Insects and Disease Issues of Ash in Grand Junction

For many years, green, white and European ash were planted heavily in the Grand Junction area for their fall color and because they were thought to use less water. It turns out they do not thrive in hot areas like parking lots and rocked landscapes. Even prior to the long-term drought, these trees attracted lilac ash borer. Ash trees, Fraxinus spp.*, make up more than 20% of our tree canopy, providing shade, oxygen, and many more benefits. If your ash tree is young, small, or if more than 30% of the canopy has died, consider planting a different tree species nearby to eventually replace the ash tree. This is called planting a shadow tree. Here is an app on how to identify ash trees: https://play.google.com/store/apps/details?id=com.EAB.app&hl=en&pli=*

Figure 1 Autumn Purple Ash, CSUE Barbara Bates, retired

To have a healthy tree, it all starts with the right tree in the right place and proper planting techniques. Issues with trees that were incorrectly planted can take a while to develop and may show up years later. How to pick the right plant: https://static.colostate.edu/client-files/csfs/pdfs/632.pdf
Planting Steps: https://static.colostate.edu/client-files/csfs/pdfs/TreePlanting_636.pdf

Watering is often a source of stress for trees. Drip irrigation is only good at the base of the tree for the first 4 months of the growing season then must be moved out from the base. Here is how to water recently planted trees. https://cmg.extension.colostate.edu/Gardennotes/635.pdf For mature trees, water needs by the roots is wider and down 12-18" in depth. Here is how to water mature trees: https://cmg.extension.colostate.edu/Gardennotes/657.pdf Since our winters can be dry, watering once a month is instrumental in keeping a tree healthy. Here is that factsheet: https://extension.colostate.edu/docs/pubs/garden/07211.pdf. See the end of the document for more tips on keeping your trees healthy, which helps prevent insect and disease issues. Contact the Extension office with questions about tree and site selection, planting, and care.

Lilac/ash borer (*Podosesia syringae)*, is a native wood boring moth that is present across Colorado and commonly found in the Grand Junction area. The larvae of this insect create large irregular gouging wounds in the trunk and around the larger limbs from ground level and up to around 10', though sometimes higher when contact sprays

have been used. Evidence of this insect can be seen in irregular, large-sized exit holes, about the size of a pencil eraser. Sometimes the exoskeleton of this clear wing borer is left when it emerges, leaving it sticking out of the trunk. The adult moth has clear wings, and mimics a wasp, but does not sting. Well established trees that receive the appropriate amount of care and water will not be dramatically injured by this insect. This insect is not only is attracted to ash but also lilac and privet plants. Trees under stress - those incorrectly planted, planted in poor sites such as hot locations, not receiving enough water, and those not established, - should be treated with a trunk and large limb spray such as a pyrethroid contact insecticide. This prevents this insect from entering a tree, which occurs between mid-April and mid-May. Controls beyond appropriate care includes other pesticides-- bifenthrin, permethrin, and chlorantraniliprole (Acelepryn). Always read and follow pesticide label instructions; it's the law. Systemic imidacloprid does not work on this insect as it bores beyond the cambium layer. For more information see the Colorado State University Extension factsheet: https://extension.colostate.edu/docs/pubs/insect/05614.pdf

Figure 2 Pupae shed LAB, CSUE

Figure 3 Mating lilac/ash borer Adults

Figure 4 Larvae Damage on Young Ash

Ash bark beetle (*Hylesinus* spp.), is a native insect that, in the past, only went after dying and much stressed ash trees. Since winters have been mild and prolonged drought has stressed many more trees, high numbers of this insect are being observed. One to three generations per year occur depending on the growing season. Ash bark beetles are specific to ash species and infest no other trees. It is a tiny beetle, 1/13-1/6" long, - that creates a gallery perpendicular to the stem and trunk and then creates many branches off this main gallery to lay its eggs. Entrance, ventilation, and exit holes can be found on the bark of an infested tree. Unfortunately there are usually many of these insects that invade a tree causing dieback of limbs. Historically, chemical controls have

not been recommended, but since we are at high insect populations and greater degrees of stressed trees, at this point it is recommended that higher value ash are preventatively treated for this insect. A systemic insecticide, emamectin benzoate, applied by injection by a certified arborist with a pesticide license, is proving to be the most effective. Contact the Extension office if you want other home options.

Figure 5 Pin-sized ash bark beetle holes, Forestry Images

Figure 6 Perpendicular galleries of ash bark beetle, IPM images

Figure 7 Ash bark beetle, USU Ext.

Flat headed apple tree borer (***Chrysobothris femorata)***, is an insect that is attracted to many species of trees that are stressed and dying. It is a metallic wood-boring beetle with a legless larva with a large flat head. Adults create large D-shaped holes in the tree upon their exiting the trunk. No controls are recommended for this insect since it only is attracted to dying trees. Trees that are infested with this insect are probably too far gone to save.

Figure 8 Flat headed apple tree borer and D- exit hole. Intermountainfruit.org

Emerald ash borer (*Agrilus planipennis)*, is a non-native green metallic borer that is making its way across the United States. It is thought that this beetle, native to Asia, was brought into Colorado by someone moving infested firewood to Boulder County. It was first discovered in Boulder in September of 2013 and continues to spread on the Front Range. https://csfs.colostate.edu/forest-management/emerald-ashborer/#:~:text=throughout%20the%20central%20and%20northeastern,of%20Boulder%20in%20September%202013. It will take someone bringing infested trees or wood to our area as it cannot fly over the Continental divide, which serves as a geographic barrier. This insect is attracted to any ash trees, *Fraxinus* spp., with the possible exception of the native single-leaf ash that is found here on the Colorado National Monument and surrounding area. This insect first causes a thinning of the crown of the tree. Often the damage is not noticeable before the tree is too far damaged to treat.

Figure 9 Emerald Ash Borer, Forestry Images

Anthracnose is a fungal disease that thrives when there is a wet spring or summer. It affects leaves and can migrate into twigs, stems and branches over time causing a witch's broom effect on smaller branches. Lesions start on the perimeter of the leaf and work their way into the center, somewhat following veins of the leaf. Leaves prematurely drop. Remove infected leaves.

Figure 10 Ash Anthracnose, OSU Ext.

Cultural Problems of ash trees can cause die back of the tree years later. These include improper planting (too deep, girdling roots, fabric and string left on…). Placing the irrigation too closely to the tree after its first few months can cause root or crown rot. Improper watering of the entire root system, which is at a minimum 2 times as wide as the height of the tree can cause drought response. And as mentioned in the opening, planting ash tree is situations that are too hot, dry or too wet can cause long term issues.

How to keep your ash tree as healthy as possible:

1. Make sure it is not planted too deep. Should have a flare at the base, if it looks like a telephone pole it is planted to deeply.
2. **If the tree is in a lawn**, make sure some water is getting down 12-18" and well beyond the drip line at least monthly. Remove lawn and leave bare soil 1-2' around the trunk to allow the tree root flare to dry from frequent lawn water. Water your lawn as infrequently as possible and water deeply so the tree is happy and the lawn is more drought tolerant.
3. **If the tree is in rock**, pull the rock away from the trunk 1-2'. Remove weed fabric a minimum of 8' away but ideally twice the width of the tree. Add drip emitters all around the tree and out beyond the drip line to water the entire tree's root system.
4. Fertilize with nitrogen in May/June and again after leaf drop as a root feed.
5. Do a preventative treatment for lilac/ash borer and for ash bark beetle.
6. Plant different trees to prevent a monoculture of trees.
7. Bring samples to the Extension office as soon as something doesn't look right or call a certified arborist. A list can be found at https://www.gjcity.org/DocumentCenter/View/334/2022-Licensed-Tree-Care-Providers-PDF?bidId= Always a good idea to ask for references, insurance, proof of certification. Additional information on hiring an arborist:

https://www.treesaregood.org/Portals/0/TreesAreGood_Why%20Hire%20An%20Arborist_0321.pdf

8. Contact CSU Extension for more information on tree health: 970-244-1834

Resources Referenced and not linked to above:

City of Grand Junction – Root for our ash: https://www.gjcity.org/1181/Root-For-Your-Ash

CSU Extension Tri River Area Website https://tra.extension.colostate.edu/

CSU CO-Horts Blog (tree search) https://csuhort.blogspot.com/search?q=tree

USFS Ash Bark Beetle
https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5347216.pdf

USU Extension
https://extension.usu.edu/pests/ipm/ornamental-pest-guide/arthopods/bark-beetles/ash-bark-beetle

Though we do NOT currently have Emerald Ash Borer in Grand Junction or on the Western Slope, it is just one truck load of wood away unfortunately.
https://extension.colostate.edu/topic-areas/insects/emerald-ash-borer-resources/
If you see this insect, please notify CSU Extension. Bringing in a sample or picture is best to 2775 Highway 50, Grand Junction. They will confirm and report to the appropriate people.

Increasing Diversity: Replacing Ash: https://csfs.colostate.edu/2015/04/13/plant-trees-to-replace-ash-increase-diversity/

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