

Pruning is permanent and once done cannot be undone. Pruning affects a tree for its entire life. There are many reasons a tree may need to be pruned but all pruning should be evaluated with the health and safety of the tree in mind. Improper pruning will weaken a tree, shorten its life, and reduce its aesthetic value. Proper pruning reduces the trees' hazard potential; improper pruning can increase hazard potential.

Over the years many commonly accepted pruning practices have been determined to be detrimental to tree health.

Pruning to Raise the Crown/Canopy

Foliage and branches grow where they can acquire sunlight to support tree growth. Raising the crown or canopy of a tree only serves to reduce photosynthesis and weaken the development of taper (trunk) growth in response to wind stress. Done correctly, appropriate canopy adjustments are justified to provide clearance for obstacles and safety.

Pruning to Raise the Canopy - Lions Tailing

The worst form of canopy raising occurs when all limbs are removed except the few remaining at the top of the tree. The remaining limbs and foliage are referred to as a "lion's tail". This reduces photosynthesis, creates significant wounding and disrupts the tree's ability to move with the wind and build taper to support the remaining foliage. This practice is extremely damaging to a tree and should always be avoided.

Reducing Canopy Height - Topping

Topping refers to the indiscriminate removal of branches and limbs to reduce the height of a tree. Often referred to as a "tree haircut" this practice leaves large wounds that allows for decay to spread rapidly through the tree and creates a profusion of epicormic branches that have little structural integrity.

Reducing Canopy Height - Crown Reduction

Crown reduction pruning makes cuts at branch junctions. However the branch collar is violated and decay can spread easily into the wounded tissues. Branch sprouting can occur at the pruning cuts resulting in the same weakened structural syndrome as topping.

Crown reductions can be made using subordination pruning, where branch tips are removed back to the crotch to bring the canopy into a more compact profile.



Lion Tailing



Raise Crown/
Canopy

Reduce canopy
height

Pruning to Thin the Canopy

Thinning

Thinning is often used under the rationale that it increases light penetration and air movement through the canopy of the tree. Engineering research on tree dynamics in wind has illustrated that thinning a trees' canopy reduces the leverage on the tree and makes for an increased risk of branch failure in normal winds.

Thinning also reduces leaf surface area which can stress remaining limbs and living tissues for a significant period of time. By reducing interior branches, the process of thinning also reduces the structural support for the remaining foliage. Rather than reducing weight load on the entire limb, it shifts the load to the end of the remaining branch.

Removing internal deadwood and crossing branches, that are common in some species, such as ash, is not thinning.

Shaping the Canopy

Pollarding

Pollarding is an ancient horticultural pruning technique that essentially tops trees and then annually prunes off the sprouts that are created. After many years of cutting back the sprouts, the stems form callused areas. Like topping these cuts create wounds that have a difficult time healing, but the continual removal of the sprouts prevent the development of hazardous limbs. Internal decay is a serious problem with pollarded trees.

Topiary

Topiary is the horticultural practice of pruning and forcing woody plants, including trees, into "artistic" shapes. This level of severe pruning requires continual maintenance to maintain the shape, structure and support of the impacted trees. It is a practice that can severely reduce the structural integrity and health of trees.



Thinning



Pollarding



Topiary

