

### WHY DO WE PRUNE?

Pruning is a horticultural practice that maintains the quality and vigor of trees. Pruning is done mainly for the health of the plant.

#### REASONS TO PRUNE

- ◆ To promote new growth
- ◆ To remove damaged, dead, diseased and crossing limbs
- ◆ To improve flower/fruit production
- ◆ To control size
- ◆ To protect property and humans
- ◆ To restore or rejuvenate
- ◆ To beautify the landscape
- ◆ To maintain a natural shape for the species

The training of young trees should begin early to avoid problems. The aim is to develop a strong framework for limbs to grow on and growth that is well directed. The main limbs are known as scaffold branches and should be aligned on the trunk like a spiral staircase.

### WHEN SHOULD YOU PRUNE?

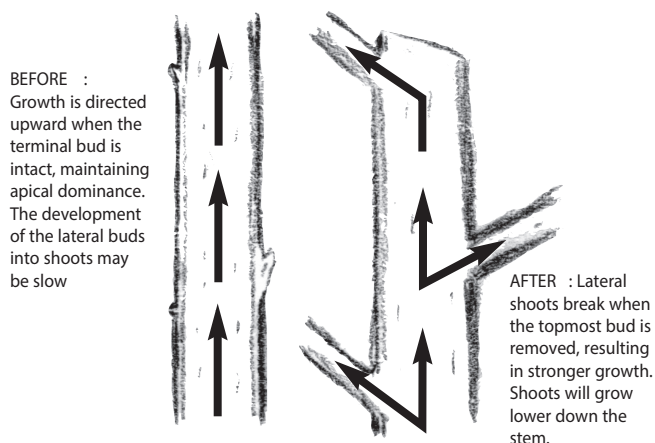
Knowing when to prune is crucial. It requires understanding of the function of tree parts and how they affect tree structure. In summer, plants produce energy through photosynthesis. The energy is stored and used the next spring for plant growth and reproduction. From early spring to early summer, stored energy levels are at their lowest and leave the plant vulnerable until the new leaves produce more energy. The dormant season is anytime between when the leaves fall and when new growth begins the following spring. This is the best time for most types of pruning. Dormant pruning is also desirable because it is easier to view the branching structure during this time. Pruning deciduous trees when they are dormant encourages them to grow more vigorously the following spring. Spring and early summer pruning should only be done after trees have flowered. Summer pruning is recommended to slow the growth of full sized or overgrown

deciduous trees. Pruning is not recommended during late summer to fall except for light touch-ups. Remove dead and dying branches as they appear. Large branches should be removed by professionals.

Always check for specific pruning requirements for each species.

### HOW DO PLANTS GROW?

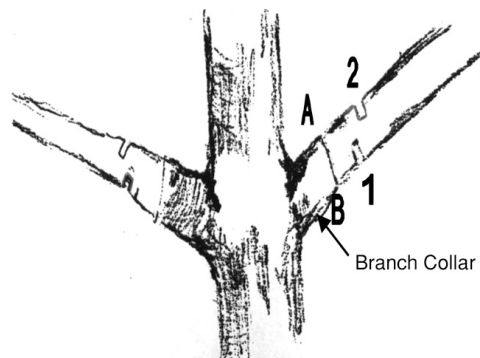
Growth is made from just below the terminal (apical) bud—the growing point or “leader”. The apical bud initiates “apical dominance,” whereby hormones move down the stem and inhibit the growth of the side buds (lateral buds). When the terminal bud is intact and maintaining apical dominance, energy is primarily directed into further upward growth. Lateral buds on the stem may be slow to develop shoots. The lateral buds will break into growth to form branches only when the growing tip has grown away or has been removed.



### PRUNING TECHNIQUES

When removing large branches, three cuts are necessary to avoid tearing the bark. The first cut (1) (see diagram on back) should be made on the underside of the branch, about 12" out from where the branch joins the trunk. This cut should be one-fourth to one-third of the way through the branch. The second cut (2) is made on the topside of the branch, 1 to 2 inches farther

out than the first cut. When this cut is made, proceed until the branch is severed. The final cut (A-B) should be made just beyond the branch collar (the tissue that is around the base of the branch). Cutting flush to the trunk produces large wounds that are slow



to close. **NEVER LEAVE STUBS BECAUSE THEY SERVE AS ENTRY POINTS FOR DISEASE.**

**Pinching** is the most basic form of pruning. It is done by using the thumb and forefinger, or a pair of clippers to remove stem tips of new growth. Pinching encourages side branching and a more compact plant.

**Heading Back** shortens branches. It also removes winter damaged material. Branches are “headed back” to the growing point at a leaf, dormant bud or lateral branch.

**Thinning** is the removal of branches at the point of origin. It eliminates old stems so that more light and air can be circulated to direct the plant’s energy to produce healthy growth in younger, more vigorous areas.

## PRUNING TOOLS

Bypass hand pruners are top priority and used for shoots and twigs up to a half-inch wide. Hand pruners are used for 70% of pruning activities. Make sure to buy hand pruners that have replaceable parts. Triple-edged handsaw and the pocket folding saw are used for branches up to 2 inches in

### Points to remember when pruning:

- ◆ Examine the entire plant and start from the bottom.
- ◆ Never leave stubs. Always cut back to a side shoot or bud.
- ◆ Where there are double leaders, (where two branches are growing straight up at the top of the tree), remove one of them so the other can become the main stem. Also remove branches to eliminate very narrow crotches.
- ◆ Light annual pruning is better than heavy pruning every few years.
- ◆ The central leader should always be thicker in diameter than any branch from it.
- ◆ Cut a branch so the wound is flush with the branch collar, the slight swelling at the base of the branch where it enters the trunk or the larger branch. Do not cut into the branch collar since that can interfere with wound closure.
- ◆ Never remove more than one-fourth of the live foliage.
- ◆ Disinfect pruners with rubbing alcohol or a 10% bleach solution between plants to prevent the exchange of disease.
- ◆ Do not paint wounds with tree wound dressing since this has been found to deform healing and increase rotting of the cut surface.

diameter. Loppers are mainly used where a good, clean cut can be easily made. Generally, the largest branch that should be handled with loppers is 1-1 1/2 inches in diameter. Make sure that pruning tools are clean, sharp and in good working condition. Make clean cuts to avoid tears.

## References

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Brooklyn Botanic Garden. Pruning Techniques. Brooklyn Botanic Garden, 1991.

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Harris, Richard W. Arboriculture: Intergrated Management of Landscape Trees, Shrubs, and Vines. Prentice Hall, 1992.