



Extension FactSheet

School of Environment and Natural Resources, 2021 Coffey Road, Columbus, Ohio 43210

Evaluating Tree Planting Decisions for the Landscape and Streetscape in a World with Emerald Ash Borer

Kathy Smith, Ohio State University Extension, Forestry

Amy Stone, Ohio State University Extension, Lucas County

Davis Sydnor, School of Environment and Natural Resources, The Ohio State University

Background

The emerald ash borer (EAB) is a non-native insect that is currently attacking ash trees in Michigan, Ohio, Indiana, Illinois, and Ontario, Canada. First identified in southeastern Michigan in 2002, EAB has already killed an estimated 15 million ash trees in cities and forests of that state. Unless some means are found to eradicate it, EAB has the potential to kill literally all of the native ash trees in Ohio and North America.

Management Strategies

As you evaluate management strategies to minimize the potential impact of emerald ash borer (EAB) in your landscape or streetscapes, there are several important facts that could influence your decision on what actions to take.

- There are no assurances that EAB will be controlled, contained, or eradicated.
- EAB was discovered in June 2002 in Michigan, and first identified in Ohio in February 2003. Because it is a new, exotic pest, our knowledge about the insect, its habits, and its management or control are constantly evolving and expanding. Current tree management strategies are relying on these new research findings to develop EAB management plans. You should stay

updated and incorporate the latest findings in your individualized plan. Tree management plans need to be reviewed and updated frequently in order to be most effective.

- It would be a serious error to assume that EAB is a concern only for those near known EAB infestations. EAB should be a concern for all Ohioans and everyone across North America.
- Certainly it is important for property owners in northwest Ohio to address methods for minimizing the potential impact of EAB and associated activities on their landscape or along their streets. It is, however, equally important for landowners in other parts of Ohio to evaluate the potential impact EAB could have on their landscape and streetscape and develop



Emerald ash borer larva (left) and adult next to D-shaped exit hole (right) (photos by Ken Chamberlain, The Ohio State University).

appropriate strategies to minimize that impact. If EAB is not contained or eradicated, management activities initiated now will be critical in reducing the impact of EAB in the future as it moves across Ohio and North America. This will be particularly true for landscapes and streetscapes with a relatively high ash composition.

- Proactive property owners will have greater control over their resources, both in terms of minimizing possible collateral damage from ash removal efforts on the property and in minimizing the long-term impact of EAB as it spreads.
- Keeping a good species diversity in plantings is always a wise management decision. As new pests and diseases inhabit our woody landscapes, species

diversity may be a critical key to minimizing their impact.

- Since we are constantly learning more about this invasive pest, it is important to stay up-to-date on the research, recommendations, and regulatory requirements. We recommend the following web sites for current information:

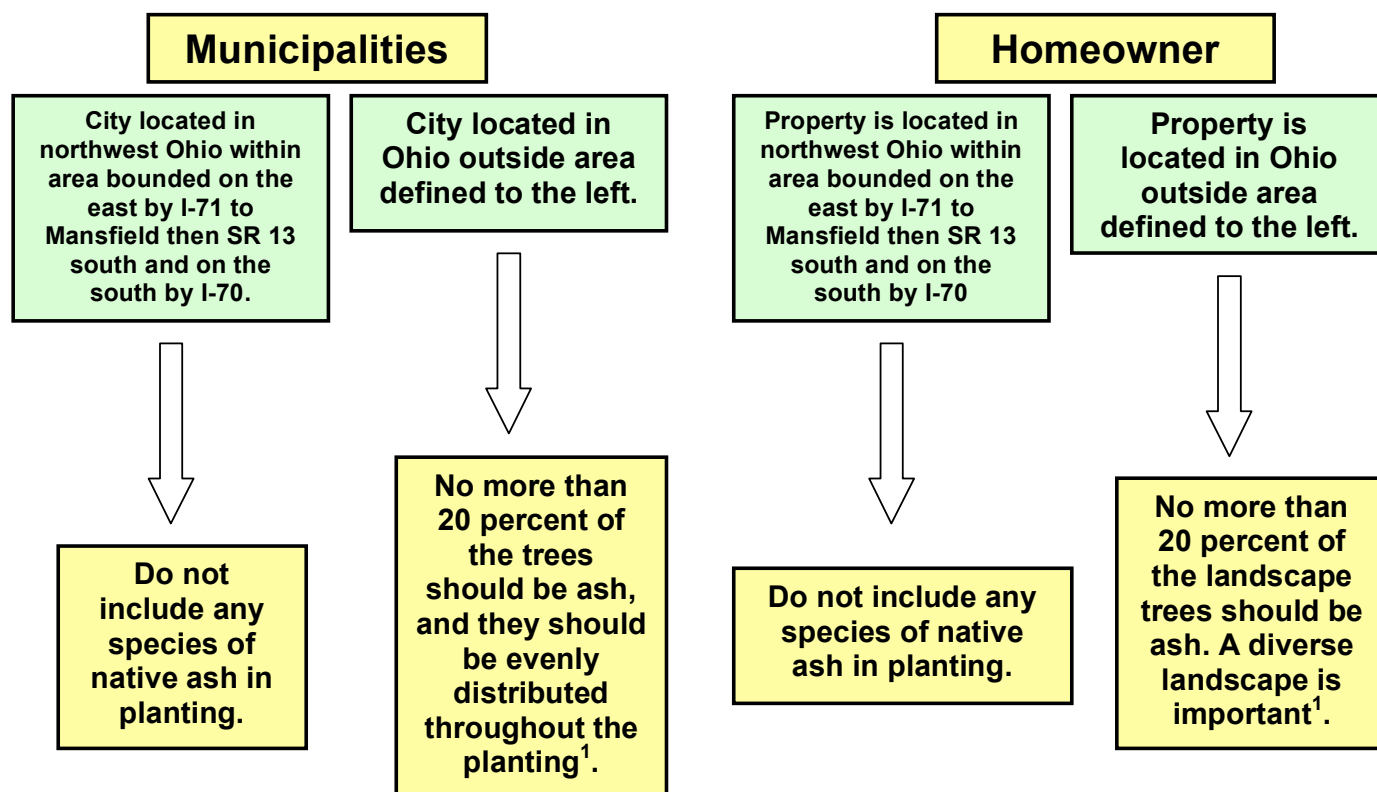
The Ohio State University/Ohio Agricultural Research and Development Center (OARDC),
<http://ashalert.osu.edu>

Ohio Department of Agriculture,
<http://www.ohioagriculture.gov/eab>

Multi-State EAB Task Force,
www.emeraldashborer.info

Tree Planting Scenarios for Municipalities and Homeowners in Ohio

For the purpose of this fact sheet, Ohio has been divided into two parts. Highway boundaries include I-71 to Mansfield and SR 13 and I-70. Recommendations for your area are below the location description.



¹Use the 20% figure for determining the number of ash trees to keep in the urban landscape or use the amount of budget dollars available for removal and/or replacement of trees to determine the number of ash trees to keep.

1. In northwest Ohio, within the area bounded on the east by I-71 to Mansfield then SR 13 south and on the south by I-70, the risks of a planting becoming infested with EAB or being included in an ash eradication zone are considered too high to include any species of native ash in a future planting. If the planting is infested with EAB, all of the ash will be lost; if it is included in an ash eradication zone all of the ash will be destroyed in an attempt to eradicate EAB.
2. In the remainder of Ohio, no more than 20 percent of the trees planted should be native ash (*Fraxinus* species). Be sure to remember the species percentages that are already in ground.
 - a. **If EAB infests** the planting, killing all the ash, the planting will still be at an acceptable stocking level. Other than the loss of ash as a species in the planting, the overall impact of losing the planted ash will be negligible.
 - b. If the planting falls within a future ash eradication zone, the removal of the ash at that time will have a negligible impact on the planting. If this happens, it is encouraged that landowners perform the required eradication themselves whenever possible to minimize collateral damage.
 - c. **If EAB doesn't infest** the planting, ash remains a viable component of the planting unless removed in the future for non-EAB reasons.

Landscape or Streetscape Plantings

In a landscape or urban planting, you will invest an estimated \$250 to \$500 per tree to purchase the tree and have it installed. The intent is for this tree to have a life span of 20 or more years with normal pruning and maintenance as needed. The lifespan of a landscape tree is usually longer than that of a street tree. No matter the exact location, if some of these trees are ash, what are the consequences?

- a. **If EAB infests** before the trees reach their targeted life span you will have invested \$250 to \$500 per tree and will now incur the expense of removing the tree and purchasing a replacement tree. Estimated removal costs—assuming limited travel and that there is easy access to the tree(s)—could be hundreds to thousands of dollars.
- b. If you are in an eradication zone and the trees are seized, the Ohio Department of Agriculture will

have them removed through a private contractor. Tree replacement costs are yours to incur.

- c. **If EAB doesn't infest**, you still have some very functional ash planted in your landscape or on the street, and the trees can continue to be managed as such.

Sample Costs

In order for communities and homeowners to get a feel for what costs may be involved in some of the above options, some examples have been developed and are presented below.

Treatment

If ash trees are to be treated with pesticides, treatments should begin three to five years before expected symptoms would be visible. Spray applications of a labeled pesticide range from \$90 to \$150 for two sprays on one tree in one location per year. Price breaks are likely to be available for applications to multiple trees in one location. The prices may vary based on the size of tree and number of trees being sprayed.

Systemic applications of a labeled pesticide range from \$75 to \$110 per tree per year. In the case of systemic applications there generally are no differences in



Ash tree showing a thinning canopy due to emerald ash borer infestation (photo by Amy Stone, The Ohio State University).

pricing no matter how many trees in one location are being treated. This cost estimate is for a 12-inch diameter tree. For current OSU Extension recommendations see “Insecticide Options for Protecting Ash Trees from Emerald Ash Borer and Their Effectiveness” located online at <http://ashalert.osu.edu>.

Removal

Removal costs can be impacted by a wide variety of issues. Location, available site access and felling space, and the necessity of climbing and removing the tree in pieces all impact the final removal price. The prices listed are the result of a survey of arborists in larger Ohio communities.

Example: Removal cost for a 12-inch tree is \$600 with an additional \$75 for stump removal if there are no confounding issues or concerns.

Summary

Whether for an individual property or a city tree-scape, a tree management plan is a valuable tool and is critical to minimize the impact of EAB on urban tree resources. While this fact sheet focuses on ash trees, a tree management plan should ultimately be more inclusive and be developed not just to look at the ash resource, but all your plant resources.

Use the chart in this fact sheet to select the recommended strategy. Remember, decisions regarding the number of native ash to plant should be made with consideration of the number of ash trees already existing in the area.

It is important to be knowledgeable and stay updated on the emerald ash borer. Keep learning and applying the knowledge gained, just as the scientists and researchers are doing.

Visit Ohio State University Extension’s web site “Ohioline” at: <http://ohioline.osu.edu>

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Keith L. Smith, Associate Vice President for Agricultural Administration and Director, OSU Extension