



STARNOTE 105
June 2009

THE PRINCIPLES OF PRUNING

Sometimes a little is all you need

With many tasks that require some technical experience, homeowners often put off the chore of pruning because they are afraid that they'll destroy the natural shape of a tree or ruin a shrub. Too often this avoidance of a simple task results in untrained plants that may suffer from poor structural development and ultimately require premature removal. With a look at some basic principles and techniques, hopefully we can dismiss any misconceptions and fears concerning pruning.

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What is Pruning? We all have a basic idea of what pruning is. Pruning is the removal of plant parts. These are typically shoots or branches, but sometimes buds, flowers, fruit or roots are removed as well.

Why do we Prune? The primary purpose of pruning is to control the height, width, and form of plants; properly done, this can also enhance overall performance by improving vigor. Other reasons to prune are to enhance flower and fruit production, and improve the structural strength of fruit and shade trees.

The training of young plants should begin early to avoid future problems. You will want to develop a strong frame for limbs to grow on, an upright stature that does not require support, and vigorous growth that is well directed.

One final reason for pruning is to rejuvenate a stagnant plant that doesn't respond to any other treatment. This "restorative" pruning is normally limited to shrubs and small trees. Severely pruning the plant places it in a "grow or die" situation, and is used only where you have little to lose. Many plants respond to this drastic treatment with vigorous new growth which may be used to redevelop the plant. [\(top\)](#)

Pruning Strategies

The main limbs that make up the frame work of trees are known as the scaffold branches, and should be aligned on the trunk in the manner of a spiral staircase. Trees that have grown or are trained in this manner have sturdy branches that are strongly

attached to the trunk. This will help to resist breaking from wind or the weight of fruit and foliage. An additional goal in training is to maintain a natural shape for the species.

Once a good framework has been established the pruning practices for the remainder of their life are usually limited to what is known as “maintenance pruning.” This includes the removal of dead, broken and diseased branches, and also involves removal of branches that may be crossing or rubbing in the wind. To prevent friction damage remove any branches that are crowded within the interior of the tree—in essence, open up the tree for less wind resistance and improved light penetration.

While pruning, keep in mind where you want the lowest permanent branch to be located, since branches remain at the same height as the tree ages. If you want to walk or mow under the tree, remove lower branches before they become large in diameter in order to keep the pruning wound as small as possible. [\(top\)](#)

Maintenance Pruning

Most trees, if properly trained, will require little additional pruning. Sometimes, small sprouts develop at the base of trees that are grafted. These are known as suckers and should be removed when quite small, cutting them as close to the trunk as possible. Or trees can produce similar unwanted branches, known as water sprouts, which develop higher up on the scaffold branches. These can grow ten or more feet in one season, but are attached weakly and are to be removed.

When to Prune. Normal pruning of deciduous fruit trees is in the winter prior to flowering; this controls the amount of fruit set, and results in fewer but larger fruits. All deciduous plants should be pruned, if needed in the winter. Spring flowering shrubs are pruned following their flowering to avoid cutting off the flowers, which develop on last year's growth. Summer or fall flowering evergreen shrubs usually flower on new wood, so pruning in the spring will encourage more growth and flowers. Research indicates that pruning at the time of planting is not usually beneficial, since hormones that promote rooting are produced in the tips of branches. Removing branch tips in severe pruning actually considerably sets the plant back in the rooting process. To compensate for root loss, branches should be thinned from the tree or shrub instead of heading each branch back. Otherwise, look for and remove only broken or damaged branches and those which may crowd or cross in the interior. On young newly planted trees, do not remove the small lateral branches near the base of the tree. These help the plant to develop a larger trunk more quickly. These will often atrophy and drop off within a year anyway.

If you are pruning often, it would have been better to select a tree that would not grow too large for the area in which it was planted. It is not so good to use pruning as a control for the ultimate size of trees. When you plant, look for factors that can limit the tree's space, like overhead utility lines, nearby structures, walks and drives—even other trees. If a tree requires pruning every five years to control its growth, then it's probably in the wrong location. Be aware of these factors at planting time and you'll avoid a lot of extra work. [\(top\)](#)

How and Where to Cut. And now to the real work - where to locate the actual pruning cut? Some experts recommend cutting the branch flush with the trunk, practice which is acceptable with suckers or water sprouts, but creates slow-healing and larger than

normal wounds on large branches. At the opposite extreme, stubs shouldn't be left either, since these can cause infection within the trunk. The happy medium, "natural target pruning," is a process that uses locations normally produced on branches. If you look closely at a branch, you'll notice slight bulges located just out from where they attach to the trunk. This ring is where the cut should be located, leaving the smallest diameter wound possible without leaving a stub. With some practice, you'll be able to find this ring easily on most trees.

"Topping" or pollarding trees is a form of drastic restorative pruning, but is not recommended. The large quantity of new branches that develop following topping are very weakly attached, shade the interior branches and generally weaken the tree. In addition to the unnatural look of such pruning, many years of training are required to restore a pollarded tree to a natural shape. [\(top\)](#)

Summary and Reference

Like any skill, pruning takes some work to master. The astute homeowner, however, will discover that the process is intuitive, and the rewards great.

Basic Books

SUNSET WESTERN GARDEN BOOK

2001, Sunset Publishing Corporation, Menlo Park, California

THE PRUNING BOOK

Lee Reich, 1999, The Tauton Press, Inc., Newtown, CT

ALL ABOUT PRUNING

1989, Monsanto Co, Ortho Books, San Ramon, CA.

USDA Forestry Service

[How to Prune Trees](#) (a pdf file, you will need adobe reader – available at:
(<http://adobe.9-pdf-pro.com/index.asp>)

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