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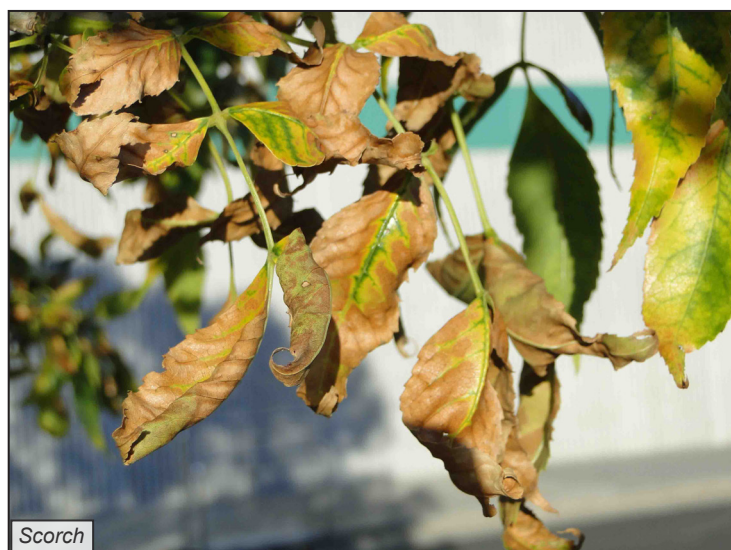
# Decline in Ash Trees: Diseases & Environmental Stresses


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## *An Identification Guide*

**Laurie Stepanek, Forest Health Assistant**

Many diseases and environmental stresses contribute to the decline of ash trees in Nebraska. This publication describes the common characteristics of these problems.



Scorch



Epicormic shoots

### **General symptoms of decline**

- Yellowing
- Wilting
- Leaf scorch
- Sparse foliage
- Stunted twig growth
- Late leaf emergence
- Early fall coloration
- Dying branches
- Epicormic shoots, water sprouts, suckers (shoots sprouting directly from the trunk or major limbs)
- Increased susceptibility to insects and diseases

## Poor Sites and Drought

- ✓ Ash trees naturally grow near streams and rivers where moisture is plentiful and shade and natural leaf litter protect and cool the roots.
- ✓ Ash planted in landscapes or windbreaks often are located in relatively hot, dry sites and given little or no supplemental water. Such conditions stress trees and lead to decline.
- ✓ Proper watering and mulching with woodchips can help alleviate stress.



### Ash in parking lots:

- Hot concrete or asphalt.
- Restricted rooting space.
- Rock mulch (absorbs heat).
- Weed barrier (limits oxygen and moisture movement into the soil).



### Soil cracks:

- Unwatered trees are frequently stressed.
- Daily watering or watering every other day is also stressful.
- Drought adds to the problem.

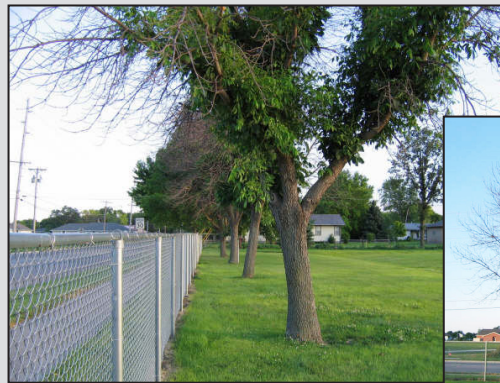


### Stressful site:

- Compacted, dry soil.
- Exposed roots.
- No woodchip mulch around the tree.

## Herbicide Injury

- ✓ Symptoms include twisted, cupped, curled or stunted leaves; defoliation; branch dieback; and sometimes tree death.
- ✓ Control: identify the source of the herbicide and prevent a repeat exposure.



- Tree roots can pick up herbicides from the soil.<sup>1</sup>
- Exposure may occur from herbicides applied along a fence, on sidewalks or driveways, around utilities, or from lawn herbicides.



Healthy ash leaf



Herbicide damage



Distorted, stunted new growth.<sup>2</sup>

## Girdling Injury

- ✓ Girdling restricts the flow of water, nutrients and sugars in the trunk and branches.



- Twine, string, wire, or hose left on trees can cause injury.
- Do not stake trees more than a year.



### **Girdling roots:**

- May be above or below soil.
- Often develop because trees grew in a pot for too long.



### **"Mower blight":**

- Missing bark and damaged inner tissues.
- Caused by mowers and string trimmers.
- Grass growing next to the trunk invites "mower blight."

## Vascular Diseases

- ✓ Affect the tissues that carry water, sugars and nutrients within trees.
- ✓ Not easy to diagnose because they usually do not cause unique symptoms.
- ✓ No chemical controls for these ash diseases.



### **Verticillium wilt<sup>3</sup>:**

- slow growth
- sparse foliage
- wilting
- yellowing
- scorching
- defoliation
- branch dieback
- tree death



### **Ash yellows<sup>4</sup>:**

- Symptoms similar to verticillium wilt.
- Clusters of spindly shoots with small leaves ("witches'-brooms") sometimes appear at the base of the tree or on the trunk.

# Decays and Cankers

- ✓ Decays and cankers are diseases of the trunk and branches.
- ✓ Branch dieback is a common symptom.
- ✓ Trees with extensive decay and dieback may be hazardous.



Sulfur mushroom

Decay mushrooms (conks) may be found on the trunk or branches or at the base of the tree.



White mottled heart rot



- Hollow trunks and branches result from decay.
- Note the epicormic shoots.



Decays and cankers often infect through pruning cuts.



Branch dieback.

# Minor Ash Pests

- ✓ Some pests of ash affect the appearance of trees, but usually cause little serious damage.
- ✓ These minor problems rarely require control.

- A. Ash anthracnose
- B. Ash rust<sup>5</sup>
- C. Ash flower gall
- D, E. Ash leaf curl aphid<sup>6</sup>
- F. Ash plant bug<sup>7</sup>



### See also:

“Decline in Ash Trees: Borers and Bark Beetles.”

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- 3, 5: Iowa State University
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