



A Practical Guide to the Proper
Pruning
of Trees and Shrubs

- Recognizing Good Pruning Practices
- Reasons for Pruning
- Finding a Competent Arborist

Pruning is among the most misunderstood operations in horticulture, and as it is commonly practiced, it is much more damaging than beneficial. A poor pruning job will leave your tree damaged and ugly. It might even be more likely to fail after its crown grows back, and, depending on the species, cause it to go into a permanent spiral of decline or even kill it. Never begin a pruning operation without a clear idea of what you want to accomplish.

“Pruning is not a random brush harvest.” —Donald F. Blair

It is important that you consider the qualifications of the tree trimmers you hire just as you would judge the doctors you see. Furthermore, if an unqualified tree pruner is injured on your property, you can be held responsible, as you unknowingly become their employer. This brochure provides information to help you be a good consumer of tree care services by educating you about correct pruning practices and helping you to critically evaluate proposals. In addition, tips are provided to aid in finding companies that are properly insured and licensed.

Recognizing Good Pruning Practices

Pruning is both a science and an art. The science helps you understand the plant’s responses to pruning. The art of pruning ensures that when the work is done, the results are visually pleasing and fulfill some predetermined goal. Don’t prune just because you think you should. Unless you are managing a tree for a particular purpose or training a young tree to develop sound structure, most trees do not have to be pruned annually and some may never need pruning. Most importantly, don’t top trees! It leaves trees susceptible to disease and decay, and topping produces structurally unsound branches. Topping that removes all green growth will kill pine trees and most other conifers. Proper pruning will help you achieve your desired goals without destroying the tree’s natural structure and appearance while maintaining the plant’s health and vigor.



The Inland Urban Forest Council (IUFC) provides outreach programs and educates about proper tree selection, planting, and care.

Well-pruned landscape shrubs and trees have a natural look—they do not look pruned. Good pruning is essentially invisible. If the only way to achieve your goals is to excessively prune and remove large amounts of foliage, then you should question the suitability of the tree in its current location. Planting the right plant in the right location can prevent the need for drastic pruning. Proper design, spacing, planting, and installation of landscape plants will accommodate high quality pruning that maintains the natural form and density of the plantings.

Pruning to maintain the natural shape of a tree requires that you understand the ultimate size and mature form or shape of the plant that you prune. Understanding the basic form of the plant will help guide you in the natural pruning process.

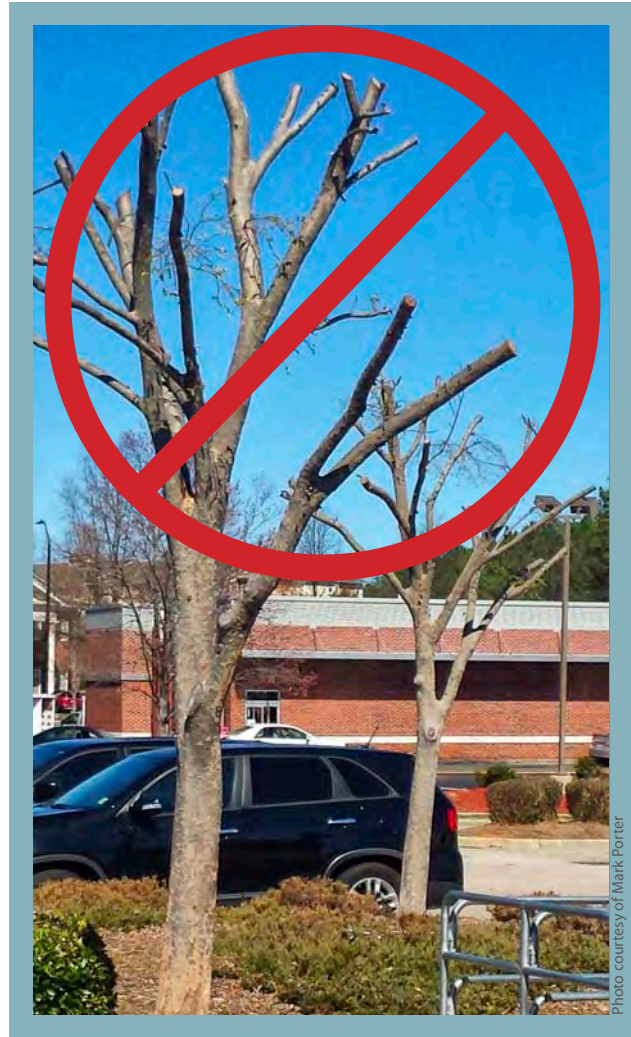
Reasons for Pruning

Reduce risk of failure

Fear of tree failure is the most common reason trees are pruned. Unfortunately, this fear frequently leads to tree topping. While the tree appears to be safer after the pruning is complete, the branch growth that forms in following seasons is often structurally unsound and/or weakly attached, leading to greater risk of failure in the future. If you are concerned that your tree might be unsafe, have it evaluated by a consulting arborist who does not do pruning (avoiding a conflict of interest). If, after a consult, there are concerns about safety, pruning can be part of the solution. Many competent arborists recommend thinning to reduce wind resistance (sometimes referred to as “reducing the sail”). This is no longer regarded as a best practice. Excessive thinning can result in branch breakage or alter the tree’s natural protection against toppling in winds. Instead, the current recommendation is to carefully reduce the tree’s height. A reduction of 10 percent can reduce probability of failure by 20 percent. In such cases, height should be reduced by thinning practices rather than by topping.

Provide clearance

Trees growing in the wrong place might interfere with traffic or views and need pruning to reduce obstructions. However, thinning the crown to allow views to be seen through a tree is a temporary correction as trees can restore their crowns in a single season.



Topping is destructive to trees.

Glossary

Crown — the above ground portions of a tree.

Heading (or heading back) — topping; a poor maintenance practice often used to control the size of trees; involves the indiscriminate cutting of branches and stems at right angles, leaving long stubs.

Dormant — a state of inactivity between periods of growth.

Deciduous — perennial plants that lose their leaves generally during the winter.

Sucker — vigorous shoots located at the base of plants, near or at the ground line.

Lateral — a secondary or subordinate branch, generally in a horizontal plane.

Reduce wind resistance

This is no longer considered to be a valid reason to prune a tree.

Maintain health

Pruning rarely boosts tree health. Rapid growth following pruning is an indication that the tree was not properly pruned.

Influence flower/fruit production

This is a method used in the production of deciduous fruits such as peaches, plums, and apples, but it is unnecessary in citrus and many other fruit trees. Usually pruning is used to prevent over-production and improve fruit quality. Pruning may also promote good fruit production in the following year.

Improve aesthetics

Light to moderate thinning that reveals the natural structure of a tree is the most aesthetic form of pruning. This can be done with no injury to the tree. However, a damaging practice that also opens tree crowns, known as "lion tailing," or "lacing," excessively removes interior structure. Lacing excessively removes foliage and creates stress in the plant. Recent research suggests lacing should be discouraged for many reasons. Lion tailing leaves long, bare branches with brush only on the ends, increasing end-weight and altering growth patterns.

Pruning for structure (training young trees)

Structural pruning is commonly practiced on newly planted and young trees to encourage the development of strong, stable structure and prevent traffic conflict. Arborists need specialized training to do this type of pruning correctly. Structural pruning reduces the frequency and cost of pruning in the long term.



Lion tailing is bad for trees because it excessively removes interior growth.



Lacing is not a recommended practice. It damages trees by removing too much foliage.

Recognized types of pruning

Crown cleaning

Pruning is done to clear out dead or dying limbs, limbs that droop excessively, or cross other branches. Structurally weak branches are removed without destroying the crown. All work is performed without topping or heading cuts.

Crown thinning

Thinning is performed to reduce crown density and display structural aesthetics. Although some believe that thinning a tree reduces risk of wind damage, there is little to support this. Crown reduction is much more effective.

Crown raising

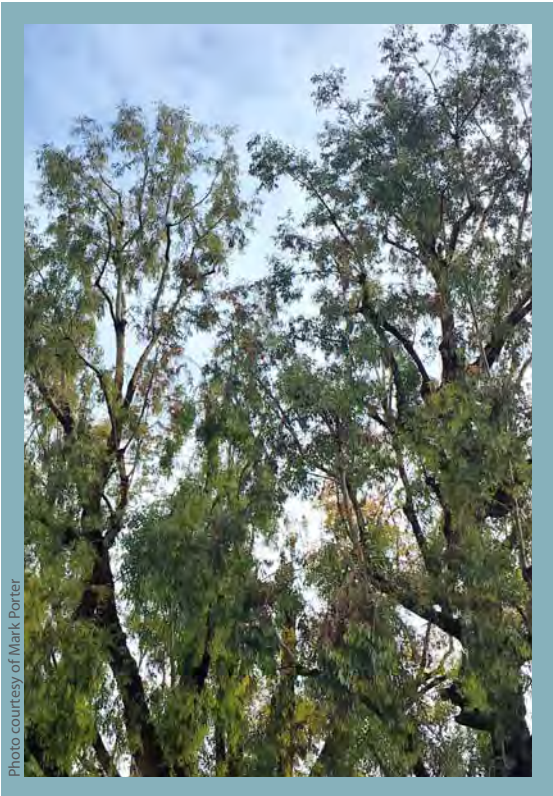
This type of pruning removes or thins back branches that hang too low or otherwise interfere with use of the landscape. Before crown raising, have a clear objective of what you want to accomplish. Crown raising might be indicated to provide clearance over a sidewalk for pedestrians, over a street for trucks, or over a rooftop to preserve roofing material. Lopping back interfering branches, a common practice of professional gardeners, results in a dense, unattractive "nest" of low twigs.

Crown reduction

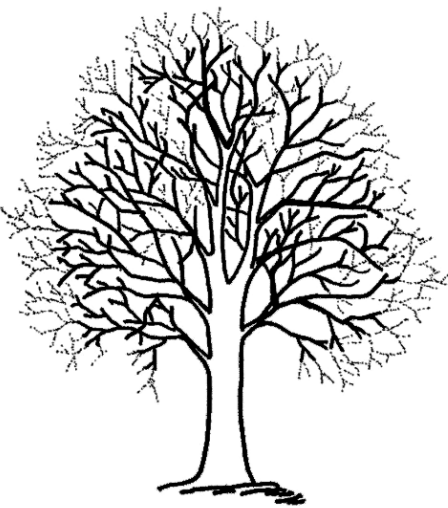
Reducing the tree's height by thinning back the top (not topping) is usually performed to reduce the likelihood of contact with electrical lines and as insurance against tree failure in winds. If crown reduction is necessary because you think your tree is too large, it likely means that the wrong tree was planted. Perhaps you should start over with a species that is suited for the available space.

Crown restoration

This is the management of the crown to develop sound structure following destructive topping or catastrophic storm damage. Arborists need specialized training for this type of pruning.



Crown restoration in this eucalyptus tree was performed correctly enabling the tree to have a natural appearance.



Objectives of crown reduction:

- 1) Reduce tree size.
- 2) Reduce a portion of the tree to provide clearance from a structure.
- 3) Reduce a portion of the canopy to minimize risk of failure.

When to Prune

The time of pruning depends on your goals and objectives. In Southern California, we grow a variety of evergreen or short-season deciduous plants that can be pruned at any time without harm to plant form or function. In general, pruning of deciduous plants is best accomplished in the fall or winter during their dormant season. Avoid pruning pine and eucalyptus trees in warmer, dry months because pruning wounds can attract borers. Fall and winter pruning will heighten flowering of trees and shrubs that flower on new growth.

Preparation and Equipment

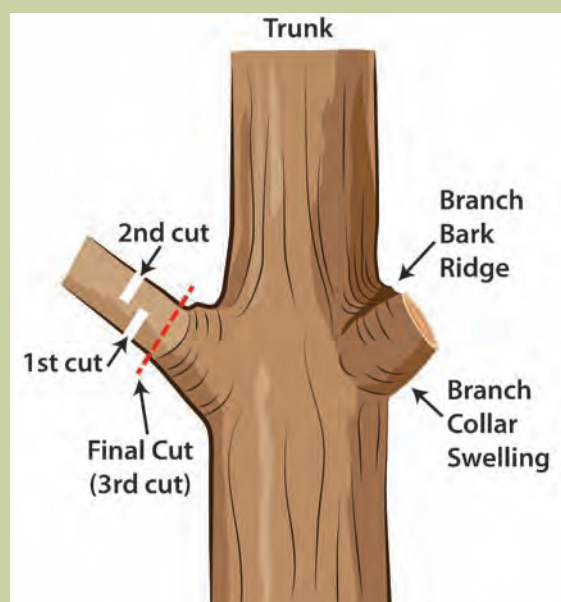
Sharpen your tools. Dull clippers, loppers, or saws create a jagged cut that will be more prone to peeling or decay than cuts made with sharp equipment. For hand equipment, a small triangle or flat file will "tune-up" your clippers in just a few minutes time.

Get close to the cut. The farther you are from the cut the lower the quality. Cuts made with pole equipment degrade proportionately with the number of pole extensions attached to the saw or pruner. It is difficult or nearly impossible to achieve the correct angle and control of the pruning equipment at a distance to make a good cut. If possible, always get close to the cut and make it with hand equipment.

Minimize the spread of disease with your cuts by sterilizing your clippers with a 1:10 bleach solution or a commercial aerosol disinfectant between plants. A propane torch can sterilize a pruning blade and hand/pole saw blade in 10 seconds. The use of pruning paints, wound dressings, tree sealants, or other concoctions has been shown in numerous studies to be of little value in pruning.

Make a 3-step cut to prevent tearing of bark when removing larger limbs.

- Step 1.** At least 12 to 18 inches from the final cut, make an undercut approximately one-third of the way through the branch.
- Step 2.** Cut beyond the cut made in step 1, sawing from the top down, and completely remove the branch. With the majority of the branch weight now gone, bark tearing should not occur.
- Step 3.** Begin the final cut outside the branch bark ridge, continuing at a slightly outward angle, finishing just outside the branch collar. It is not necessary or appropriate to paint pruning wounds.



How Much to Prune

The amount to remove depends on the tree's size, species, and age as well as your pruning objectives. Young trees can tolerate more branch removal than mature trees. In general, prune crossing or downward growing limbs, suckers, and any dead branches. Raise crowns enough to allow traffic to flow under the tree.

Pruning Safety

Make safety your number-one priority. Do not prune trees near utility lines. Do not climb into a tree without appropriate safety and positioning equipment. A professional certified arborist should do any major job on a big tree.

Pruning Shrubs

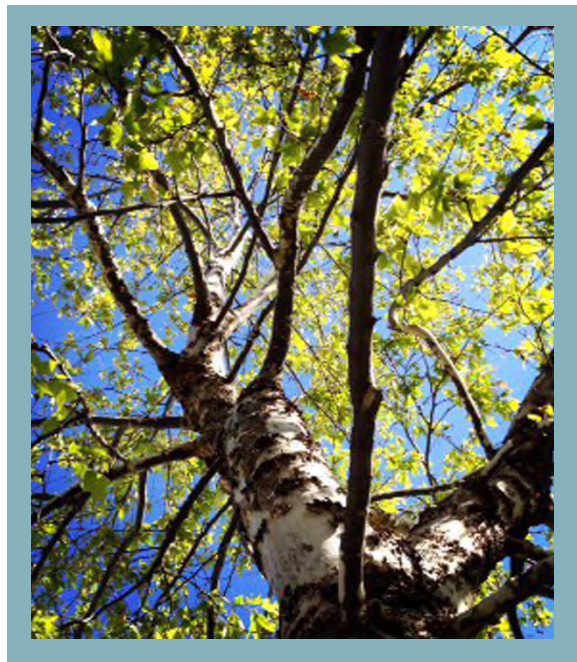
Most landscape shrubs are pruned into geometric shapes (balls and boxes) by shearing. This practice destroys the natural look of the shrub, prevents flowering, and is labor intensive, having to be repeated frequently to keep the shapes looking neat.

Alternatives to Shearing

Plant dwarf shrubs that require little pruning. There are dwarf options for plants such as Buddleja, Bottle Brush, Pine, Boxwood, Abelia, Heavenly Bamboo, Abutilon, Acacia, and Pittosporum, to suggest a few.

Use hand pruners to selectively cut stems that grow beyond the height or spread you desire. Cut those stems back to lateral branches. This keeps the plant at the desired size but avoids creating an unnatural shape.

Some shrubs grow by producing new shoots from the base of the plant. Heavenly Bamboo, Bamboo, and Mahonia are common examples. These should be pruned by removing long, older stems completely rather than cutting them back. This keeps the plant in scale while preserving its natural shape and ability to flower. It also encourages renewal of the plant by stimulating production of new shoots.



Scaffold branches are smaller in diameter than the trunk with wide angles of attachment. Good radial distribution along the length of the tree trunk helps dampen or slow excessive trunk movement during high wind events. Retaining small branches close to the point of attachment of scaffold branches helps create strength and taper. Ideally at least half the foliage should be on the lower two-thirds of the trunk on scaffold branches. At least one-half of the branch foliage on the lower two-thirds of the scaffold branches will help create a strong branch. This photo shows a sycamore tree with a good distribution of scaffold branches well spaced along the trunk. One large branch on the right has been pruned more heavily than the rest to slow its growth in relation to the trunk. This is called *subordinate pruning*.

Finding a competent properly insured arborist

When you get a bid for tree work, you should interview the salesperson to learn what they know.

1. Knowledge and Credentials

Ask the tree care provider the following:

- Are you a member of the International Society of Arboriculture (ISA), the Tree Care Industry, or the Western Chapter of the International Society of Arboriculture?
- Do you employ an ISA certified tree worker or certified arborist? Ask for the certification number.
- Based on the goals expressed by the tree owner and your knowledge of ISA's best management practices and the ANSI A300 pruning standards, how would you perform the work?

2. Licensing

Unlicensed tree pruners are considered your employees regardless of the amount they charge. For most landscape and construction operations no license is needed to contract for less than \$500. This is not the case in tree care, even if the pruner never climbs the tree. Ask the tree care provider the following:

- Do you have a current and active C61/D49 limited specialty Tree Service or C27 Landscape License? If they do, the license number must be on their cards and advertising. Check the state license number status at cslb.ca.gov and use the instant license check feature.

3. Insurance

Do not accept copies provided by the arborist. Ask for certificates to be sent from the insurance provider. This only requires a call by the arborist at no cost. They should provide evidence of:

- Public liability and property damage insurance;
- Workers compensation insurance (not required for the owner of the company).



Photos this page courtesy West Coast Arborists.

Mature trees can provide maximum benefits if they are properly cared for by qualified arborists. These photos show professional arborists in action with appropriate equipment and a qualified staff.