

PRUNING

The pruning of trees is probably the most noticeable and important of all tree maintenance practices. Thoughtful pruning produces a structurally sound tree that can better withstand adverse environmental conditions. In addition, properly pruned trees require less cabling, bracing, and sometimes require less managing of pests to maintain good health. Appropriate pruning will add to the aesthetics and prolong the useful life of trees.

PRUNING FOR HEALTH AND STABILITY

Broken, dead or diseased branches are pruned to prevent pathogenic organisms from penetrating into adjacent parts of the tree. Pruning is an important control measure for fire blight, black knot, several twig blights, some cankers, and dwarf mistletoe. It can be of some benefit in controlling Dutch elm disease and crown gall.

Live branches are removed to permit penetration of sunlight and circulation of air through the canopy. An open canopy makes a less favorable site for powdery mildew. Proper pruning of the tree crown can reduce wind resistance and help prevent breakage. Branches that form an acute angle of attachment are removed because they are especially prone to breakage. When branches having narrow crotch angles get larger, stress on the crotch increases. Also, acutely angled branches often have bark embedded in the branch attachment, which causes a weak joint. These weak attachments are prone to splitting and breaking out during ice storms or high winds. Thus pruning can increase the structural stability of trees.

WHEN TO PRUNE

Generally, trees are best pruned in winter, when they are dormant. Large cuts may be made in the late winter or early spring before bud break, when sap pressure is positive. A wound made at that time will cause the tree to “bleed.” Although some believe the bleeding to be unsightly, it may have a positive benefit in reducing the probability of colonization of the pruning cut by decay organisms. In the spring the rate of callus production is more rapid, further reducing the chance of invasion. Midsummer is also an acceptable pruning time.

Spring pruning after bud break is undesirable, because during this time the bark is at its tenderest and damage to the bark is most likely. In addition, the food reserves of the tree are being directed toward new growth, leaving less energy available for wound repair. Pruning in the late summer is also undesirable because it removes foliar carbohydrates that would be sent to the tree before the leaves fall. This reduces food storage necessary for growth in the following spring and slows root production. In addition, a number of important decay fungi have been observed to produce their largest number of spores during the fall; this is another factor favoring the winter for major structural reshaping.

Pruning to produce a desired shape or to correct a misshapen crown is often most readily accomplished during the growing season. Also, dead or diseased branches are more conspicuous then. Jobs such as removal of safety hazards, dead branches, or diseased branches, however, can be done anytime.