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A GUIDE TO SUCCESSFUL PRUNING

Pruning Basics and Tools

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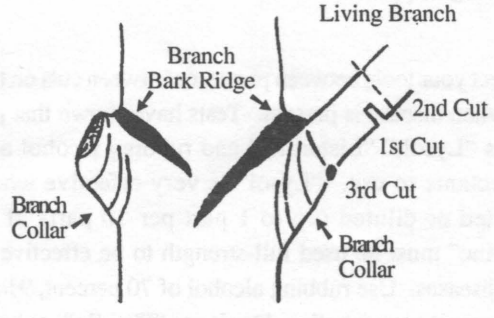
What is Pruning?

Pruning is a regular part of plant maintenance involving the **selective removal of specific plant parts**. Although shoots and branches are the main targets for removal, roots, flower buds, fruits and seed pods may also be pruned.

Pruning **wounds** plants, but plants respond differently to wounding than do animals. In plants, damaged areas are **covered by callus tissue to close** wounds. Simply put: animal wounds heal, plant wounds seal.

Another response to pruning occurs inside plants. **Chemical boundaries form** around wounded areas, walling off or compartmentalizing the wounds. **Compartmentalization limits any decay** that results from wounding, or from the natural death of branches. Use pruning techniques that minimize plant wounding and speed wound closure.

Current pruning recommendations advise against pruning branches flush to the trunk. Flush cutting is harmful in several ways: it damages bark as pruning tools rub against the trunk, it removes the **branch collar,** and goes behind the **branch bark ridge.**



Branch bark ridge and branch collar

The branch collar is the swollen area of trunk tissue that forms around the base of a branch. If you prune away the branch collar, you remove not only branch wood, but also trunk wood, opening the plant to more extensive decay.

The branch bark ridge on trees is a line of rough bark running from the branch-trunk crotch into the trunk bark. It is less prominent on some trees than on others. **The best pruning cut is made outside the branch collar,** at a 45 to 60 degree angle to the branch bark ridge. More detailed directions for pruning deciduous and evergreen trees and shrubs can be found in specific Extension publications.

Why Prune?

1) **To improve the appearance or health of a plant.** Prompt removal of diseased, damaged, or dead plant parts speeds the formation of callus tissue, and sometimes limits the spread of insects and disease. For trees, pruning a dense canopy permits better air circulation and sunlight penetration. To avoid future problems, remove crossing branches that rub or interfere with each other, and those that form narrow crotches.

2) **To control the size of a plant.** Pruning reduces the size of a plant so that it remains in better proportion with your landscape. Pruning can also decrease shade, prevent interference with utility lines, and allow better access for pest control.

3) **To prevent personal injury or property damage.** Remove dead or hazardously low limbs to make underlying areas safer. Corrective pruning also reduces wind resistance in trees. Prune shrubs with thorny branches back from walkways and other well-traveled areas. Have trained or certified arborists handle any pruning work in the crowns of large trees.

4) **To train young plants.** Train main scaffold branches (those that form the structure of the canopy) to produce stronger and more vigorous trees. You'll find it easier to shape branches with hand pruners when a plant is young than to prune larger branches later. Pruning often begins with young plants for bonsai, topiary, espalier, or other types of special plant training.

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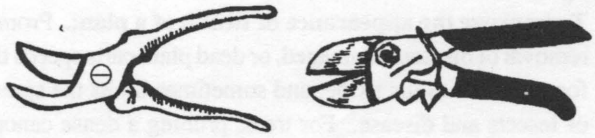
5) **To influence fruiting and flowering.** Proper pruning of flower buds encourages early vegetative growth. You can also use selective pruning to stimulate flowering in some species, and to help produce larger (though fewer) fruits in others.

6) **To rejuvenate old trees and shrubs.** As trees and shrubs mature, their forms may become unattractive. Pruning can restore vigor, and enhance the appearance of these plants.

What tools are needed?

Use **hand pruners** to cut stems up to 3/4 inches in diameter. Two types of pruners are available: bypass and anvil. **Bypass pruners** have sharpened, curved, scissors-type blades that overlap. **Anvil pruners** have straight upper blades that cut against flat lower plates. Although anvil pruners are usually cheaper, they tend to crush stems as they cut. Furthermore, the width of the anvil can prevent you from reaching in to get a close cut on narrow-angled stems. Due to these drawbacks, bypass pruners are generally recommended.



Bypasss pruners Anvil pruners

Use **lopping shears** to cut through branches that are up to 1 3/4 inches in diameter. Loppers have long handles to give you extra reach and better cutting leverage. For heavy duty pruning jobs, select loppers with ratchet joints or those with gears. Also look for loppers with shock-absorbing bumpers between the blades, to lessen arm fatigue. Again, bypass blades are preferable.

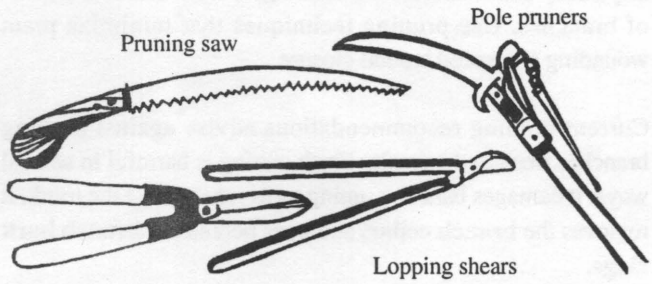
Use **pruning saws** to remove stems you cannot cut with hand pruners or lopping shears. Pruning saws come in many sizes, with either straight or curved blades, and teeth that are either fine or coarse. Use a finely-toothed, curved pruning saw to remove branches up to 2 1/2 inches in diameter. You can make a clean cut with this type of saw where access is difficult. Use a coarsly-toothed saw for heavy branches 3 inches or more in diameter.

Use **pole pruners** to cut out-of-reach branches up to 2 inches in diameter. Pole pruners consist of blades attached to stationary hooks which are mounted on long wooden or aluminum poles. A cord or chain is used to control the cutting action of the spring-loaded blade. Fully extended, you can use pole pruners to reach branches 12 feet or more in height. Pole pruners are especially valuable on jobs where ladders would be inconvenient, or would damage the tree. Use great care when pruning near utility lines.

Use **chain saws** to remove branches greater than 3 inches in diameter. Many types and sizes of chain saws are readily available, powered by gasoline or electricity. In selecting a chain saw, carefully consider the tasks for which it will be used. The size of the engine and the length of the blade determine the branch diameter through which you can cut. **Chain saws should be used only with appropriate safety gear by people who fully understand their operation.**

Use **hedge clippers** or pruning shears to trim thin-stemmed hedges. Manual hedge clippers, and ones powered by gasoline or electricity, are available. All types shear off growth in a straight line, regardless of branch collar or bark ridge location. If you have a long hedge, you may have to use hedge clippers when hand pruning is impractical. With repeated shearing, hedges develop a profusion of outer twigs, die back in the center, and often show an increase in pest problems.

Select quality tools. They will last longer and make pruning more pleasurable. For maximum effectiveness, sharpen blades regularly and dry and oil them after each use. Use a file or whetstone for sharpening hand tools, and have an experienced professional sharpen chain saws and power hedge clippers.



Disinfect your tools between plants, or between cuts on the same plant when disease is present. Tests have shown that products such as "Lysol," "Listerine," and rubbing alcohol are good disinfectants to use. "Lysol" is very effective when used undiluted or diluted (up to 1 part per 10 parts of water). "Listerine" must be used full-strength to be effective against many diseases. Use rubbing alcohol of 70 percent, 91 percent, or 99 percent concentration. Don't use "Pine Sol" or household bleach to disinfect your tools. Tests show they are highly corrosive to metal. Remember that no disinfectant can provide complete protection against disease.