# Tree Topping - A Threat To Trees

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What Is Tree Topping?

Tree topping is the shortening of branches to stubs and the removal of tree tops to reduce tree height and spread. Topping disfigures trees, leaving unsightly branch stubs and large, conspicuous pruning cuts which stimulate dense, broom-like branch growth (Figure 1). In addition, tree health, safety and longevity are impaired.
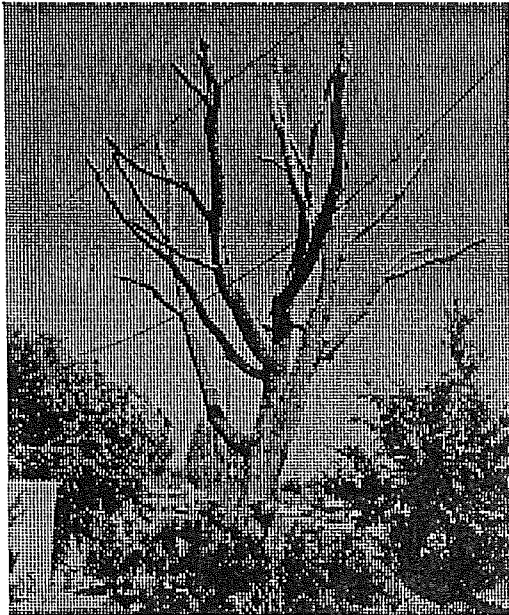
Many professional arborists no longer include tree topping as a service and, in fact, most consider it malpractice. Proper pruning, on the other hand, is seldom noticed, because it preserves the tree's natural shape, leaving it improved yet visually unchanged.

Why Is Topping Harmful?

Some tree owners believe that the profuse growth of foliage and branches associated with severe topping indicates increased tree vigor. In reality, the tree is attempting to replace lost leaves needed to make the food that supports the entire tree.

Heavy pruning removes much of the wood and buds that contain stored energy for new growth. New buds must form for the tree to continue growing. In some trees, buds are slow to form and dieback or tree death results. All new growth is made by using stored energy. This can deplete a tree's energy reserves, increasing susceptibility to some insects and disease. Heavy pruning shifts a tree's priority from growth to survival and repair.

Experience and research has shown that tree topping:

» destroys natural shape

» causes branch dieback

» encourages decay

» stimulates the growth of dense, closely spaced, and weakly attached shoots just below the pruning cut

» often causes bark damage from sudden exposure to direct sunlight

» weakens structure

» increases hazard potential

» increases susceptibility to some insects and disease

» reduces useful lifespan

Another important consideration is the immediate loss of property value due to a reduction in aesthetics, health and longevity of topped trees. By comparison, properly pruned trees increase in value each year.
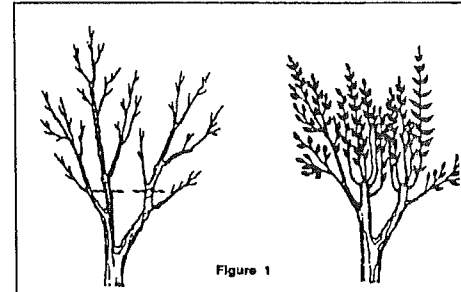

Figure 1

Why Are Trees Topped?

Large trees are often topped because people consider them to be unsafe. They fear blow down and branch drop. All too often, they consult an untrained tree-trimmer or emulate their neighbor's attempt at pruning. Although topping may initially reduce a tree's hazard potential, it seldom corrects existing structural problems. Unless resolved, these problems usually worsen with time, jeopardizing tree safety. In addition, the new shoots which form near the pruning cut are weakly attached and prone to breakage as they grow larger and heavier (Figure 1). This fact often makes topped trees more hazardous than before pruning. Consequently, topped trees are pruned more frequently to maintain safety. At best, topping is a temporary solution for oversized trees. Topped trees often grow back to their original height faster than trees that have been properly pruned (thinned). In addition, the resultant foliage is denser and therefore less wind resistant.

Another reason cited for topping is to keep a large tree small, e.g., fruitless mulberry, sycamore, etc. This may require yearly pruning which is expensive, time consuming and counterproductive. Rather than making a tree conform to a small space, it is more prudent, in terms of time and expense, to plant trees with smaller growth form or those appropriate to their given space. Further, the bark and branching structure are aesthetic features that make trees attractive in the landscape. Topping creates a stubby, unnatural structure that is particularly unsightly during the dormant season when the branches of deciduous trees are bare.
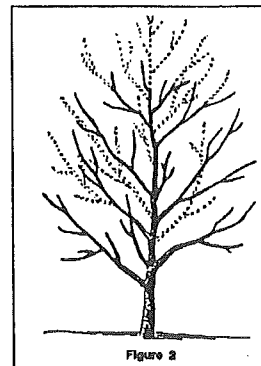
Large trees are frequently topped when they interfere with overhead utility lines. Unfortunately, this practice has become a necessary evil to prevent power outages and tree fires. It would better serve the

Figure 2

nterests of tree health, appearance and economics to replace these misshapen trees that require continual pruning, with appropriate sized trees. Utilities companies have promoted proper tree selection for some time now. Check with your local office for free literature.

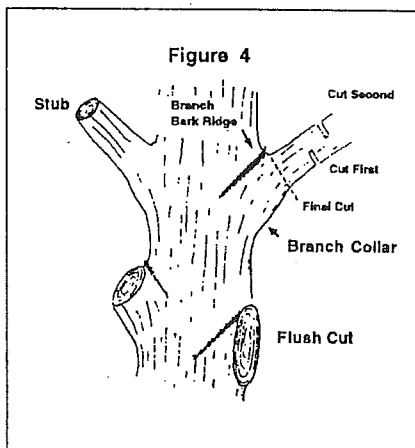Trees are routinely topped when they block views, interfere with buildings or other trees, or shade areas where sunlight is desired. Adequate height reduction can sometimes be achieved by thinning rather than topping (Figure 2). Occasionally, the removal of only a few large branches may provide the desired clearance. If these remedies are not satisfactory, tree removal is preferable to topping.

Figure 3
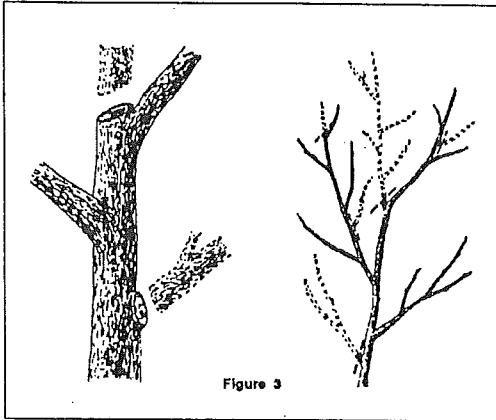
Perhaps the most common reason for tree topping is a desire to save money. Ironically, topping is actually the most expensive way to prune trees. It must be done regularly and frequently to maintain desired size, shape and safety. More importantly, it compromises health, longevity, aesthetics and property value. Many trees, if properly trained when young, will require little or no pruning when larger. Sometimes all that is needed is light thinning or the removal of a few poorly spaced or weakly attached branches. This is usually cheaper than topping. Occasionally, heavier thinning is needed. However, once properly thinned, a healthy tree may require no further pruning for ten years or more. Considering that thinning maintains natural shape, beauty, property value and health, it is, in the long term more economical than topping.

What Are The Alternatives To Topping?

There are times when reducing tree height is necessary or desirable. The best way to do this is by *thinning*. This involves removing selected branches by pruning each to a lower lateral branch or to the trunk (Figure 3). This will reduce height and spread while retaining natural shape. Bark damage from sudden exposure to direct sunlight is also minimized because less of the tree's canopy is removed. Make pruning cuts close to the trunk, leaving the branch collar intact (Figure 4). Thinning cuts are inconspicuous and they close over rapidly and completely with little or no decay. The proliferation of unsightly and weakly attached shoots is not a problem when trees are thinned. Although thinning requires greater skill and usually takes longer than topping, it is more cost-effective.

Figure 4

When thinning can't provide adequate clearance or height reduction, it is better to remove the tree and replace it with one that has a smaller growth form. Select a replacement tree after considering its potential height and spread at maturity, and its adaptability to the planting site. Avoid planting trees where they will eventually interfere with utility lines or other obstacles. With careful planning, problems can be avoided.

How To Proceed

Have the tree(s) evaluated for health, root stability, structural soundness and need, if any, for pruning. Tree evaluation and corrective work are best done by professional arborists such as those

certified by the International Society of Arboriculture (Western Chapter). Corrective action may involve:

» thinning to reduce wind resistance, branch weight, or to improve branch spacing

» branch removal to eliminate structurally weak or heavy, horizontal branches

» pruning to remove deadwood, diseased or insect infested wood

» cabling and bolting to prevent breakage or splitting

» watering and fertilizing

» removal/replacement

Here Are Some BASIC PRUNING Tips:

1 Encourage strong structure and natural shape by pruning trees when they are young (3-5 years old). It is difficult to correct poor structure once the tree is mature.

2 Pruning that cannot be done from the ground or a short ladder should be done by a competent arborist. Don't just hire any person with a chain saw; ask for references and credentials.

3 Mature trees usually don't need much pruning. Remember, most will be healthier, stronger, and safer if pruned only as needed. An ideal pruning cycle for mature trees is every five to ten years.

4 Don't *top* a tree to reduce its height. Don't make pruning cuts *flush* to the trunk or branch (Figure 4). Don't *stub* tree branches. The collar or swollen area at the base of most branches protects the tree from decay. Cut just beyond this collar, leaving it intact without leaving a stub. Prune by thinning. Remove no more than 25-30 percent (less for mature trees) of the foliage or upper canopy. Wound dressing does not prevent decay and should not be used on pruning cuts.

5 Avoid removing the tops of trees with a central leader, e.g., birch, liquidambar, alder, tulip tree and most conifers, as this ruins their natural growth habit.

6 Remove dead, diseased, rubbing or crossing branches. Space branches evenly around the tree and at least eight inches apart vertically. Remove vigorous, upright branches that threaten to outgrow the leader: this often causes *V* shaped crotches which are inherently weak. Remove branches with narrow angles of attachment or those with included bark (weak unions): such branches are prone to splitting out.

7 Prune in the late winter, early spring or early summer. Dead and weak branches, however, can be removed at any time. Depending on your objective:

» Late dormant season pruning promotes vigorous growth

» Early summer pruning minimizes regrowth and reduces bleeding (oozing sap) common in some trees, e.g. maples, and birch

Another important consideration is that wound closure is most rapid during the growing season. The times to avoid pruning are during leaf formation and in the fall.

Further Reading

Harris, Richard W. 1991. *Arboriculture - integrated management of landscape trees, shrubs, and vines.* Prentice Hall, 674 p.

Shigo, A. L. 1989. *Tree pruning.* Shigo and Trees Assoc., 186 p.

Perry, E. L., ed. 1988. Pruning standards. International Society of Arboriculture, St. Helena, CA