Plant Solutions March 2006

The NRCS Plant Materials Program newsletter for the conservation community

Emerald Ash Borer Making Kindling Out of America's Forests

With no end in sight to the destruction wrought by the emerald ash borer beetle, the Rose Lake Plant Materials Center (PMC) is taking steps to see that ash trees don't vanish from the American landscape.

The PMC, located in East Lansing, MI has entered into an agreement to store ash seeds at the National Center for Genetic Resources Preservation in Fort Collins, Colorado. In the event that the ash tree is completely wiped out by the ash borer, the stored seeds can be used to re-establish the ash tree for future generations.

Ash Seed
source: Rose Lake, Michigan Plant Materials Center

An invasive species from China, the emerald ash borer has been decimating the ash tree population for over a decade. The wood-boring beetle is believed to have entered the United States through Michigan in the mid-1990s and has spread to surrounding states and Canada.

The borer spreads both through natural propagation and from the transport of infested nursery stock, firewood and sawed logs. The borer lays eggs on the bark of ash trees and the larvae bore beneath it, starving the tree of nutrients. An infested tree will usually die within two or three years.

Michigan has an estimated 700 million ash trees with four principle species; green, white, black and blue. The PMC hopes to preserve the genetic materials from all of these species in the event they are completely destroyed.

Plant Materials Specialist David Burgdorf and PMC manager John Leif are counting on volunteers to collect seeds from throughout Michigan and the entire Great Lakes region. The PMC hopes to collect about 3,000 seeds from ash populations in every major land resource area. The PMC has developed and assembled identification materials to help volunteers identify and collect the seeds. The materials will be made available through NRCS Field Offices, Conservation Districts as well as on-line.

The plan is for volunteers to identify and mark ash trees in the spring and summer and return in the fall to collect seeds. Unfortunately it will not be as simple as it sounds. Only female trees produce seeds and not all female trees produce seeds every year. "Hopefully we'll get seed before the ash borer wipes it out," said Burgdorf.

Michigan's Native American community has shown a strong interest in taking part in the seed collection. The black ash, used for basket weaving, is a culturally significant plant to tribes. According to Burgdorf requests for the ash seeds will be addressed by the NRCS- Rose Lake Plant Materials Center. The NRCS-PMC will consult tribes for information on the distribution of the seed they collected.

For more information: Rose Lake, MI Plant Materials Center, **http://plant-materials.nrcs.usda.gov/mipmc/**
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Deep Planting Success Along the Rio Grande

The Los Lunas Plant Materials Center (PMC) is demonstrating success with a new deep-planting methodology for native-shrub transplants on a 33-acre riparian site on the Rio Grande in Bosque, New Mexico. What's unusual about the process is that these shrubs are being planted into 6 foot holes where the plant's root crowns are buried. Typically, this practice would kill most transplants.

Rio Grande deep-planting site
source: Los Lunas, Plant Materials Center, New Mexico

"Riparian shrub species have evolved over thousands of years in association to flooding and seem to be tolerant to being buried in sediments or planted deep in the soil," said Greg Fenchel, PMC manager. "The roots of the transplants are placed to the depth of the capillary fringe of the water table. Because the root system is in moist soil, it will not be necessary to irrigate these plants unless the capillary fringe of the water table drops below the root zone."

The Bosque, New Mexico location being used in the study had an adequate stands of cottonwoods but only a few native herbaceous understory, (i.e. vegetation that grows under larger trees). Subsequently, only native understory shrubs were planted here.

"With this new deep-planting methodology, that is exactly what you need for success," said Fenchel. "We bury these plants four to five feet deep and try to have at least the top three feet of the shoot above the soil surface so they are not shaded by other low growing plants."

Prior to the PMC planting this site, it was cleared of exotic phreatophytes (invasive plant species) using the cut stump method with 'Garlon 4' and vegetable oil and was done with only minimal surface disturbance. This method involves felling the trees by hand with chain saws, painting the stumps with herbicide, then cutting the main stem and branches for firewood, and finally chipping the 6 inch diameter or less into surface mulch. Continued monitoring and spot treating the sprouts of the exotic species with herbicide is necessary.

The PMC planted 1,000 transplants using the deep planting methodology in 2004, and they recently planted 800 more in 2005. The plants are watered once after planting to provide for good root to soil contact. Those planted in 2004 were not irrigated during the 2005 growing season, and as of November 2005, show a 95 % survival rate.

For further information: Los Lunas, NM Plant Materials Center, **http://plant-materials.nrcs.usda.gov/nmpmc/**
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