

Pruning

Taken from Plant Health Care for Woody Ornamentals



Pruning is one of the least understood and most abused cultural practices. It is also probably the practice that can do the most harm to tree health if the growth habits of the tree are not taken into consideration. Pruning is more than the indiscriminate cutting of limbs and branches. It requires an understanding of the function of the parts of the tree and their impact on the overall tree structure. If pruning is done properly, it can improve tree vitality, appearance, and fruitfulness, and will preserve structural integrity. Improper pruning often results in poor plant vitality, unnatural or unsightly tree appearance, and hazardous tree conditions. A proper diagnosis is necessary before pruning is initiated.

Pruning and tree health

Mature trees in natural stands of deciduous and coniferous forests rarely have low branches. Competition for sunlight among trees limits the light to only the highest branches, resulting in natural dieback and removal of lower, unproductive limbs. A limiting factor on tree vitality in landscape situations (where distances between planting spaces are sufficient to avoid competition between trees) is the shade a tree casts upon itself. Depending on the species, foliage in the outer canopy may receive a higher light intensity than necessary. Beneath this layer, another layer of foliage may receive adequate light for optimum photosynthesis and, farther into the canopy a third layer may receive insufficient light for photosynthesis. Branches in this interior layer may begin to decline in vitality as the light compensation point is reached. Additionally, high humidity and low light conditions caused by a dense canopy are favorable to the growth of fungi and bacteria that are causal agents of many biotic tree diseases. Pruning practices that result in a less dense canopy will provide increased light and airflow through the canopy. These improvements release some of the branches from competition and provide less favorable conditions for microorganism growth and development.



Trees are healthiest and most beautiful when planted in favorable site conditions and allowed to develop their natural habit. Limited space and poor landscape design often result in plants that are too large or otherwise out of scale for the planting site. Pruning is too often used to solve problems created by poor planning. The best solution is proper plant selection, not pruning. Nevertheless, even good trees that are properly sited will require occasional pruning. In these situations, trees should be selectively pruned, when necessary to maintain their natural form or habit.

Why Prune

A tree may need pruning for a variety of reasons:

- To remove diseased or storm-damaged branches .
- to thin the crown to permit new growth and better air circulation .
- to reduce the height of a tree
- to remove obstructing lower branches .
- to shape a tree for design purposes

Once the decision has been made to prune, your next decision is whether or not to tackle the job yourself. In the case of a large tree where you want to remove big branches in the upper area of the crown, it may be best to hire experts. Large tree pruning, in particular, can require climbing and heavy saws or even cherry-pickers and chain saws.

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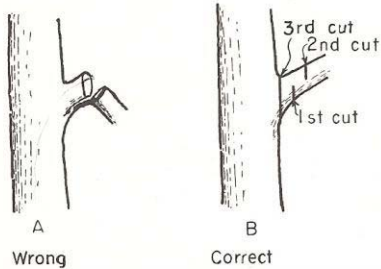
Chapter 5

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John Ball, Associate Professor of Forestry, South Dakota State University; David Williams, Professor of Horticulture, University of Illinois; Patrick Weicherding, Urban Forestry Consultant, North St. Paul, Mn.

How to Prune

Whether the tree is large or small, the key is to prune the unwanted branch while protecting the stem or trunk wood of the tree. Tree branches grow from stems at nodes and pruning always takes place on the branch side of a stem-branch node.

Branches and stems are separated by a lip of tissue called a stem collar, which grows out from the stem at the base of the branch. All pruning cuts should be made on the branch side of this stem collar. This protects the stem and the other branches that might be growing from it. It also allows the tree to heal more effectively after the prune. To prevent tearing of the bark and stem wood, particularly in the case of larger branches, use the following procedure:



1. Make a small wedge shaped cut on the underside of the branch just on the branch side of the stem collar. This will break the bark at that point and prevent a tear from running along the bark and stem tissue.
2. Somewhat farther along the branch, starting at the top of the branch cut all the way through the branch leaving a stub end.
3. Finally, make a third cut parallel to and just on the branch side of the of the stem collar to reduce the length of the stub as much as possible.

A similar procedure is used in pruning one of two branches (or one large branch and a stem) joined together in a 'u' or 'v' crotch. This is known as a drop crotch cut. Make the first notch cut on the underside of the branch you're pruning well up from the crotch. For the second cut, cut completely through the branch from inside the crotch well up from the ridge of bark joining the two branches. Finally, to shorten the remaining stub, make the third cut just to one side of the branch bark ridge and roughly parallel to it.

When to prune

For most trees, the dormant season, late fall or winter, is the best time to prune although dead branches can and should be removed at any time. Pruning during the dormant period minimizes sap loss and subsequent stress to the tree. It also minimizes the risk of fungus infection or insect infestation as both fungi and insects are likely to be in dormancy at the same time as the tree. Finally, in the case of deciduous trees, pruning when the leaves are off will give you a better idea of how your pruning will affect the shape of the tree. Some fruiting and flowering trees should be pruned at other times of the year, depending on whether they flower on the previous year's growth or not.

How Much to Prune

When deciding how much to prune a tree, as little as possible is often the best rule of thumb. All prunes place stress on a tree and increase its vulnerability to disease and insects. Never prune more than 25% of the crown and ensure that living branches compose at least 2/3 of the height of the tree. Pruning more risks fatally damaging your tree. In some cases, storm damage, height reduction to avoid crowding utility lines or even raising the crown to meet municipal bylaws, your pruning choices are made for you. But even in these instances, prune as little as you can get away with.

Pruning is an important maintenance practice for your trees, and should be done regularly to keep your trees healthy. Proper pruning can increase the vitality and beauty of your trees. Improper pruning (without the understanding of the physiological and physical requirement of the tree) can result in unsightly and unhealthy trees, as well as dangerous conditions for the surrounding area.

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