

Emerald Ash Borer Key Points and Recommendations
Nebraska Emerald Ash Borer Working Group
April 2014

Description

- Adult: metallic green beetle, slender, 1/2 inch long
- Larva: white, legless, somewhat flattened, up to 1¼ inches long
- Exit hole in bark: D-shaped, 1/8 inch in diameter
- Adults are typically present from May through August.

Origin and spread

- EAB is from Asia.
- It was discovered in the US in 2002 in the Detroit area.
- It can be spread easily by the movement of larvae and adults in ash wood, such as firewood.
- It can fly up to 6 miles but normally does not fly far from where it emerges.
- Recommendation: Do not move firewood. Buy and use locally.
- Information about quarantines: Go to www.emeraldashborer.info and select "Moving Firewood."

Trees attacked

- All species of ash native to North America are susceptible.
- Researchers are evaluating ash species from Asia for susceptibility, but no highly resistant species has been found so far.
- Mountain-ash is not a true ash and is not susceptible.

Current locations

- EAB has not yet been found in Nebraska.
- It is closest to Nebraska in the Kansas City area (65 mi.), Creston, IA (80 mi.), and Boulder, CO (95 mi.).
- It is currently known to be present in 22 states, including the neighboring states of IA, MO, KS, and CO.

Prognosis

- Given enough time, EAB will likely kill all native, unprotected ash trees over most of North America.
- Within a community, about 10% of ash trees are typically killed in the first 4 years after EAB is discovered; about 70% of ash trees are typically killed in the next 4 years—80% in 8 years.
- Eradication of EAB by trying to remove all ash trees has been found to be infeasible.
- Treatments are available that can protect trees.
- "Economics favor insecticide treatment to protect mature urban trees." ¹

Community recommendations

- Communities should gain an understanding of their ash tree resource: number of trees, locations, sizes, conditions.
- Consider removing ash trees that are in poor health or in poor locations in advance of EAB arrival to spread removal costs over more years.
- Consider treatments to protect high value trees in areas within 15 miles of a known infested area.
- Increase plant diversity when replacing lost ash.

Homeowner recommendations

- No treatment for EAB is recommended at this time, because it has not been found in Nebraska or close enough to justify the treatment injury, cost, health risk and environmental effect.
- Consider treatments to protect high value trees in areas only within 15 miles of a known infested area.
- If a treatment is needed, hire a certified arborist, especially for large trees. (NAA certified arborists: www.nearborists.org, select "Find an Arborist;" ISA certified arborists: www.isa-arbor.com, select "Find a Tree Care Service")

Treatments—general

- Treatments should be considered for valuable trees only when EAB is known to be within 15 miles.
- Treatments are currently not recommended in Nebraska, because EAB is not known to be within 15 miles.
- If treatments are used, they will be needed every one or two years, depending on the product, through the remaining life of the tree.

¹ Deborah McCullough, Michigan State University

- Trees with early infestations of EAB, causing leaf canopy thinning of less than 30%, can usually be treated effectively and usually recover from the EAB damage.
- Trees with leaf canopy thinning of 30% or more often do not respond well to treatments because of the greater amount of damage inside the tree.
- Trees have typically been attacked by EAB for a few years before leaf canopy thinning or beetle exit holes in the bark are noticed.
- All treatments have costs beyond financial costs that should be considered before treatments are applied, including injury to the tree and potential harm to people, pets and other organisms in the environment.

Treatment options

- Trunk injections, implants, basal trunk sprays, and bark and foliage sprays can protect trees of all sizes.
- Soil drenches and granules are most effective on small trees.
- Soil drenches and granules are effective on large trees at higher rates if the label allows it.
- Foliage sprays only improve control and are not recommended to be used alone.
- Trunk injections and dinotefuran basal trunk sprays are applied only by professionals.
- Average cost of a treatment applied by an arborist to an average-size tree (20-inch DBH) is around \$100 per year.
- Homeowners can apply trunk implants, soil drenches and granules, and bark and foliage sprays.

Common professional products available in Nebraska (no endorsement is implied; other products may be available)

- Trunk injections and implant: **Acephate** (Acecap (implant)), **emamectin benzoate** (TREE-age), and **imidacloprid** (IMA-jet, Imicide, Pointer)
- Soil drenches and systemic basal trunk sprays: **Dinotefuran** (Safari, Transtect, Zylam) and **imidacloprid** (Bandit, Criterion, Merit, Xytect)
- Residual bark and foliage sprays: **Bifenthrin** (Onyx), **cyfluthrin** (Tempo) and **permethrin** (Astro)

Common homeowner products available in Nebraska (no endorsement is implied; other products may be available)

- Trunk implant: **Acephate** (Acecap)
- Soil drenches and granules: **Dinotefuran** (Green Light Tree & Shrub Insect Control with Safari; Ortho Tree & Shrub Insect Control Granules), and **imidacloprid** (Bayer Advanced 12 month Tree & Shrub Protect & Feed Concentrate; Compare N Save Systemic Tree & Shrub Insect Drench, Merit)
- Residual bark and foliage sprays: **Permethrin** (Hi-Yield 38 Plus Turf, Termite and Ornamental Insect Control), and **spinosad** (Ferti-lome Borer, Bagworm, Tent Caterpillar & Leafminer Spray)

Treatment timing

- Trunk injections and implants should be applied in mid-May through early June.
- Basal trunk sprays with dinotefuran should be applied in mid-May through early June.
- Bark sprays with bifenthrin, cyfluthrin or permethrin should be applied in mid-May.
- Soil drenches with imidacloprid should be applied in late April (or fall, but not as effective).
- Soil drenches with dinotefuran should be applied in mid-May through early June.

Reporting suspected EAB locations and specimens

- Nebraska Department of Agriculture: 402-471-2351
- USDA APHIS: 402-896-8256
- Nebraska Forest Service: 402-472-2944

Nebraska publications

- Emerald Ash Borer Look-Alikes - entomology.unl.edu/eab/eablookalikes.pdf
- Emerald Ash Borer: Frequently Asked Questions - nfs.unl.edu/documents/EAB/EABFAQsFH18-2012.pdf
- Emerald Ash Borer: Guidelines for Nebraska Homeowners
nfs.unl.edu/documents/EAB/EABhomeownerfullsheet2012Oct.pdf
- Emerald Ash Borer: Readiness Planning for Nebraska Communities
nfs.unl.edu/documents/foresthealth/EAB_community_readiness_full_sheet.pdf
- Emerald Ash Borer: Treatment Options - nfs.unl.edu/documents/EAB/EABTmtOptionsFH13-2012.pdf
- Decline in Ash Trees: Borers and Bark Beetles - An Identification Guide
nfs.unl.edu/documents/EAB/ashdeclineborersnotyetEABfullsheet.pdf
- Decline in Ash Trees: Diseases & Environmental Stresses - An Identification Guide
nfs.unl.edu/documents/EAB/ashdeclinediseasesfullsheetfinal.pdf

Other good recent publication

- Control Options for EAB in Colorado - bspm.agsci.colostate.edu/files/2014/02/EAB-control-options-February-11.pdf