



Delaware Forest Service Recommendations on Ash Tree Management for Emerald Ash Borer

Emerald Ash Borer (*Agrilus planipennis*) has **not** been discovered in Delaware as of 2015. The closest known infestation of Emerald Ash Borer (EAB) at this time is Montgomery County, PA, north of Philadelphia. Landowners and communities in Delaware should be aware that EAB is, however, on its way and the Delaware Forest Service recommends that some preparation efforts including education, planning and ash inventory should begin now, while others, such as pesticide treatments, are **too early** to begin at this time.

Several very strong and coordinated eradication efforts, and quarantines for this insect have failed to stop EAB, and emphasis has now turned to monitoring its spread, and preparing for the inevitable effects that it will have on municipal, rural, and park land ash trees. In Delaware, ash trees make up only about one percent of the forest as a whole, however, ash is in some localities a common tree in floodplain woodlands, some upland woods in the piedmont of northern New Castle County, and as a planted yard, or street tree. All species of ash (mainly green and white ash are found in Delaware) are attacked and killed by EAB.

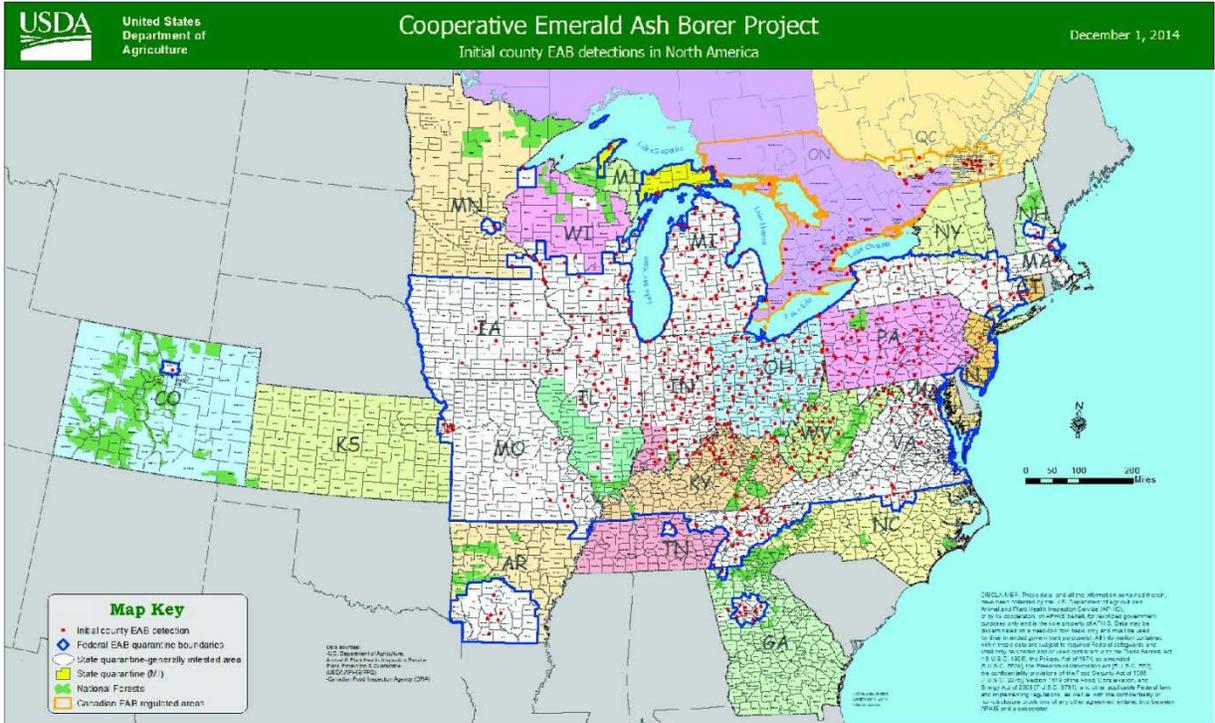
Recently, it has also been discovered that Fringetree (*Chionanthus*) is susceptible to attack and to what extent is still under study: (<http://content.govdelivery.com/accounts/USDAAPHIS/bulletins/d79089>).

The United States Department of Agriculture's Animal and Plant Health Inspection Service (USDA-APHIS) along with local state regulatory agencies (DDA, Plant Industries Section in Delaware) are responsible for establishing quarantines that restrict movements of ash materials out of known infested areas. Despite these efforts, isolated EAB populations far from the main infestation area (i.e. near Boulder, Colorado) have occurred due to the difficulty in enforcing these regulations, especially for materials like firewood, that are frequently moved by the general public.

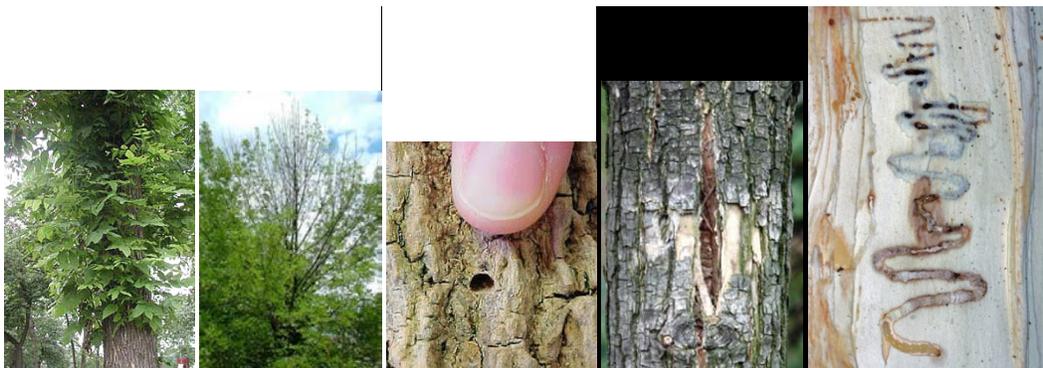
In terms of planning efforts, it is best to assume that EAB infestation will pass through Delaware at some time in the next several years. The Delaware Forest Service recommends:

1. Stop planting new Ash or Fringetree species. Alternative tree species recommended for planting in Delaware are available at <http://delawaretrees.com>, or by calling the Delaware Forest Service (1-800-282-8685).
2. Learn to identify Ash trees and the signs and symptoms of EAB attack. Call 1-866-322-4512, or the Delaware Forest Service at 1-800-282-8685 if you suspect that your ash tree is under attack.
3. Inventory the ash on your property, noting the diameter at breast height (dbh), location, nearby hazards, health, and physical condition of the trees.
4. Decide which of the healthy, well located trees you will try to save. Use the "[Decision Guide](#)" under "Information for Homeowners" on <http://emeraldashborer.info>.

5. Small diameter trees, less than about 8-10" dbh, are usually inexpensive to remove and replace with another species versus treating year after year for EAB.
6. Larger trees with more than 30 percent canopy decline (30 percent of the outer branch and leaf network not putting out leaves in the spring) will not likely be healthy enough to take up insecticides to hold off EAB infestation. They should be removed well before the invasion hits. Contact the Delaware Forest Service (1-800-282-8685) to determine the cause of the canopy decline. Several native insects, leaf diseases, drought, and general urban stress have caused large numbers of ash in Delaware to go into decline *in advance* of EAB.
7. If removal is decided upon, get quotes from several companies and arrange to have the tree(s) removed well in advance of the EAB infestation. The International Society for Arboriculture maintains a web-site that will help locate certified arborists at www.isa-arbor.com. Costs will rise and availability of contractors is likely to decline sharply as the EAB invasion hits an area. Also, ash trees become brittle and much more dangerous and costly to work on after they die.
8. Keep track of the EAB invasion and new discoveries at <http://emeraldashborer.info>.
9. **At the time that EAB is discovered in your county**, or is within 15 miles of your property, start insecticide treatment for the trees you want to save. As pointed out in the "[Decision Guide](#)" above, trees greater than about 20" dbh, or high value ash should be treated by professional, licensed arborists and applicators. Smaller trees may be treated with homeowner chemicals available at hardware stores and garden centers. Insecticides containing the active ingredient imidacloprid which are applied in the form of a soil drench around the base of the tree are readily available. Most treatments must be repeated annually, however, some professional formulations last two or more years. Detailed information about treatment options is available in the bulletin "Insecticide Options for Protecting Ash Trees" at <http://emeraldashborer.info>.
10. **After the initial infestation** has subsided due to removal and/or mortality of most of the ash in the area, surviving ash trees will probably need less frequent treatments once the EAB invasion has passed. Studies on the dynamics of EAB populations and whether the intensity of insecticide treatments can decrease after the local EAB population has collapsed are underway in Michigan and Ohio.
11. Continue to monitor the health and physical integrity of your ash inventory at least once a year.
12. If you live in a community or municipality that contains a number of ash trees, encourage your local tree commission or city forestry department to plan for EAB. Encourage them to learn from other municipalities that have made Emerald Ash Borer management plans. The Delaware Department of Agriculture's Plant Industries Section has a concise list of recommendations for Delaware cities with links to several existing municipal Emerald Ash Borer Management Plans available on-line. Click here for [a guide from the Delaware Department of Agriculture](#) that includes links to sample management plans from other municipalities.



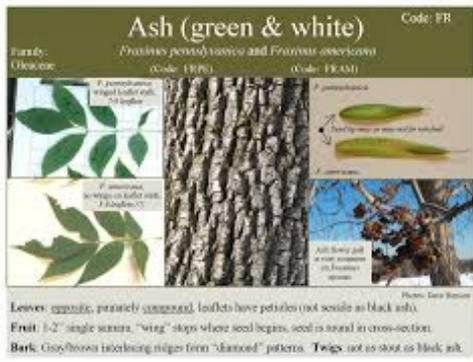
EAB Infestation map:



Signs and symptoms of EAB attack: (L to R) epicormic sprouting, crown and branch dieback, D-shaped exit holes, vertical fissures in bark, S-shaped larval galleries under bark (bark removed in photo).



Woodpecker activity, “bark blinding”, as another sign of EAB infestation:



Ash tree bark, seed, twigs, and leaves.



Emerald Ash Borer adult beetle, size comparison.