

Why limbs fall in your yard

Travel around a neighborhood after a storm and you will see tree limbs, large and small, scattered about the ground. Why do some limbs fall in high winds or after ice storms while others merely bend? Should you worry about that large limb overhanging your driveway?

“One reason trees fail is weak branch unions,” says Tchukki Andersen, BCMA (board certified master arborist) and staff arborist with the Tree Care Industry Association. “Homeowners can educate themselves about tree limbs, but they should call a professional arborist if they are worried about an overhanging branch.”

Trees may suffer from naturally formed imperfections that can lead to branch failure at the union of the branch and main stem. There are two types imperfections that create weak unions: a branch union with included bark and an epicormic branch.

Weak unions

Branch unions can be characterized as strong or weak. Strong branch unions have upturned branch bark ridges at branch junctions. Annual rings of wood from the branch grow together with annual rings of wood from the stem, creating a sound, strong union all the way into the center of the tree.

A weak branch union occurs when a branch and stem (or

two or more co-dominant stems) grow so closely together that bark grows between them, inside the tree. The term for bark growing inside the tree is “included bark.” As more and more bark is included inside the tree, the weak union is formed that is more likely to fail.

In storm damage surveys conducted by the University of Minnesota’s Forest Resources Department, 21 percent of all landscape trees that failed in windstorms failed at weak branch unions of co-dominant stems. Some species are notorious for having included bark: European mountain ash, green ash, hackberry, boxelder, willow, red maple, silver maple, Amur maple, cherry and littleleaf linden.

Epicormic branches

Epicormic branches (also called water sprouts) are formed as a response to poor pruning practices, injury or environmental stress. Epicormic branches are new branches that replaced injured, pruned or declining branches. Commonly, epicormic branches form on the stems and branches of topped trees. When old, large epicormic branches are growing on decaying stems or branches, the epicormics are very likely to fail.

Epicormic branches, by their very nature, form weak unions because they are shallowly attached instead of being attached all the way to the center of the stem. Epicormic branches grow very quickly so they become

heavy very quickly. After a time they lose their connection to the main branch and may fall to the ground because the underlying wood cannot support their weight.

“If a weak union is also cracked, cankered or decayed, the union is likely to fail, causing the branch to fall off the tree,” says Andersen. “Sometimes, ridges of bark and wood will form on one or both sides of a weakened branch union in order to stabilize the union. The branch is very likely to fail when a crack forms between the ridges.”