Spot Tree Disease in Winter

By Susan Camp

Last week, a friend mentioned that recent high winds had brought down numerous branches from several of her older deciduous trees and she was concerned about the possibility of severe damage. I pointed out that most of the limbs that had fallen were already dead and likely had not caused further injury to the tree. The real concern is why the limbs had died. Was it because of advanced age or dehydration from drought conditions earlier this fall? Had some of the trees sustained a mechanical injury or an insect infestation, or was the cause a fungal, bacterial, or viral disease?

Damage to bark, limbs, and branches from mechanical injury, insects, and disease is 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, too. If we become familiar with our trees in each season, we can treat diseases 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 "Diagnosing Plant Problems" recommends observing for patterns and spread of the problem, then attempting to systematically narrow down 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, and many are lethal. Signs of fungal disease include cankers, which are wounds that can develop on the trunk, branches, or stems. Cankers appear as sunken, discolored areas, and provide an entry point for other disease-causing organisms or insects. Cankers may eventually girdle the trunk, causing the tree's demise. Mechanical injury can also cause cankers to form.

Fruiting bodies on a tree, from tiny spots to large mushrooms, predict a guarded outcome. 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.

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, are susceptible to fire blight (Erwinia amylovora). While blackened, shriveled leaves are the most recognizable symptoms in the spring, 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 cause necrotic areas and limb deformities, but rarely are fatal, although infected trees can fall prey to fungal or bacterial disease or stress. Aphids and other sucking insects spread viruses. Viruses also are spread through grafting or budding.

Chapter 5 "Diseases and Disorders" of the "North Carolina Extension Gardener Handbook" contains helpful information on the hosts, signs and symptoms, life cycle, and management of 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, shelter from the winter wind, and habitat for birds and small 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 a pleasant, sunny winter day is the perfect time to observe them.