



Pruning Trees and Shrubs

By Mike Bryson, June 2007

The rule of thumb to follow when pruning trees and shrubs is: "If you have no good reason to prune, don't". Most trees and shrubs have a natural form to them and may do better and look better if left alone. Each kind of tree has its own characteristic shape or growth habit and when pruning, you should try to maintain that habit. There are times, though, when pruning must be done and proper procedures should be followed.

How Pruning Affects Plant Growth

Pruning trees in late winter and early spring before growth starts reduces the number of leaves produced the coming year. Less water and nutrients will be required because there is reduced top growth. The strong root system below supplying a reduced top, results in strong, succulent, rapidly growing shoots. This invigorating effect is present throughout the tree, but is most noticeable on those limbs which have been most severely pruned. When a branch is pruned back, new shoots arise near the cut. The new shoots generally grow in the same direction that the buds were pointing. Thus, a bud on the inside of a branch will grow towards the centre of the tree and an outward facing bud will grow away from the centre of the tree.

Reasons For Pruning

(a) Pruning at planting time: just after transplanting, the tops should be pruned back to compensate for the loss of roots and to begin training the tree. This should not exceed one-third of the plants total top growth. NOTE: Trees that come from the Shelterbelt Centre are already top pruned, therefore DO NOT require additional top pruning.

(b) Training

1. to develop a strong framework to withstand winds, a tree should be pruned to a few strong limbs spaced well apart, up, down and around the trunk.
2. to develop a shade tree with limbs coming off the trunk at a height greater than 6 to 8 feet, lower branches should be pruned off. Ideally pruning should be done over an extended period of time as the tree grows in height. If done all at once this can result in a weak, spindly tree that needs staking. If you are going to prune all at once it is best to prune those lower branches to short stubs. These stubs will eventually be removed. The short stubs act as sap drawers, putting out leafy shoots which manufacture food and draw up water and minerals resulting in a stouter, stronger trunk. These stubbed branches must be kept pruned back and can be removed completely after permanent scaffold branches (main crown) have been established.

(c) Tree health:

1. prune to eliminate limbs with weak crotches that arise from the trunk at acute angles.
2. prune to eliminate limbs that cross each other or compete for the same space in the trees crown.
3. prune to eliminate dead and diseased branches to improve the appearance of the tree and prevent entrance and spread of diseases and insects.

4. prune to revitalize older trees by pruning out part of the crown of the tree, reducing the leaf area that the root system has to supply. More vigorous growth results in the remaining branches.
5. prune to increase air circulation through the tree both for the trees benefit and to increase air flow into the landscape. More sunlight gets through the tree which is beneficial for lawn growth below.

(d) Safety: dead, broken, weak or split branches, or low hanging branches which might be a hazard to people, vehicles or buildings should be removed.

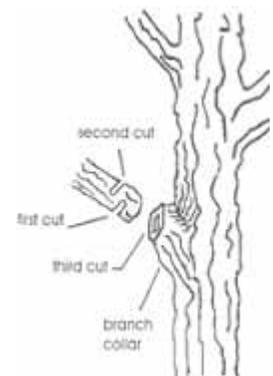
When And How To Prune Deciduous Trees

In general, deciduous trees and shrubs should be pruned when they are dormant, preferably in early spring just before growth starts. At this time, wound healing will begin almost at once and it will be most rapid. Dormant pruning will have less effect on the growth of trees than pruning when the tree is in active growth. Another advantage of dormant pruning with deciduous trees is that it is easier to select branches which should be removed when the leaves are gone. Dead limbs and those lacking in vigour can be pruned in mid-summer when they are easier to locate.

Exceptions to the dormant pruning rule are maple, birch and elm which should be pruned when actively growing in mid-summer. When pruned in early spring, these species may lose excessive amounts of sap. Pruning of Maple and Birch should not be done too late in the fall either, as wounds will not have a chance to heal before winter. Elm trees should not be pruned between April 15th and August 30th to prevent the spread of Dutch Elm Disease.

When pruning deciduous trees, make all cuts close to, and parallel to, the trunk or crotch of the tree. In order to avoid damage to the main limb or trunk when cutting large branches, use the 3-step method illustrated below:

1. The first cut is made part way through the branch on the underside, a short distance from the trunk to which it is attached.
2. A second cut is made from the top down, 2-3" further out the branch from the 1st cut. The weight of the branch will cause it to break free and fall outward without tearing any bark.
3. The third and final cut is made close to the trunk so as not to leave a stub. When removing live or dead branches, avoid cutting into the callus tissue which has formed at the base of the branch. The tree will not be able to heal properly without this growing tissue intact.



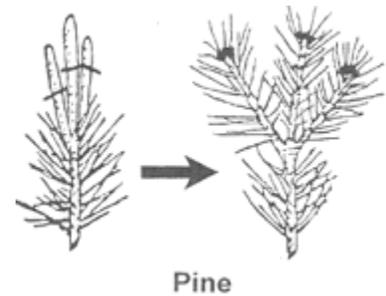
When And How To Prune Evergreens

Evergreens require little pruning in most cases. For pruning purposes, two types of evergreens are recognized: a.) those that produce their branches in whorls such as spruce, pine and fir (conifers), and b.) those such as juniper and cedar that do not exhibit the whorled habit. Most trees in the first group are grown as single trunk trees giving them a pyramidal form. In this case the removal of entire branches will leave gaps and should only be done if the branch is dead or diseased. Pruning of these evergreens should be confined to trimming back new growth at the tips of the branches. When this pattern of pruning is practiced annually, the result can be a noticeable increase in the density of the tree.

(a) Pines: Most pines are best pruned in mid-June before the needles start to unfold. At this time, the new growth looks like candles. *It should be noted that the date of pruning will depend on the year and could be different each year. • When these terminal shoots are soft they may be cut back to one-half to one-third of their length. This will control the length of subsequent growth for that season.

New terminal buds will form at the cut ends by the end of the growing season and growth the following year will spread out from those points. (see below).

(b) Spruce and Fir: If it is a matter of shortening shoot growth, spruce can be pruned by cutting the shoot back to a lateral bud in early spring before growth starts. (Pruning should be done in mid-May to early June, before new buds for next year's growth have been formed.) Growth will continue on from that bud as the season progresses.



Density pruning of spruce and fir is best carried out after the growing points have elongated (see below). To control growth, prune half of the new growth early in the spring when the new growth has extended. This will increase the density of the tree much the same way as with the pines.

(c) Cedar and Juniper: Evergreens with soft growth such as Junipers and Cedars may be pruned by clipping back new growth preferably in early spring to mid-June. Clipping back the most vigorous branches once or twice a season will keep the plant dense without destroying the natural appearance.

(d) Damaged Terminal Leaders: If a terminal branch of spruce, pine or fir is damaged in some way and must be removed, a lateral branch should be trained upwards to replace it. A strong branch from the uppermost whorl should be selected and carefully tied up to a stake like a splint. Several inches should be cut off the remaining branches of the whorl to direct more growth to the new leader. When two or more leaders are present, all but the strongest should be removed when the tree is relatively young.

Diseased Branches: When removing diseased material, tools should be disinfected in a 5% javex or alcohol solution between each cut. Always cut back to healthy wood.

Wound Dressing: The treatment of tree wounds with dressings is a controversial subject. While dressings do protect against the invasion of water, disease and insects, they also slow down the healing process. It is recommended that dressings only be used on cuts with a diameter over 6". Be sure to use only dressings that are recommended for trees. Do not use ordinary paints!

Pruning Tools

Good quality pruning tools make a difference when pruning trees and shrubs. When buying tools, usually you get what you pay for, so cheaper tools....usually are! Hand or pole mounted versions of secateurs and pruning saws are available. For large limbs, a bucksaw can be used. Chainsaws are fast and efficient but do not make clean cuts which results in slow wound healing.

1. Scissor action secateurs are the best type for small branches and make cleaner cuts than anvil action types.
2. Pruning saws are compact and specially designed for heavy duty pruning in tight spaces.

Lopping shears are used for larger branches and come with different handle lengths. Try to buy scissor action loppers rather than anvil action ones.