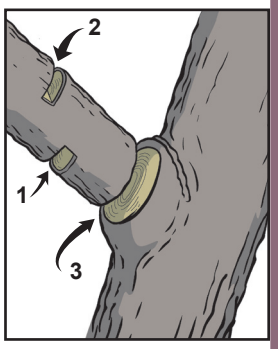
Pruning Young Trees

Proper pruning is essential in developing a tree with a strong structure and desirable form. Trees that receive the appropriate pruning measures while they are young will require less corrective pruning as they mature.

Keep these few simple principles in mind before pruning a tree:

- Always have a purpose in mind before making a cut. Each cut has the potential to change the growth of the tree.
- Poor pruning can cause damage that lasts for the life of the tree. Learn where and how to make the cuts before picking up the pruning tools.
- Trees do not heal the way people do. When a tree is wounded, it must grow over the damage. As a result, the wound is contained within the tree forever.
- Small cuts do less damage to the tree than large cuts. Correcting issues when a tree is young will reduce the need for more drastic pruning later.

Making the Cut



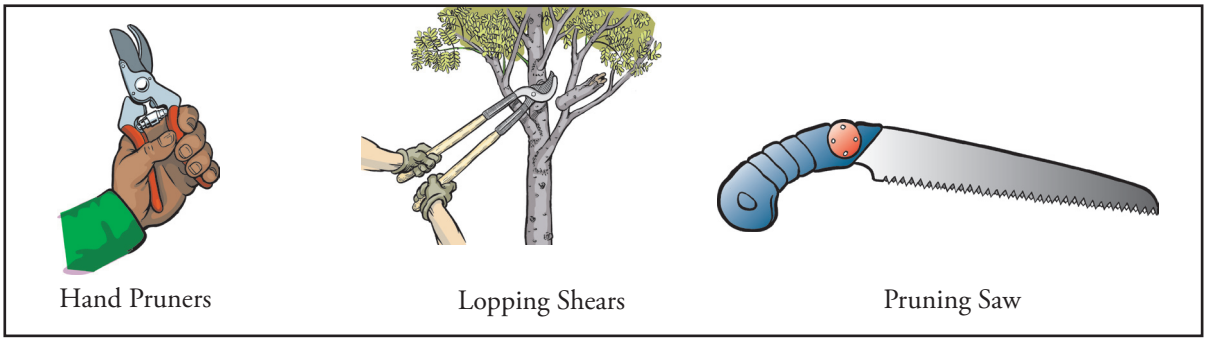
Pruning cut location is critical to a tree's growth and wound closure response. Make pruning cuts just outside the branch collar to avoid damaging the trunk and compromising wound responses. Improper pruning cuts may lead to permanent internal decay.

If a large branch must be shortened, prune it back to a secondary branch or a bud. Cuts made between buds or branches may lead to stem decay, sprout production, and misdirected growth.

Pruning Tools

Small branches can be cut easily with hand pruners. Scissor-type or bypass-blade hand pruners are preferred over the anvil type as they make cleaner, more accurate cuts. Cuts larger than one-half inch (1.27 cm) in diameter should be made with lopping shears or a pruning saw.

Hedge shears should be used for shaping hedges only. Do not use shears to prune a tree. Whatever tool you use, make sure it is kept clean and sharp.

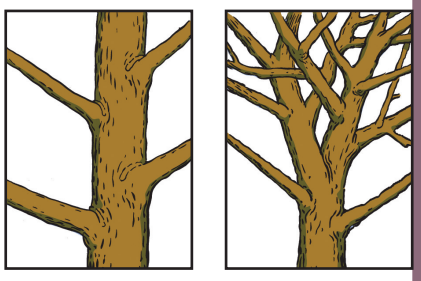


Hand Pruners | Lopping Shears | Pruning Saw

Establishing a Strong Scaffold Structure

A good structure of primary branches should be established while the tree is young. These limbs, called scaffold branches, are a mature tree's framework. Properly trained young trees will develop a strong structure that requires less corrective pruning as they mature. The goal in training young trees is to establish a strong, central trunk with sturdy, well-spaced branches. This form mimics tree growth in forest settings where outward branching is limited by neighboring trees.

Some tree species develop some or all of these characteristics naturally, even when grown openly in an urban or park setting. Others may require more frequent attention.



Good Structure **Poor Structure**

Trunk Development

For most young trees, maintain a single dominant leader growing upward. Do not prune back the tip of this leader or allow secondary branches to outgrow the main leader. Sometimes, a tree will develop double leaders known as codominant stems. Codominant stems can lead to structural weaknesses, so it is best to remove or shorten one of the stems while the tree is young.

A tree's secondary branches contribute to the development of a sturdy, well-tapered trunk. When numerous branches are being removed, it is preferable to retain some, at least temporarily, to promote trunk diameter growth.

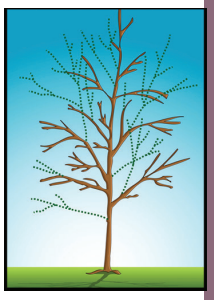
Permanent Branch Selection

Most of the branches present on a young tree at planting will be pruned away at maturity to provide clearance for mowing, pedestrians, and/or vehicle traffic.

The height of the lowest permanent branch is determined by the tree's intended function and location in the landscape. The road side of a street tree may be raised to 16 feet (5 m) to accommodate traffic. In most other situations, 8 feet (2.4 m) of clearance is sufficient. Trees used as screens or wind breaks, however, usually branch low to the ground.

Sufficient branch spacing and balance, both vertically and radially, is important. The space between permanent branches should be approximately 3 percent of the tree's eventual height (for example, 1.5 feet [0.5 m] for a tree that can grow to be 50 feet [15 m] tall).

Beyond spacing, the strength of branch structure depends on the relative size of the branches and branch angles. Branches similar in diameter to the trunk or limb from which they arise are more prone to failure than those smaller in diameter.



Narrow angles of attachment or tight crotching can enclose bark within a branch union. Such growth is called included bark, a condition that weakens the branch attachment and may lead to failure when the tree matures. Branches with weak attachments should be pruned while still small. Balance should be considered by retaining some branches in each direction radially, spreading from the center outward. Make sure one scaffold branch is not allowed to grow directly above another.

When pruning, be sure not to remove too many branches. Leaves and their supporting branches are major sites of food production and storage. Eliminating too much of the canopy can "starve" the tree, reduce growth, and increase stress. No more than 25 percent of the crown should be removed in one pruning.

Newly Planted Trees

Pruning of newly planted trees should be limited to the removal of dead or broken branches. All other pruning should be withheld until the second or third year, when a tree has recovered from the stress of transplanting.

Wound Dressings

Despite any claims otherwise, research has shown that wood dressings do not reduce decay or speed wound closure and rarely prevent insect or disease infestations. Most experts recommend that wound dressing not be used.

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