus arrived with Chinese chestnuts imported from Asia sometime in the 19th century.

Those smaller trees don’t have the size or other characteristics that made American chestnut trees useful as lumber and so many other ways.

“The blight caused by the fungus was discovered in New York state in 1904. By 1940, nearly all the chestnut trees in Appalachia were dead,” Kraynak said.

The chestnut foundation is counting on plant breeding as the method to bring them back.

Chinese chestnuts have resistance that was introduced into American chestnut trees by fertilizing their flowers with pollen from Chinese chestnuts. The resulting nuts were planted to grow hybrid trees with characteristics of both its parents.

The foundation has been coordinating efforts to “backcross” resistance into new generations of trees. The eventual goal is to develop trees with about 94 percent of the genetic characteristics of American chestnuts and effective blight resistance from Chinese chestnuts.

“They backcross it six times to the point that it will resemble the American trees but also have the blight resistance of the Chinese trees,” Kraynak said.

Dewey Sheatz, 6, was impressed when Kraynak showed the group some of the 200 seedlings planted last year beside the campground. He also showed them some nuts like those the young trees may produce when they’re a few years older.

Chestnuts are encased in “burs,” Kraynak started to say, when Dewey broke in to warn that the nuts’ protective bristles are “as sharp as needles” and once made his fingers bleed.

“We have a Chinese chestnut at home,” his mother, Misty Nelepa, said. “He goes out and picks nuts with his brothers. We eat the chestnuts every year, at least the ones the deer don’t eat first.”

Kraynak says the trees best hope is that the next generation, even as young as Dewey, will get interested in the project. Dewey said he would, when he’s older.

“If they get interested in presentations like this, maybe they’ll volunteer to be part of it,” Kraynak said. “We’d like the general public to know that without volunteers, a lot of this can’t happen.”