

# MASS PROPAGATION OF EAB-RESISTANT ASH TREES

A McIntire-Stennis project initiated to address a major forest health threat



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Ash trees are integral to the ecology of many ecosystems in the eastern U.S. and are highly valued as urban tree and landscape species. Ash wood is used for baseball bats, tool handles, furniture, flooring and cabinets. Unfortunately, all North American ash species are threatened by the emerald ash borer (EAB), an exotic wood-boring beetle introduced from Asia less than 20 years ago and estimated to have already killed hundreds millions of ash trees in the U.S. and Canada.

This project is developing and testing a tissue culture system (somatic embryogenesis) to clonally propagate ash trees from parents that appear to show resistance to EAB, and test the clones for resistance in the field. Some of the clones may eventually form the basis for EAB-resistant ash varieties that can be planted by forest landowners in restoration plantings. Our tissue cultures have already produced hundreds of clonal ash seedlings, the first of which have been planted out in field tests.



## About McIntire-Stennis

The McIntire-Stennis program, a unique federal-state partnership, cultivates and delivers forestry and natural resource innovations for a better future. By advancing research and education that increases the understanding of emerging challenges and fosters the development of relevant solutions, the McIntire-Stennis program has ensured healthy resilient forests and communities and an exceptional natural resources workforce since 1962.



## COLLABORATION

We are collaborating with USDA Forest Service scientists, scientists at other universities, state forestry agencies and county arborists to obtain germplasm for propagation and to field test the clones.



### 6 States

Cooperators in Georgia, North Carolina, Virginia, Michigan, Pennsylvania and Ohio have contributed ash germplasm to the project

## IMPACT

Hundreds of millions of ash trees killed by EAB in the past 10 years can be replaced using EAB-resistant planting stock.



Loss of ash trees has cost municipalities, property owners, nursery operators and forest products industries hundreds of millions of dollars.



Once EAB resistant ash clones are identified, propagation of resistant trees can be scaled-up to produce hundreds of thousands of trees for restoration plantings



Landowners, municipalities and other stakeholders will have EAB-resistant ash trees for planting