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## U.S. plans for worst-case ash scenario Public asked to help with seed program

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Lest there be any doubt that North America's billions of ash trees are imperiled by the deadly emerald ash borer, consider this: The government is establishing a national gene pool to help keep the shade trees from going extinct.

And you can help.

The U.S. Department of Agriculture, acknowledging that extinction is a possibility if the beetle can't be stopped, told The Blade it is in the process of starting an ash seed collection project this fall.

"It's for an absolutely worst-case scenario," said Chris Coulon, a USDA spokesman.

A brief description is available on the Internet. The program will be announced in greater detail in the coming weeks so that people can familiarize themselves with the leaves and shape of the four main species of ash trees before seeds drop in the fall.

Then for the next two to five years - possibly longer - the public will be asked to send their seeds to the USDA's Rose Lake Plant Materials Center in East Lansing, Mich., where they will be sorted and inventoried.

The best seeds will be forwarded to the National Center for Genetic Resources Preservation in Fort Collins, Colo.

The Colorado facility is a little-known, maximum security USDA storage vault for seeds, animal semen, plant buds, and other genetic resources that government officials in the United States and abroad want banked for possible future use.

Think Ted Williams. All those stories you may have read or heard about the late Boston Red Sox slugger's body being put into a private cold-storage facility in Arizona is akin to what will be going on with ash seeds.

Granted, this ash project doesn't involve human tissue. And the technology will be different. But the general idea of tucking away genetic-coded materials for decades - just in case science develops enough to justify reviving them - is similar.

"I have no doubt we can store [them] for decades," Dave Ellis, acting research leader and acting curator of the Colorado facility, said in regard to the ash seeds.

He said his facility, which encompasses 6,000 square feet, has been declared a national asset by the Department of Homeland Security. That qualifies it for the highest level of security, he said.

Some foreign countries in need of such a tightly secured facility have cooperative agreements with the USDA to store some of their seeds and plant materials there, Mr. Ellis said.

Ash seeds that are collected by the public will be sealed in airtight, waterproof bags. Most will likely be stored in a freezing vault, maintained at a constant minus 18 degrees. Some may be stored in liquid nitrogen, which would be even colder and allow them to be stored longer. Tests will be done to determine if they can withstand a liquid nitrogen environment, Mr. Ellis said.

Another expert who has no doubt that ash seeds can be stored for decades at the Colorado facility is Bob Karrfalt, director of the U.S. Forest Service's National Seed Laboratory in Dry Branch, Ga.

Mr. Karrfalt said ash seeds are among the hardiest tree seeds. "Nature has this mechanism in them so they don't all germinate at once when they come down in the fall. That puts them in the class with great potential to be stored," he said.

Exactly how long they could last is unclear. But Mr. Karrfalt said ash seeds easily have the potential of lasting as long - even longer - than many of the seeds banked at the Colorado facility. Those seeds generally are believed to have a "shelf life" of 50 to 100 years. Their expiration date depends on the type of plant: Lettuce seeds, for example, do not last as long as wheat seeds, Mr. Ellis said.

The government has limited experience in storing tree seeds. But one experiment in particular shows promise. It involves a cluster of pine seeds that have been banked since 1938 and are still believed to be viable, Mr. Karrfalt said.

He said ash seeds are "at least as hardy" as pine seeds.

Officials emphasize that seed collection is only a precautionary effort to complement research. They aren't giving up on efforts to see the emerald ash borer, an Asian pest accidentally imported to North America, eradicated. They also are just as eager to see hybrid trees developed that can repel those type of beetles.

But Mr. Karrfalt said he and other forestry officials throughout the country are keeping close tabs on the situation - just in case.

"If quarantine efforts should be breached, [the emerald ash borer] will move quickly across North America," Mr. Karrfalt said.

Here's how you can help:

First, be patient. Seeds don't fall off ash trees until September.

Second, get prepared. The tricky thing for the novice will be confirming, first, that you are collecting ash seeds and not something else. Then, second, try to determine which of the four main species of trees you're collecting them from: blue ash, white ash, green ash, and black ash.

Officials encourage people to start doing their research now to acquaint themselves with nearby trees while they have leaves on them this spring and summer. That will make it easier to identify the species, they said.

John Leif, the manager of the Rose Lake Plant Materials Center, encouraged people to seek help in identifying trees now, rather than waiting until the fall. "Obviously, if we want people to collect ash seed, they have to be able to

identify ash seeds," he said.

There are numerous Internet sources that could provide help with that. Most recommended is <http://www.mi.nrcs.usda.gov/programs/pmc.html>, which has a description of the project, an ash tree identification fact sheet, photographs of ash trees, leaves, and seeds, plus the form and instructions you'll need to participate. It also has contact information for the Rose Lake center.

Interested citizens also can obtain information by contacting the Ohio and Michigan agriculture departments or the county cooperative extension service offices in each state.

Mr. Leif said the center wants participants to document where the seeds are collected so that it can keep track of areas where more seeds should be collected.

Ms. Coulon and other officials believe the ash-seed collection project would be a great public service undertaking for scouting organizations and other volunteer groups.

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