

Frequently Asked Questions and Answers on Emerald Ash Borer (EAB)

June 23, 2021

1. **What is the emerald ash borer?** It is a very small, shiny green beetle (½-inch long x ⅛ inch wide; about the size of President. Lincoln's image on a penny).
2. **What does EAB eat?** Hosts are species (and cultivars) of ash in the genus *Fraxinus*. Hosts include green ash (e.g., 'Marshall Seedless', 'Patmore', and 'Summit'), white ash (e.g., Autumn Purple®), black ash, blue ash, and pumpkin ash. Manchurian (*F. mandshurica*) and Chinese (*F. chinensis*) ash trees are primary hosts in the homeland [Eurasia]. White fringetree (*Chionanthus virginicus*) was discovered as a host in Ohio; this is not a common plant in Iowa. Mountain ashes (*Sorbus* species) are NOT hosts.
3. **Where is EAB from?** This beetle is native to Asia and is found in China and Korea. It also has been reported in Japan, Mongolia, the Russian Far East, and Taiwan. EAB arrived in the United States sometime before 2002 in wood packing materials. It has been recorded feeding on *F. chinensis* and *F. mandshurica* as a native borer.
4. **How did it get to Iowa?** Most EAB infestations in the United States have been started by unknowingly moving infested firewood, nursery plants, or sawmill logs. The adult beetle also can fly short distances (2 to 5 miles).
5. **Should I be concerned about EAB?** Yes. It kills ash trees, usually in 2-4 years. In the Midwest, millions of ash trees have been killed by EAB since 2002. There are about 3.1 million urban ash trees and an estimated 52 million ash trees in forests in Iowa. Statewide, Iowa averages 16- 17% ash on city property, though the ash component in tree inventories can reach 87%.
6. **How do I know if I have an ash tree in my yard?** Two sources to check on tree identification are: <https://store.extension.iastate.edu/ItemDetail.aspx?ProductID=1482> and http://www.extension.iastate.edu/forestry/iowa_trees/tree_id.html
7. **How do I know if my ash tree is infested?** Look for the following symptoms:
<https://store.extension.iastate.edu/Product/EAB-or-Native-Borer> and <https://store.extension.iastate.edu/Product/Common-Problems-of-Ash-Trees>
 - a. Canopy thinning or dying branches in the top of the tree
 - b. Water sprouts (suckers) growing from the trunk
 - c. Feeding notches on the edge of leaflets
 - d. Woodpecker feeding sites/many bark flakes on the lawn
 - e. S-shaped, larval feeding galleries under dead bark
 - f. D-shaped exit holes (1/8-inch diameter)
8. **For counties not yet known to be infested with EAB, who can help me determine if my tree is infested?**
Contact one of the following if you suspect EAB in your tree:
 - a. Iowa Dept. of Ag & Land Stewardship, State Entomologist Office: 515-725-1470
 - b. Iowa Department of Natural Resources 515-669-1402
 - c. Iowa State University Extension and Outreach, Entomology: 515-294-1101

9. **Who should be thinking about treating ash trees?** If you are a homeowner within 15 miles of a known infested area, you can consider the treatment of a healthy ash tree during the growing season (see #10 below). If you are not in a known infested area, treatment may be premature.

10. Ash Borer Management Options:

- a. There are two management publications available from Iowa State University Extension
 - English: <https://store.extension.iastate.edu/product/13114>
 - Spanish: <https://store.extension.iastate.edu/product/14762>
- b. Ash trees can be protected with insecticide applied by a commercial pesticide applicator or the homeowner. Trees must be healthy, vigorously growing, and valuable to your landscape.
- c. Most of the systemic insecticide treatments (i.e., imidacloprid and dinotefuran) must be done each year for the life of the tree. Two active ingredients will last for two years in a *light* EAB infestation: emamectin benzoate and azadirachtin. In *heavy* EAB infestations, only emamectin benzoate is effective for two years; azadirachtin must be injected every year.
- d. Treatment may not be effective for a given tree due to past injuries, age of the tree, soil moisture, soil compaction, and other site and environmental factors.
- e. Preventive treatments are most effective. Infested trees with less than 30% dieback of the crown might be saved for a few years, but the tree's crown will be misshapened due to removing the dead branches.
- f. Ash trees within 15 miles of a confirmed EAB site are at risk of an EAB attack. Preventive treatments are suggested within this risk zone but may be premature outside this area. Continued monitoring of ash trees outside the risk zone for EAB symptoms is suggested.
- g. Timing for EAB treatment varies with the application method, though spring, mid-April to mid-May, is the best time to treat for EAB. Systemic insecticides require time, adequate soil moisture, and active tree growth for distribution within the tree. Most soil-applied products (soil drench, granular, soil injection) *must be applied in early spring* (mid-April to mid-May) to be effective. Basal trunk sprays [most effective for trees <23" dbh] using dinotefuran can be applied from *mid-May through mid-June*. Trunk injections can generally be made during full canopy (April through August). Good soil moisture is critical for the effectiveness of any preventive treatment.
- h. Soil drench homeowner treatments are effective for ash trees up to 60 inches in circumference (20 inches in diameter). In comparison, granular treatments are available for trees up to 36 inches in circumference (12 inches in diameter). Homeowners can make only one application per year – in the early spring of a calendar year. Trees larger than 60 inches in circumference (20-inch diameter) and trees with a restricted root area to put down the treatment (such as between a road and sidewalk) will need to be treated by a certified commercial pesticide applicator.
- i. There are several treatment options available for ash trees when a commercial pesticide applicator makes the application. Always use a certified applicator with experience in treating trees. For assistance in making a list of prospective certified applicators in your county/area, go to <https://store.extension.iastate.edu/Product/Finding-a-Certified-Pesticide-Applicator-for-Emerald-Ash-Borer-Treatment>
- j. There is a per acre use limitation for soil treatments and basal bark treatments; consult the product label when planning applications. There is no per acre use limitation for trunk injections.
- k. ISU Extension and Outreach does NOT recommend canopy sprays because of limited effectiveness, the need for specialized equipment, spray drift, and possible adverse effects to non-target organisms.

11. **If a pesticide applicator contacts me to treat ash trees for EAB, what course should I take?** The best time for most preventive applications for EAB is spring. If you live within 15 miles of a confirmed EAB-infested site, get an estimate for the treatment. It is best to get at least one additional estimate before any work is done. Then you can make a decision this winter and call to schedule the treatment early next year. If you live outside the risk zone, thank the applicator for showing interest and keep the company information on file.
12. **Where has EAB been found in Iowa?** EAB infestations have been confirmed in *over three-fourths of* Iowa counties. Counties considered infested:
- 1) Adair – Bridgewater (Mormon Trail Park), Lake Orient Recreational Area (2016); Greenfield Lake (2018)
 - 2) Adams – Rural area north of Cromwell (2016)
 - 3) Allamakee –New Albin, Lansing, Black Hawk Point, Plough Slough (2010)
 - 4) Appanoose – Moravia (2014)
 - 5) Audubon – Rural Exira (2020)
 - 6) Benton – Belle Plaine (2017), Newhall (2020)
 - 7) Black Hawk–Waterloo (2014), Deerwood Park (2017)
 - 8) Boone – Boone (2014), Ledges State Park (2017)
 - 9) Bremer–Waverly (2014)
 - 10) Buchanan – Winthrop (2018)
 - 11) Buena Vista – Alta (2017)
 - 12) Butler – Clarksville (2017)
 - 13) Carroll – Rural area west of Carroll (2018)
 - 14) Cass – Rural areas near Massena and Anita (2019), Lake Anita State Park (2020)
 - 15) Cedar – Mechanicsville (2013)
 - 16) Cerro Gordo – Mason City (2020)
 - 17) Chickasaw – New Hampton (2019)
 - 18) Cherokee County, Aurelia (2021)
 - 19) Clarke – Osceola (2016)
 - 20) Clayton – Marquette, Monona (2017), Guttenberg (2020)
 - 21) Clinton – Clinton (2015), De Witt (2019), Syracuse WMA (2020)
 - 22) Crawford – Denison (2018)
 - 23) Dallas – Waukee (2015), rural De Soto (2019)
 - 24) Davis – Rural area north of Bloomfield (2015)
 - 25) Decatur – Rural area north of Grand River (2017)
 - 26) Delaware – Edgewood (2018)
 - 27) Des Moines – Burlington (2013)
 - 28) Dubuque – Dubuque (2015), Dyersville (2017)
 - 29) Fayette – Oelwein (2017)
 - 30) Floyd – Charles City (2017)
 - 31) Franklin – Hampton (2019)
 - 32) Fremont - rural Farragut (2021)
 - 33) Greene – East of Grand Junction (2017)
 - 34) Grundy – Dike (2018)
 - 35) Guthrie – Casey (2020)
 - 36) Hamilton – Rural area near Randall (2018), Stratford City Park (2020)
 - 37) Hardin – Eldora (2018), rural Iowa Falls (2021)
 - 38) Harrison – Logan, Missouri Valley (2016)
 - 39) Henry – Mt. Pleasant (2014), Geode State Park (2017)
 - 40) Howard – Cresco (2017)

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- 41) Iowa – Lake Iowa Park (2016), north of Middle Amana (2017), Randolph Wildlife Management Area (2019)
- 42) Jackson – Bellevue (2017), Maquoketa (2020), rural Miles (2020)
- 43) Jasper – Newton (2014), Rock Creek State Park (2017)
- 44) Jefferson – Fairfield (2013)
- 45) Johnson – Coralville, Iowa City (2016), south of Oxford (2017); Hawkeye Wildlife Management Area, North Liberty (2019)
- 46) Jones – Anamosa (2019)
- 47) Keokuk – Hedrick (2015)
- 48) Lee – Fort Madison (2015)
- 49) Linn – Cedar Rapids (2015), Toddville (2016), Lisbon (2017), Marion (2018), Hiawatha (2019)
- 50) Louisa – Rural area in the central part of the county (2016), Columbus Junction (2020)
- 51) Lucas – Private woodlot (2014), Chariton (2016)
- 52) Lyon - Rural Inwood (2021)
- 53) Madison – Rural site south of Winterset (2017), Winterset (2018), Clanton Creek Rec Area (2019)
- 54) Mahaska – Eddyville (2014), rural area NW of Oskaloosa (2015)
- 55) Marion – Maryville (2014), Marion Co. Park (2017)
- 56) Marshall – Rural area N of Le Grand (2018), Marshalltown (2018)
- 57) Mills – Glenwood (2020)
- 58) Monroe – Private property (2014), Albia (2017)
- 59) Montgomery – Rural area NW of Red Oak (2015); rural area north of Villisca (2016)
- 60) Muscatine – Muscatine (2014), Wiese Slough WMA, Rural Fairport, rural Nichols (2020)
- 61) Page – Clarinda (2018), rural Shenandoah (2021)
- 62) Pocahontas – Little Clear Lake Park (2021)
- 63) Polk – Urbandale, West Des Moines (2015); Des Moines, Mitchellville, Windsor Heights (2016), Johnston (2018), Clive (2019), Ankeny (2020), Altoona (2020)
- 64) Pottawattamie – Council Bluffs (2018), rural Minden (2019), rural Walnut (2020)
- 65) Poweshiek – Grinnell (2015), Montezuma (2017)
- 66) Ringgold – west of Tingley (2017)
- 67) Sac – rural site outside Schaller (2020), Sac City (2021)
- 68) Scott – Davenport (2015), Bettendorf (2016), Scott Co. Park (2017), West Lake Park (2017)
- 69) Shelby – Shelby (2020)
- 70) Story – Story City (2014), Ames (2018), Hickory Grove Park/Colo, Nevada (2020)
- 71) Tama – Rural area north of Le Grand (2018), Tama and Toledo (2021)
- 72) Taylor – Clearfield (2018)
- 73) Union – Creston (2013)
- 74) Van Buren – Birmingham (2016)
- 75) Wapello – Eddyville (2014), Eldon (2017)
- 76) Warren – Rural Milo (2017)
- 77) Washington – Brighton (2016), Washington (2017)
- 78) Wayne – North of Corydon (2017), rural Seymour (2021)
- 79) Webster – Fort Dodge (2020)
- 80) Winneshiek – Decorah (2016)
- 81) Wright - rural Dows (2021)

13. **What does an EAB quarantine mean?** A quarantine by a state agriculture department means that hardwood firewood, ash logs, and wood chips cannot be moved out of the area without a permit. Homeowners must not remove their ash tree or firewood from their tree to an area outside the quarantine. Tree removal companies must not haul logs or firewood outside the quarantine area unless inspected and treated as required by the regulations.
14. **How many counties in Iowa have been quarantined?** The entire state (99 counties) of Iowa is quarantined for EAB.
15. **What should a homeowner or tree care company do with ash trees cut down in or near the infested area?** We request that you dispose of or use the wood within your county.
16. **Can I use the mulch produced by chipping an EAB-infested tree for landscaping?** Research has shown that if the chip size is 1-inch x 1-inch or smaller (in two dimensions) the EAB does not survive, and the chips can be used without concern. However, if the chip size is larger, it is best to bury or burn these chips (according to the local ordinance) as soon as practical to prevent spreading EAB into new areas.
17. **Can I use the wood from EAB-infested ash as firewood?** Yes, with one qualification. Once the ash tree is cut into pieces, the pieces can be used as firewood on your property. Please do not take infested firewood with you on camping trips, tailgating, hunting, or other places because you will spread EAB.
18. **What can my ash tree be used for besides firewood?** Depending on the trunk and main branch straightness, ash killed by EAB can be processed for lumber or can be debarked and used for outdoor furniture or landscaping. Pieces of scrap wood with the bark still attached should be burned, buried, or chipped.
19. **What general recommendations are available to communities?** The Iowa Department of Natural Resources has worked with several communities to deal with EAB infestations. Contact Tivon Feeley (515-669-1402) or Emma Hanigan (515-249-1732) for more information.
20. **Where can I find current information about EAB on the Internet?** Sites to gather current information about this exotic pest include:
 - a. National: www.emeraldashborer.info
 - b. ISU Extension & Outreach: <https://www.extension.iastate.edu/psep/emerald-ash-borer-eab>
 - c. IDALS: www.iowaTreePests.com
 - d. IDNR: www.iowadnr.gov/Environment/Forestry/ForestHealth/EmeraldAshBorer.aspx
21. **Who is a local contact?** Call your county Iowa State University Extension & Outreach office for more information. To contact your Extension & Outreach office, visit <https://www.extension.iastate.edu/countyservices/>