

Pruning Mature Trees

Understand the pruning needs of mature trees and the proper pruning techniques for their care.



Pruning is the most common tree maintenance procedure. Although forest trees grow well with only nature's pruning, landscape trees require a higher level of care to maintain their structural integrity and aesthetics. Pruning must be done with an understanding of tree biology because improper pruning can create lasting damage or shorten the tree's life.

Reasons for Pruning

Because each cut has the potential to change the growth of the tree, no branch should be removed without a reason. Common reasons include:

- Removing dead branches, improving form, and to reduce risk.
- To increase light and air penetration to the inside of the tree's crown or to the landscape below.
- Generally, mature trees are pruned as corrective or preventive measures.

Routine thinning does not necessarily improve the health of a tree. Trees produce a dense crown of leaves to manufacture the sugar used as energy for growth and development. Removal of foliage through pruning can reduce growth and stored energy reserves. Heavy pruning can be a significant health stress for the tree.

There are many outside considerations that make it necessary to prune trees such as: safety, clearance, and compatibility with other components of a landscape.

Proper pruning, with an understanding of tree biology, can maintain good tree health and structure while enhancing the aesthetic and economic values of our landscapes.

When to Prune

Most light, routine pruning to remove weak, dead, or diseased limbs can be accomplished at any time during the year with little effect on the tree.

As a rule, growth and wound closure are maximized if pruning takes place before the spring growth flush. Some trees, such as maples and birches, tend to "bleed" if pruned early in the spring. It may be unsightly, but it is of little consequence to the tree.

Heavy pruning of live tissue just after the spring growth flush should be avoided, especially on weak trees. At that time, trees have just expended a great deal of energy to produce foliage and early shoot growth. Removal of a large percentage of foliage at that time can stress the tree.

A few tree diseases, such as oak wilt, can be spread through pruning wounds and provide access to pathogens (disease-causing agents). Susceptible trees should not be pruned during active transmission periods.

How Much Should Be Pruned?

The amount of live tissue that should be removed depends on the tree's size, species, age, and pruning objectives. Younger trees tolerate the removal of a higher percentage of living tissue better than mature trees. Generally, no more than 25% of the crown should be removed at once, and less for mature trees.

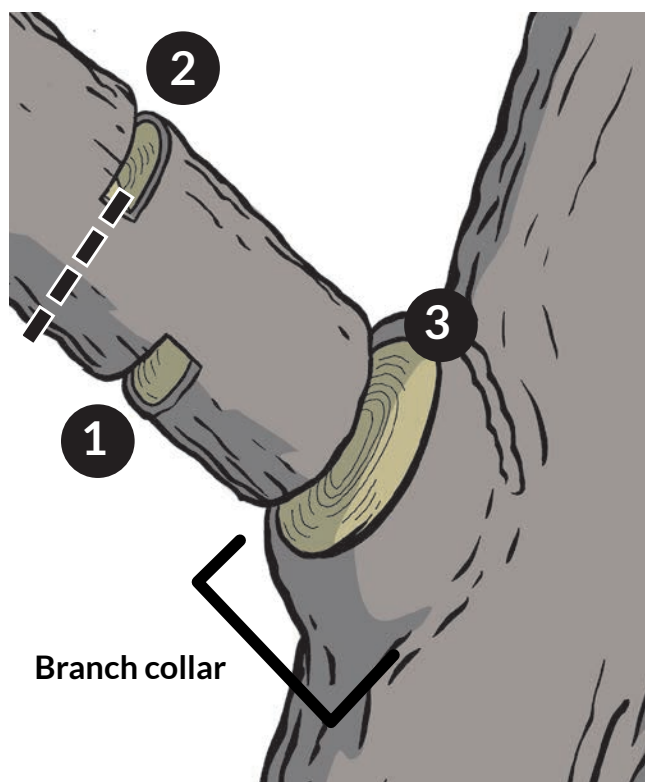
Removal of a single, large-diameter limb can create a wound that may not be able to close. Care should be taken to meet pruning objectives.

Making Proper Pruning Cuts

A correct pruning cut removes the branch just outside of the collar. **Do not make cuts flush to the trunk.** Trunk tissues above and below a flush cut branch often die, creating dead spots.

If a collar has grown out on a dead limb, make the cut just beyond the collar. Do not cut the collar.





(See figure above.) If a large limb is to be removed, its weight should first be reduced as follows:

1. Make an undercut about 12–18 inches (30–46 cm) from the limb's point of attachment.
2. Make a second cut from the top, directly above or a few inches farther out on the limb. Doing so removes the limb, leaving a stub.
3. Remove the stub by cutting back to the branch collar. This technique reduces the possibility of tearing the bark.

Pruning Techniques

Cleaning is the removal of dead, dying, diseased, weakly attached, and low-vigor branches from the crown of a tree.

Raising removes the lower branches from a tree to provide clearance for buildings, vehicles, pedestrians, and vistas.

Reduction reduces the size of a tree, often for utility line clearance. Reducing a tree's height or spread is best accomplished by pruning back the leaders and branch terminals to secondary branches that are large enough to assume the terminal roles (at least one-third the diameter of the cut stem). Compared to topping (See "Why Topping Hurts Trees" brochure), reduction helps maintain the tree's form and structural integrity.

Reducing density of foliage at the crown periphery (previously called thinning) is sometimes performed to increase wind or light penetration for aesthetic reasons and to promote interior foliage development.

Wound Dressings

Research has shown that wound dressings do not reduce decay or speed up wound closure and rarely prevent insect or disease infestations. Most experts recommend not using wound dressings.

Hiring an Arborist

Pruning large trees can be dangerous. Pruning that involves working above the ground or using power equipment should be done by an ISA Certified Arborist®. These arborists can determine the type of pruning necessary to improve the overall health of the tree and provide the services of a trained crew with the required safety equipment and liability insurance.

What Is a Certified Arborist?

ISA Certified Arborists® are individuals who have proven a level of knowledge in the art and science of tree care through experience and by passing a comprehensive examination developed by some of the nation's leading experts on tree care. ISA Certified Arborists must also continue their education to maintain their certification. Therefore, they are more likely to be up to date on the latest techniques in arboriculture.

Finding an Arborist

Visit [TreesAreGood.org](https://www.treesaregood.org) for free tools:

- The "Find an Arborist" tool can help you locate an arborist in your area.
- The "Verify a Credential" tool enables you to confirm whether an arborist has an ISA credential.

Be an Informed Consumer

One of the best methods to use in choosing an arborist is to educate yourself about some of the basic principles of tree care. Visit [TreesAreGood.org](https://www.treesaregood.org) to read and download all brochures in this series.



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