

NAME \_\_\_\_\_ DATE \_\_\_\_\_

Trees can't tell us when they are sick. Instead, we must interpret the signs of illness that trees show to determine what and how serious their health problems are.

Tree leaves usually show the first symptoms of disease, insect infestation, or damage from impacts. By learning leaf-reading, you can diagnose your tree's condition. Here are some common leaf symptoms and likely causes.

**1. Symptom: Ragged leaves with holes.**

**Likely causes:** Insect feeding, especially if it is summer and the leaves were not showing damage earlier. But if it is spring and the leaves never developed properly, the damage may be due to either low temperature during the bud stage or being torn by high winds when they were small leaves.

**2. Symptom: Leaves suddenly turn brown or black.**

**Likely causes:** If a frost occurred a day or two earlier, that's probably the cause. Sudden high temperatures in spring also cause problems. If there were no recent temperature extremes, it might be a leaf or a stem disease. If the symptoms show up on a branch or two at a time, trunk or branch invasion or injury is probably the cause.

**3. Symptom: Spots on the leaves.**

**Likely causes:** Leaf spots are usually the result of disease or insect activity. Chemicals, such as sulfur dioxide from nearby coal-burning plants, or improperly applied fertilizer or pesticides, can cause leaf blotches, too.

**4. Symptom: Bumps on the leaves.**

**Likely causes:** Leaf galls, or growths, are often the result of insects that have fed or laid eggs on the leaves. Bumps on leaves may also be a response to infections by fungi, bacteria, or viruses. Sometimes, an imbalance between the tree's water intake and loss can cause leaf bumps.

**5. Symptom: Margins (edges) of leaves turning brown.**

**Likely causes:** Moisture deficiencies or high-temperature stresses are usually to blame. Sometimes root or trunk damage, including injury from road salt, is the reason.

**6. Symptom: Sudden leaf drop, not during autumn.**

**Likely causes:** If inner leaves are dropping during a dry spell, or if a few leaves fall from throughout the tree, it's probably not serious. Drought or squirrels may be to blame. But if leaves are dropping heavily from multiple branches, there is a problem somewhere with the water-conducting system of the tree. The root cause may be disease or boring insects.



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**7. Symptom: Light green or yellow leaves.**

**Likely causes:** Probably a “micronutrient” disorder, such as iron or manganese deficiency. Curiously, trees rarely show deficiencies of the major plant nutrients, such as nitrogen and potassium.

**8. Symptom: Twisted or malformed leaves.**

**Likely causes:** This could be caused by stray herbicide drift, but insects, mites, occasionally a disease, and sometime low-temperature injury can all produce this symptom.

**9. Symptom: Leaves turn autumn colors prematurely.**

**Likely causes:** This is a serious symptom suggesting trunk or root damage of some kind. Leaves can withstand a certain amount of abuse, but when heavy losses occur two or more years in a row, early-season loss causes a new flush of leaves, the tree is only marginally hardy to the area, or the tree is under some form of stress (such as recent transplanting), the problem is serious. Your county extension agent has a number of publications to help in diagnosis and treatment of tree problems, or you may need to call an arborist who is competent in tree health diagnosis.



Source: Adapted from Gayle Worf, UW-Extension plant pathologist. Reprinted by permission of UW-Extension.



## CAREER CORNER

**PLANT PATHOLOGISTS** (path-AWL-uh-gists) study the health of plants. They work to identify diseases, pests, and other health problems that plants may experience.

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