

Gardening Basics

Emerald Ash Borer

The year 2021 was rough for the Denton area's ash trees. The week-long freezing weather that February caused considerable damage or outright killed several types of trees, including ashes. That environmental stress has lasting effects plus ashes are now also battling a killer beetle, the emerald ash borer (*Agrilus planipennis* Fairmaire). It was first spotted within the Denton city limits in May 2020 and has since spread to other neighborhoods. Most tree experts agree that emerald ash borer (EAB) may be the most important exotic tree pest to enter the country since chestnut blight, with some experts worrying that die-back could threaten extinction for the 15-plus species of native ash in the U.S.

Freeze damage, EAB infestation, or both?

Between freeze damage and EAB, this double whammy may be more than an ash tree, or your wallet, can bear.

Freeze damage and emerald ash borer (EAB) infestation can appear similar. Epicormic sprouting (where leafy shoots emerge directly from the tree trunk rather than at the tips of branches) is common in both conditions. Epicormic sprouts indicate significant damage to the vascular system under the bark.

Splitting bark is another symptom of both freeze damage and EAB. A freeze/thaw cycle creates fissures in the bark from expansion and contraction. The EAB larvae chew extensive serpentine tunnels that horizontally crisscross the tree's vascular system interrupting the flow of water and nutrients. As the vascular tissue is consumed, the bark separates from the tree. Splitting or missing bark due to an EAB infestation will typically expose the characteristic 'S-shaped' tunnels underneath and contain the 1/8" D-shaped exit holes where the mature larvae emerged as adult beetles.

Where freeze damage usually causes dramatic, sudden dieback of major limbs, the presence of emerald ash borer generally causes a more subtle loss over time usually starting in the upper canopy where it may not be immediately visible. Woodpecker activity may be an additional symptom of the presence of EAB.



"65/366 - a tragedy" by Judy Gallagher via Flickr, CC BY 2.0.



Emerald Ash Borer, Howard Russell, Michigan State University, Bugwood.org, CC BY 3.0



Agrilus planipennis - Emerald Ash Borer by promiseminime via Flickr CC BY-NC-ND 2.0

Can the ashes be saved?

Unfortunately, an old ash tree near Denton City Hall was a victim of the February 2021 freeze, and dead limbs on ash trees are very brittle and can be a major safety hazard to people and property. Homeowners should monitor their ashes, and if a tree has a thinning canopy, epicormic growth, or splitting or bark loss with insect galleries visible, it should be evaluated for EAB and possible removal by a Certified Arborist. The confirmed presence of EAB in several Denton neighborhoods means you may only be delaying the inevitable as infested trees die in 2-3 years.

Prevention of EAB infestation

There are several preventative treatment options for emerald ash borer. They consist primarily of insecticide injections (usually lasting 2-3 years) into individual ash trees by licensed lawn care companies or Certified Arborists or do-it-yourself treatments are also available from garden centers. They involve soil drenches with insecticides containing imidacloprid, azadirachtin, or dinotefuran. DIY treatments must be reapplied annually. Consider though, that it is generally more cost-effective to treat healthy, mature ash trees than to remove and replace them.

If planting new trees, diversify your landscape and choose other trees suited to our climate, instead of ash. The Texas A&M Forest Service's "Texas Tree Planting Guide" is a valuable tool for selecting the right tree for the right place: <https://texastreeplanting.tamu.edu/> Also, to prevent the further spread of EAB, do not transport firewood into or out of our area.

Questions?

For more information on EAB, it's ID, biology, and control, go to the Emerald Ash Borer Network at <https://www.emeraldashborer.info>.

Denton residents with questions or concerns about EAB can contact the City of Denton's Urban Forester at 940.349.8337.

Resources

De Groot, P., and Centre, G. L. F. (2006), "A Visual Guide to Detecting Emerald Ash Borer Damage", Canadian Forest Service, Sault Ste. Marie, Ont., (accessed May 21, 2024), <https://cfs.nrcan.gc.ca/pubwarehouse/pdfs/26856.pdf>
"Emerald Ash Borer Network Information for Homeowners" Michigan State University Dept. of Entomology, the Dept. of Forestry and MSU Extension, (accessed 2024-April 6), <http://www.emeraldashborer.info/>
"Find an Arborist", International Society of Arboriculture, (accessed May 21, 2024), <https://www.treesaregood.org/findanarborist/findanarborist>
"Manage Forests and Land | Forest Health | Emerald Ash Borer", Texas A&M Forestry Service, (accessed May 21, 2024), <https://tfsweb.tamu.edu/eab/>
"Urban and Community Forestry | After the Storm | Can My Tree Be Saved", Texas A&M Forest Service, cooperating. (accessed May 21, 2024), <https://tfsweb.tamu.edu/afterthestorm/canmytreebesaved/>

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