

Garden Update

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Kathleen Cue, Nebraska Extension Horticulture Educator in Dodge County

Why Lion's Tailing is Bad for Trees

Lion's tailing to reduce wind resistance or to have enough sunlight for a thick lawn beneath trees is a detrimental practice that reduces tree structural stability. Lion's tailing is pruning in the extreme, removing a tree's lower canopy and inside branches, leaving just a cluster of leaves and twigs at the end of large branches.

Biomechanics, the study of how trees withstand the forces of wind and gravity, provides us with a better understanding of why lion's tailing is detrimental to trees. Trees are aerodynamic by nature, growing in response to prevalent winds, sweeping back limbs in high winds, and re-forming leaves to decrease drag. Branch removal and leaf loss change tree aerodynamics, increasing the likelihood of failure within the tree.

All parts of the tree dampen the force of wind, but nothing more so than leaves, even more than branches, roots, and stems. Hence a tree pruned to reduce its wind resistance INCREASES the tree's susceptibility to wind damage, most notably because there are less leaves to dissipate the force of wind acting upon the tree. Stated simply—densely crowned trees survive moderate and severe winds better than trees that are wind sails.

The presence of leaves on branches and stems contribute to tree taper, the gradual flaring at points of attachment to other parts of the tree. Trees that have been lion's tailed have a reduced number of leaves, which in turn inhibits taper development. Less taper = increased breakage from wind and snow loads. Studies indicate as stem diameter doubles, a tree gains a seven-fold resistance to wind, snow and gravitational forces acting upon it. Good taper = structural stability in trees.

Besides increasing trees' susceptibility to damage from wind and snow loads, lion's tailing limits trees' ability to function on hot days. Temperatures above 85° F will cause leaves in the upper reaches to shut down. This doesn't mean trees don't need to photosynthesize when weather is hot—they do—so this is where the inner canopy leaves become important. Cooled by leaves higher in the tree allows lower leaves to take over the process of photosynthesis during hot weather. A tree without an inner canopy of leaves does not photosynthesize well in hot weather, compromising its ability to grow, defend, and survive.

Trees are a valued part of the landscape. Utilizing best management practices are important so trees can continue to add beauty and economic benefits to your landscape. A fast-talking sales pitch or what the neighbor is doing shouldn't persuade you otherwise!