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Nebraska Forest Service: Abiotic Problems of Trees

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Herbicide injury



Identification

- Leaves and shoots may be distorted, discolored or dead.
- Hackberry and oak leaves may have holes and ragged edges.
- Often more than one species is affected.
- Herbicide exposure may occur from drift or from being taken up by the roots from the soil.

Control

- Identify the source of the herbicide and prevent another exposure.
- Improve tree health by mulching with wood or bark chips and watering about 1 inch per week. Avoid overwatering.

Winter desiccation

Identification

- Mostly on evergreens.
- Needles turn brown.
- Browning is often more on one side of the tree in the direction of a heat source during the winter, such as the side of a building or rock groundcover.



Control

- Promote good tree health by mulching and watering during dry periods of summer and fall.
- Replace rock mulch with wood or bark chips.

Freeze injury



Identification

- Leaves turn dark and limp after a spring freeze.
- Branches fail to leaf out in the spring after a sudden early freeze the previous autumn or after a warm spell in the winter.
- Evergreen needles turn brown in mid to late winter, often only on last year's growth.
- Bark may be killed and drop off.

Control

- No direct control.
- Improve tree health by mulching with wood or bark chips and watering about 1 inch per week. Avoid overwatering.

* Always follow pesticide label instructions.

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More information: www.nfs.unl.edu

Photo credits: Herbicide #1: Steven Ramaekers, Nebraska TreeWorks Inc.



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Abiotic Problems of Trees

Scorch/Drought



Identification

- Brown areas appear around leaf edges and extend into the area between leaf veins.
- Needles turn brown uniformly, beginning at the tip.
- On needles, generally no spots or bands are present in areas that are still green.
- Green color fades from needles.
- Spruce needles may redden, especially in areas facing south and the upper side of branches.
- Symptoms are more common in late summer, in years with low rainfall, in areas with hot, reflective surfaces (pavement, brick) and in newly planted trees.

Control

- Provide additional water—generally about 1 inch each week during the summer over the root area if not provided by rain.
- Mulch with wood chips or bark chips.

Chlorosis



Identification

- On pin oak, silver maple and many other broadleaf trees and evergreens.
- Leaves are yellow and may have green veins.
- Yellowest leaves are at the branch tips.
- Severely affected leaves may have brown areas.
- Branches may not leaf out and eventually die.

Control

- Provide iron or other nutrient known to be deficient with trunk injections, soil treatments, or sprays.*
- Improve soil conditions by mulching with wood chips and watering about 1 inch per week. Avoid overwatering.

Overwatering/ Saturated soil



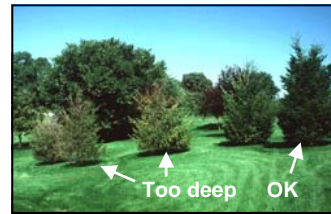
Identification

- Foliage may turn yellow.
- Foliage may die and drop, especially in the interior.
- Soil is very wet for days or weeks at a time.
- Often caused by frequent watering.

Control

- Water 1 inch per week, applied slowly at one time, or 1/2 inch applied twice per week.
- Redirect excess water away from the tree.

Roots too deep



Identification

- Caused by the tree being planted too deeply or soil being added above the roots.
- Tree in poor condition.
- Branches die and tree may die.
- Trunk at the ground is straight-sided like a pole, without the normal trunk flare.
- Branches may originate at or below the soil line.
- Gap appears between the trunk and soil when a small tree is rocked back and forth.
- Tree becomes more susceptible to diseases and insect pests.



Control

- No treatment is very effective.
- Tree health can be improved somewhat if part of the soil can be removed from above the roots without damaging the roots.
- Very young trees can be lifted with a tree spade.

“Mower blight”



Identification

- Bark is missing, damaged or loose near the ground at the level that would be hit by a lawn mower or string trimmer.
- Large dead areas of bark may be present near the ground.
- Tree may be in poor condition.
- Branches may die back from the ends.

Control

- Avoid hitting the tree with a lawn mower or string trimmer.
- Place a mulch bed around the base of the tree to reduce the grass and weeds that grow there and eliminate the need to mow near the tree.

Sunscald



Identification

- Long, vertical trunk injury on the south or southwest side of the tree.
- Most common on recently transplanted trees or those planted too deeply.

Control

- Improve tree health by mulching with wood or bark chips and watering about 1 inch per week. Avoid overwatering.

Girdling root



Identification

- Tree in poor condition.
- Trunk has no flare on one side at the ground.
- Root is pressing into the trunk at the ground line or a few inches below.

Control

- Remove the girdling root if it can be done without seriously harming the tree.

Sapsucker injury



Identification

- Mostly on pines and spruces.
- Holes about 1/4 inch in diameter in the bark in horizontal or vertical rows.
- Caused by species of woodpeckers that feed on tree sap (sapsuckers).

Control

- No direct control.
- Improve health by mulching and watering about 1 inch per week. Avoid overwatering.