

Why are your aspen leaves quaking?

Quaking aspen (*Populus tremuloides*) is the most widespread tree species in North America.

Many landowners want to incorporate aspens into landscapes and while aspen trees are pleasing to the eye and ear, there are many insect and disease issues in both a built environment and a natural forest.

This article focuses on a handful of insect and disease issues specifically to aspen leaves. One could expect that because aspens grow in a variety of different geographic landscapes, climates, and hardiness zones (1–7), there are an array of insect and disease issues.

Some common insects that may be on your aspens include caterpillars, aphids, flies/midges, and moths. Mites are another you might see, tiny in appearance and requiring a different chemical management approach (miticide instead of insecticide).

These pests can cause leaf-curling, rolled or distorted leaves, galls (abnormal growths), tents of silk, flecking or stippling (dot-like patterns), chewed leaves, and serpentine silvery tunnels on leaves.

Read and follow instructions on the labels for all pesticide applications if that choice of management is used.

Some of the more common leaf issues in Wyoming tend to be what's described below. Portions of the following information can be found by using the Tree Symptom Decoder, which is easily accessed on the Wyoming State Forestry Division Community Forestry Educational and Technical Resources webpage (bit.ly/all-things-trees).

The University of Wyoming has a comprehensive publication about iron deficiency in woody plants you can reference here, bit.ly/UW-iron-deficiency. Contact your local University of Wyoming Extension office to learn how to have your soil tested.

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Aspen ID

Aspens are in the same family as poplars, cottonwoods, and willows. Trees grow in clumps known as clones and when the parent trees are disturbed, they tend to send up suckers (or sprouts) from their extensive root system.

Aspens are identified by their greenish- to creamy-white bark, alternate leaf arrangement, and simple leaves that have a flat petiole (leaf stalk that connects to the branch/twig). The flat petiole is the reason leaves catch the wind and quiver and quake in the slightest of breezes. Cottonwoods do the same. The calm, fluttering sound and shimmering appearance have been used in horticultural therapy for the intrinsic, soothing, meditative qualities.

The fall color ranges from golden yellow, orange, to brilliant red. When branches die or are knocked off the trunk, some people see an eye (if you use your imagination) shape left in the bark.

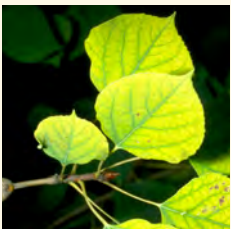


Leaf spots: Marssonina is a fungus that causes the most common foliage disease on aspen and cottonwood. You may see black spots with yellow halos.



Ink spot: A leaf spot disease caused by the Ciborinia fungus and is typically found in dense aspen stands. Similar to the Marssonina fungus but displays a different pattern.

Leaf spot and ink spot management: Incorporate sanitation methods by removing the leaves in the fall and pruning out the infected stems/shoots. Keep leaves as dry as possible by watering in the morning, giving them time to dry, and increase the spacing between trees to reduce humidity under the canopy. Fungicide sprays can be used and are effective if used before an outbreak and will only prevent new outbreaks.



Chlorosis: Chlorosis is a generic term for the yellowing of leaves, typically due to a nutrient deficiency. Soil compaction, water-logged soils, and stressed root systems can be the cause of chlorotic trees. In most cases in Wyoming, iron chlorosis is due to higher pH levels and low organic materials.

Iron chlorosis is typically characterized by yellowing leaves with dark green veins. Other issues that can cause yellowing of leaves include overwatering or root damage. Salt damage, leaf scorch, and drought conditions can cause the edges of the leaves to turn yellow or brown.

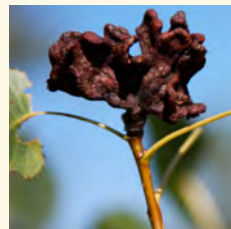
Iron chlorosis management: Have your soils tested at a soil laboratory to gain further knowledge of what is going on. Large scale treatments are not typically economically feasible for soil amendments, foliar sprays, or trunk injections. On an individual basis, foliar sprays can temporarily reverse the effects. Taking into consideration that high levels of phosphorus binds iron in the soil, amending the soils with iron-rich organic materials and chelated iron can be helpful when planting trees. Contact your local UW Extension office to learn how to have your soil tested.

The Colorado State University Extension “Insects and Diseases of Woody Plants in Colorado” publication, many of which are often commonly seen by landowners in Wyoming, can be used to narrow down what may be ailing your aspen. Available at bit.ly/csu-aspen.



Powdery mildew: White to grayish colored spots or patches reminiscent of talcum powder later turning yellowy-brown and finally black, most commonly seen on younger growth including the upper side of the leaves but can also affect the underside of leaves, stems, buds, flowers, and fruits.

Powdery mildew management: The fungus is host-specific, if there is powdery mildew on the aspen it will not affect your roses. Increasing air circulation by pruning densely planted areas will reduce relative humidity and improve air circulation. Remove and destroy infected materials, as they can still overwinter and spread spores. Be sure to disinfect your pruning equipment. You can use fungicide chemicals over a 7-14 day regimen following the label instructions. If you prefer non-chemical methods, try using a mixture of baking soda mixed with horticultural oils diluted in water, as referenced by the Colorado State University Extension Fact Sheet 2.902 at bit.ly/CSU-powderymildew.



Aphids: Leaf curling, presence of ants and/or European paper wasps (yellow jackets), or a sticky honeydew-like substance on leaves. Aphids feed on the developing leaves, using their sucking mouthparts to ingest sap and excreting a sweet, sticky substance called

honeydew on which the ants and wasps feed on. This symbiotic behavior is beneficial for both parties as the aphids have “protectors” from other predators and the ants and wasps gain a food source.

Aphid management: Natural predators such as lady beetle larvae, green lacewing larvae, and/or parasitoid wasps (tiny, stingless wasps). You can spray them off with a forceful jet of water. Chemical controls are available as well including: horticultural oils, insecticidal soaps, or pyrethrins applied before bud break in the dormant season. Leaf-curling aphids will not be affected by horticultural oils because they will most likely not come into contact with the chemicals.



Shoot blight: Young leaves blackened or display irregular brownish-black spots on leaves, infected shoots may also turn black and curve to form a “shepherd’s crook” shape.

Shoot blight management: Reducing relative humidity closer to the ground by pruning and allowing for increased air circulation. Pruning infected shoots in the winter, raking, and destroying fallen leaves will help reduce reinfection.