

## Observe for Tree Disease in Winter

By Susan Camp

The rush of holiday shopping is over. Gifts have been opened. The Christmas tree is dry and drooping a little. Relatives have returned home. Holiday indulgence in too much rich food and drink will wind down next week, after New Year's Eve. We will be looking for a way to get some much-needed exercise. A long, brisk walk in the current mild weather is a great way to burn off some of the excess calories. A pleasant day also is good time for us to take a critical look at our trees to check for evidence of certain diseases that manifest symptoms in winter or early spring.

Damage to bark, limbs, and branches from disease, insect infestation, or mechanical injury will be more apparent when deciduous trees are leafless. Evergreen growth is dormant in winter, so observation of problems on pines, junipers, and cedars will be easier, as well. By becoming familiar with our trees in each season, we can treat disease problems before they cause irreparable damage.

When you suspect that a tree has a problem adopt a systematic approach to identifying the problem. Virginia Cooperative Extension Publication (VCE) 426-714 recommends observing for patterns and spread of the problem, then attempting to figure out the cause. Most of us easily recognize leaf damage caused by chewing insects, but symptoms of fungal, bacterial, or viral disease may not be obvious, especially when the leaves have fallen.

Fungal infections of trees are common, and cause a wide variety of signs and symptoms. Many fungal tree diseases are lethal. Obvious signs of fungus include cankers that cause deformities to trunk and limbs; cankers may eventually encircle the trunk, causing the tree's demise. Fruiting bodies, from tiny spots to large mushrooms, predict a poor outcome for an infected tree. Clusters of deformed twigs at the end of a branch, called "witches brooms", also indicate infection. Anthracnose, a general term for many species of fungus, attacks hardwoods, including maple, oak, sycamore, dogwood, and walnut. Symptoms vary with each species of anthracnose, but most release their spores in the spring and are spread by wind and rain-splash. Spores overwinter in fallen leaves, a good reason to rake up and remove leaves under the hardwoods. Raking is good exercise, by the way!

Bacterial diseases are less common than fungal diseases, but can kill an infected tree. More than 100 species of trees in the rose family, including apple, pear, and hawthorn trees, are susceptible to fire blight (*Erwinia amylovora*). While blackened, shriveled leaves in the spring are the most recognizable symptoms, in winter you might notice girdling cankers, and raised, blistered bark. Open wounds in bark provide entry for bacteria, which can spread rapidly through the tree's tissue. *E. amylovora* bacteria release enzymes that dissolve tree cells and kill the infected tree.

Viral diseases will weaken a tree and may cause necrotic areas and limb deformities, but rarely are fatal, although infected trees may fall prey to fungal or bacterial disease or stress. Aphids and other sucking insects can spread viruses. Viruses also are spread through grafting or budding. Either the scion or the rootstock can introduce the virus.

The NC State Cooperative Extension publication “Wayne County Master Gardener Plant Clinic: Identifying Tree Diseases” contains helpful information on the hosts, signs and symptoms, life cycle, and management of 17 fungal, bacterial, and other tree diseases. Color photos provide close-up images of disease damage to tree parts.

The first page of VCE Publication 430-210 “24 Ways to Kill a Tree” tells us 24 things not to do. The second page gives us 24 ways to prevent lethal damage.

Trees offer year-round beauty; shade from the summer sun and shelter from the wind; and habitat for small birds and animals. Many trees provide us with fruit and edible nuts. We need to get to know them so we can recognize when they are ailing. And the outside activity will do us good.

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