UT Extension

PB1619

Best Management Practices for Pruning Landscape Trees, Shrubs and Ground Covers

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Why prune?

Pruning is one of the most important cultural practices in landscape management. Proper pruning helps keep plants' attractive and vigorous and will add years to the plants usefulness. Many people are apprehensive about pruning, but knowing how, when and why to prune will end these fears.

1. Prune to maintain plant health. Remove dead, damaged or diseased plant tissue to maintain plant health and vigor.
2. Prune to remove misshapen, crowded and rubbing branches and branches with narrow crotch angles. These pruning cuts eliminate problems before plant damage occurs.
3. Prune to increase flowering and fruiting. More flower buds will be formed for the following season if old flowers are removed when they lose their attractiveness, a practice called *dead-heading*.
4. Prune to train plants to a particular size or shape, including hedge and espalier forms.
5. Prune to rejuvenate old, overgrown shrubs and restore plant density, shape and vigor. Large-habit plants in the wrong place, like hollies, privet and photinia planted in front of windows, should be replaced. When cut back or pruned severely, the large root system that remains helps these plants quickly resume their original size.

Trees and shrubs should be examined every year to determine if pruning is needed. Too many homeowners neglect their plants and fail to prune for several years. Shrubs in particular become overgrown and lose vigor. When this overgrowth occurs, heavy pruning or severe renewal pruning is needed to reduce plant size. Never hesitate to cut tall, fast-growing or unsightly limbs. Remember, if the terminal bud on a new shoot is lightly pruned, lateral growth will produce a fuller plant.

Tools of the pruning trade

Only a few key tools are needed to prune correctly (Figure 1). Invest in high quality tools and keep them sharp. Sharp blades leave smooth cuts that heal faster and help reduce disease problems.

1. Hand clippers: For removing branches less than ½ inch (1.5 cm) in diameter. Anvil clippers are used on dry old growth less than ¼ inch (0.5 cm) in diameter and on plants that do not have hollow stems. Two-bladed bypass clippers give the cleanest cut on new green growth and roses or other shrubs that have hollow, thick stems.
2. Loppers: Tools ranging from 20 to 36 inches (50 to 90 cm) long for pruning ½ to 1½ inch (1 to 4 cm) diameter limbs. Loppers have distinct curved shear and cutting blades.
3. Hedge shears: For developing a formal, shaved or sheared appearance. Hedge shears are the pruning tool most often used incorrectly and produce indiscriminate heading cuts (see section below). Do not use shears on any shrub where a natural shape is desired.
4. Pruning saws: To remove 1½ inch (4 cm) and larger diameter limbs. Do not use a carpentry saw. Invest in an arborist's saw that has a narrow, curved blade 12 to 15 inches (30 to 38 cm) long. Some of the most effective pruning saws have saw teeth angled toward the handle that cut on the pulling stroke. Other saw blades have teeth

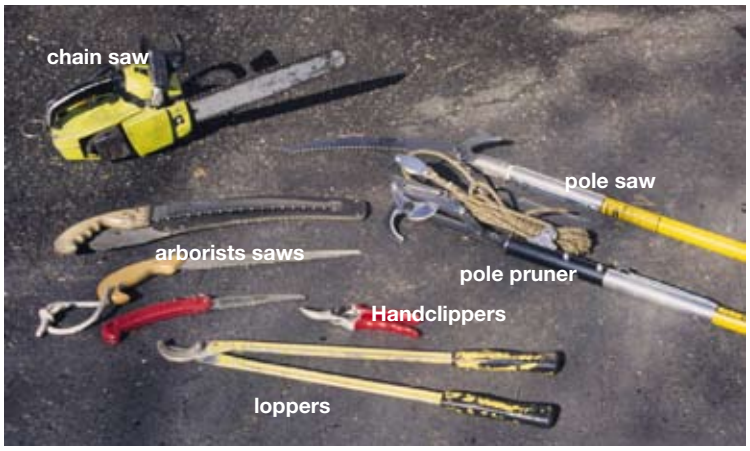


Figure 1. Common tools for pruning trees, shrubs and ground covers.

designed to cut with both push and pull strokes.

5. A combination pole saw with pruners provides a handle that is 10 to 12 feet (3 to 3.6 m) in length for cutting difficult-to-reach branches. Pole saws and pole pruners may be purchased as separate tools or as a combination tool. Purchase a fiberglass pole handle and use extreme caution when pruning near electric lines to reduce risk of electrocution.
6. Electric, gas and battery powered pruners are also available, and are lightweight and powerful. Gas powered fixed- or variable-length pole pruners have a light, two-cycle engine connected to attachments that can include a small chainsaw blade, string trimmers or bypass clippers.

Proper pruning techniques

When pruning a tree or shrub for the first time, follow these simple steps. First, remove all broken, dead and diseased limbs. Next, remove crossover branches or branches that rub together. Cuts should be made just outside the swollen branch collar, which is where wound healing begins. Take care not to damage the bark around the pruning cut. Don't wiggle pruning tools to cut into a branch too large for the tools. Wrong-sized or incorrect tools will either leave jagged cuts or ruin pruning tools. Never leave a stub. Stubs produce weak stem suckers and provide a place for pests and diseases to attack. Do not paint or tar pruning cuts. Painting is an ineffective practice that does not provide any plant health benefit, interferes with the plant's own wound defense system, and does not deter insects or diseases.

Keep in mind that even proper pruning leaves physical wounds on plants and can have several important plant health outcomes. Deciduous shrubs produce new growth from terminal buds, or buds on the branch tips. These terminal buds produce the growth hormone auxin, which controls development and growth of side buds lower on the branch. This growth control is called apical dominance and is strongest in upright-growing shoots (Figure 2). If the terminal bud is removed, lateral buds at nodes along the stem are stimulated to grow because auxin is missing. In fact, on plants like crabapple and magnolias, apical dominance is totally lost on horizontal branches. Lateral buds on upper sides of branches develop vigorous, upright water sprouts that limit the plant's natural growth habit (Figure 3).

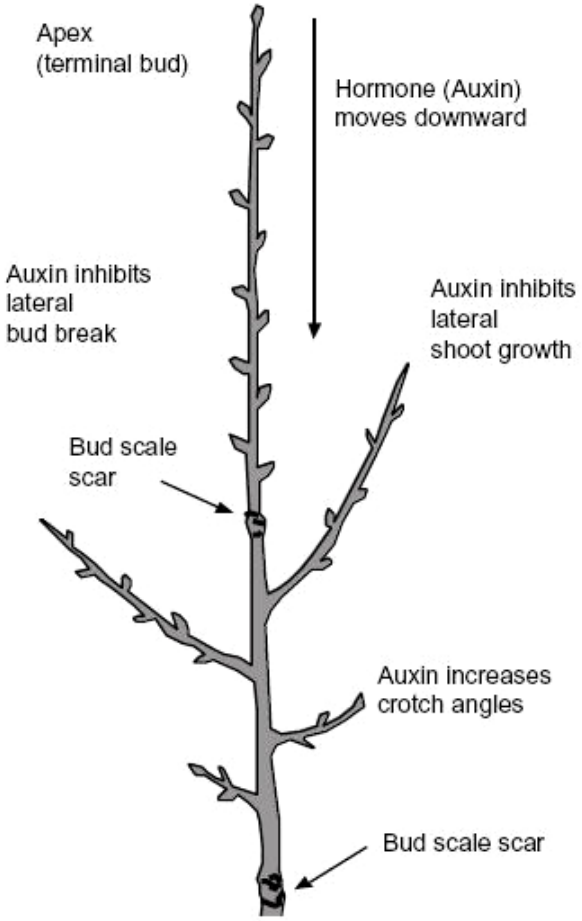


Figure 2. Apical dominance is influenced by auxin

Figure 3. Water sprouts

A special note about "tree topping"

A practice called topping is a severe threat to tree health and is a common problem in Tennessee (Figure 4). Topping is particularly visible where it has been used to reduce tree height around homes and utility lines. There is never a good reason to top a tree. Topping removes the tree's main leader and branches, resulting in stubs and large wounds that never heal properly and greatly shorten the life of trees. After topping, new growth is disfigured by water sprouts and weak limbs that produce a dense canopy with poor air circulation. Insects and disease organisms thrive in this environment. For these reasons, the International Society of Arboriculture's Arborist Certification Program does not endorse topping. Instead, certified arborists practice crown reduction and drop-crotch pruning under narrowly defined conditions.

Figure 4. A topped star magnolia

Heading cuts: to shorten a branch or stem

Two basic pruning techniques are used to shape and restore plants: heading and thinning cuts. Heading cuts are used to shorten a branch or stem and are made just above leaf or stem nodes. Buds directly below a heading cut will generally become new shoots. To encourage shoots to grow outward and produce a spreading shrub, cut above an outward facing bud. Leaving the inward facing buds intact causes crowded branching and poor growth form. Leave just enough stem tissue intact below the cut to keep buds from drying out (Figure 5; 6a, 6b).

For plants that have opposite bud arrangement (Figure 6b), like maple, dogwoods and ash trees, cut ¼ inch (0.5 cm) above buds at a right angle to the stem. Usually, both buds grow into two new shoots

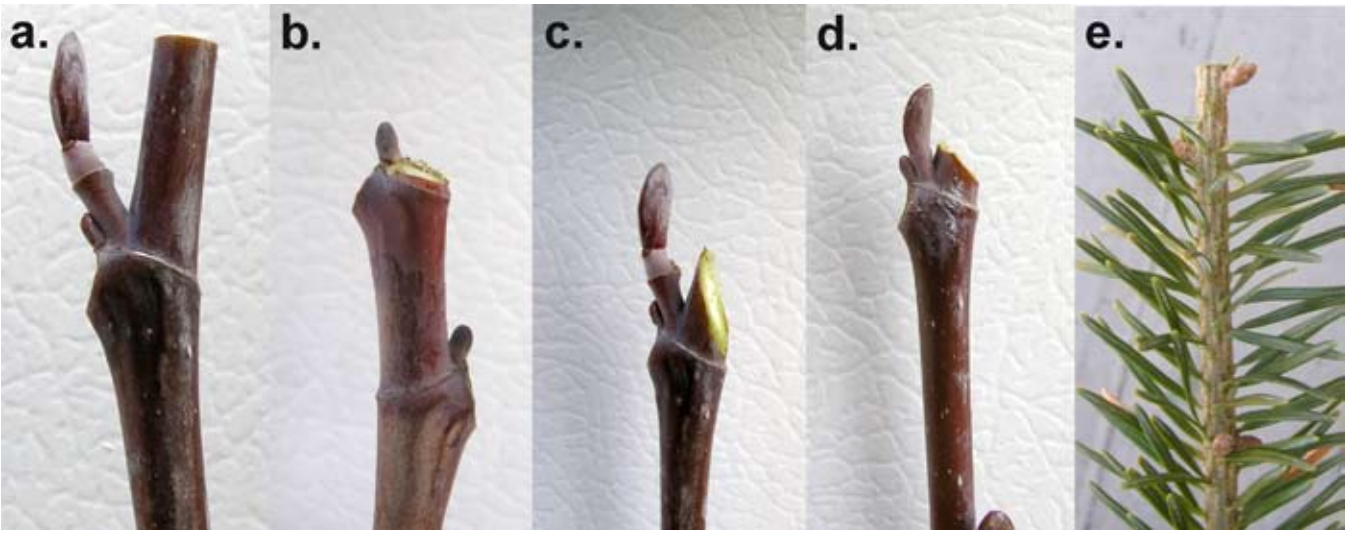


Figure 5. Proper pruning cuts: a.) too far from bud, b.) too close to bud, c.) too slanting, d.) good cut, e.) good cut (conifer)

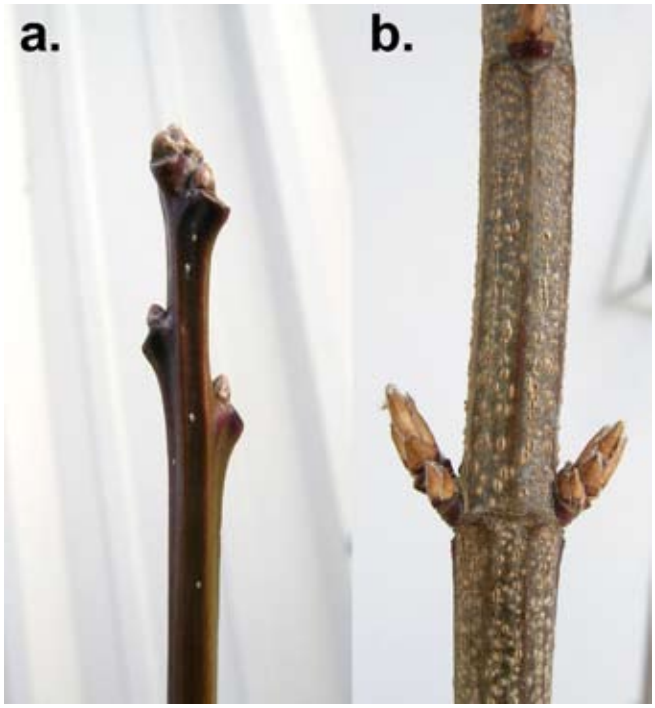


Figure 6. Alternate (a.) and opposite (b.) bud arrangements

extending in opposite directions. If this growth habit is undesirable, remove the unwanted bud, which often faces inward. It is difficult to maintain a strong central leader in trees that are opposite budded without diligent pruning.

Thinning cuts: to remove a main or side branch

Shrubs like forsythia, spiraea, weigela, mahonia, mock orange, nandina and eleagnus may be thinned by cutting about one-third of older branches or canes back to ground level every few years. Resulting new growth increases plant density and flowering potential. Remove about half the length of remaining leggy shoots to shape the plant (Figure 7). To maintain form and plant vigor, lightly prune new growth tips several times during the growing season.

Figure 7. Thinning cuts

Severe renewal pruning

Severe renewal pruning may be the only option for restoring a full vigorous growth habit to shrubs, including hollies that are overgrown or leggy. In late winter, cut all branches to within several inches of the ground (Figure 8). Latent buds already formed in the woody stems will break dormancy as weather warms. Because the plant already has an established root system, growth is generally stronger and faster than that of newly planted shrubs. Tip pruning new shoots is needed to enhance lateral bud growth. Avoid using this technique on junipers and boxwood.

Shearing and hedges

Formal hedges provide privacy and serve as an aesthetic backdrop for colorful plants, but require regular maintenance to keep optimal hedge size and

Figure 8. Renewal pruning

shape. Improper or unnatural pruning hides the plant's natural beauty and active pruning is needed to keep the geometric shapes. Needle-leaf evergreens like yew, arborvitae, hemlock and spruce are adaptable to repeated shearing into hedges or sculptured landscape plants. Keep in mind that shearing creates a major commitment to a rigid, timed pruning schedule. Shearing should begin with young plants, starting in mid- to late spring. A single early shearing produces a more naturalistic look because later growth hides the cuts. Regular shearing throughout the growing season can maintain more formal look. The sides of a properly sheared plant should be cut wider at the bottom than the top so lower branches are not shaded. When lower branches are shaded, too little food is generated by photosynthesis and non-productive leaves drop, creating a "leggy" plant. Avoid flat and wide hedge tops or snow and ice will accumulate and break branches. Instead, create a narrow or rounded top so ice and snow are shed naturally (Figure 9).

Figure 9. Hedge styles

Pruning ornamental plants to control insects and diseases

When pruning to remove an infection or insect infestation, use sharp, sterilized pruning tools to remove the entire affected area, cutting back at least 1 inch (2.5 cm) into healthy tissues. Dip pruning tools into undiluted alcohol or a 10 percent solution of household bleach after each cut. Do not prune when adult pests are present because other individuals may be attracted to the plant for egg-laying. Be sure to rake and remove cut stems and diseased leaves from around the ornamental plant to avoid re-infestation.

When to prune? Physiological considerations

Knowing when to prune is just as important as knowing how to prune. The best time to prune is in late winter and early spring, while plants are dormant and before buds start to swell and open. Plants have plenty of stored energy, are ready to grow, and the possibility of freeze damage is lowest. Dormant pruning may reduce the amount of flowers on spring-flowering shrubs, but may be needed to maintain the desired growth habit.

The next best time to prune is early summer after the foliage has matured. When powdery mildew or fire blight diseases are active, prune plants when the foliage is dry. The goals of early summer pruning should be height reductions and increasing shrub density.

Recognize that energy reserves are highest while a plant is dormant in winter and lowest during spring growth. If pruned during active spring growth, plants

must shift already low energy reserves into growing new shoots and healing pruning wounds. Late summer and early fall are also bad times to prune because new growth is encouraged that cannot mature enough to withstand winter freezes or early fall frost. An old rule is do not prune when the temperature is below 20 F. Pruning in late fall or early winter will keep wounds open until spring, inviting desiccation. Birch, elm, maple and yellowwood trees are known as "bleeders," and should be pruned in late winter. If pruned in spring, the flow of sap will stain tree bark and attract pest insects.

When to prune? Habits of flowering trees and shrubs

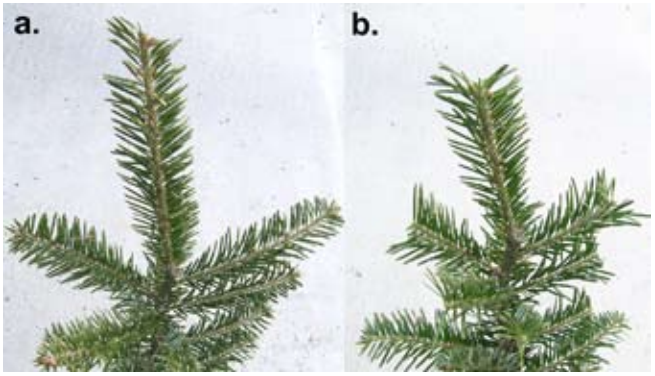
When seasonal plant flowering and appearance are of critical importance, consider plant flowering and fruiting habits. As a general rule, *plants that flower before July 1 should be pruned immediately following flowering* (Tables 1, 2). Examples of these plants include azaleas, forsythias, plums, cherries, crabapples, weigela, mock orange and oak leaf hydrangea that develop flower buds on the previous season's wood. So, pruning in July promotes shoot growth and allows time for new flower buds to develop for next year. If pruning is delayed, any pruning will remove potential flowers for the next season.

Plants that flower after July 1 should be pruned in late winter or early spring before growth starts (Table 3). Summer-flowering plants like crape myrtle, rose-of-sharon, vitex, butterfly bush, roses and some hydrangeas develop flower buds in early spring on the current season's growth.

Plants prized for their fruit display, like pyracantha, holly, barberry, cotoneaster and nandina, should not be pruned until fruit has lost its beauty, regardless of plant flowering time. As needed, lightly thin branches on the plant during the dormant season.

When to prune? Habits of broadleaf and narrow-leaf evergreens

Conifers, broadleaf and narrow-leaf evergreens may be pruned any time the wood is not frozen (Table 4). Evergreens are pruned primarily to increase foliage density and to reduce plant size. Cuttings taken in early December may be used for holiday decorations. Conifers have whorls of lateral branches that develop from preformed latent buds in the shoot tip. Conifers have very few latent buds in old wood, so pruning back to old wood leaves no new buds to generate new foliage. Juniper and yew have numerous buds in the foliage (Figure 5e) but almost none on older wood. Pine, spruce, fir, dawn redwood, cryptomeria and



Figures 10a, 10b. Pruned conifer tips

cypress have few, if any, buds on old wood. Therefore, do not prune back to old wood when pruning these plants. To thicken new growth on pine and spruce, remove half the length of the new growth "candle" in spring when it is about 2 inches (5 cm) long. Do not use shears. Shears damage needles surrounding the candle and cut edges turn brown. Instead, pinch the tender candle with your fingers or use sharp hand clippers (Figures 10a, 10b).

When to prune? Habits of vines and ground covers

Vinca, ivy and wintercreeper ground covers can be pruned with a lawn mower set to mow at the highest setting (Table 5). This pruning can be done once or

twice during the growing season to control growth. Liriope can be cut in early spring to remove old foliage. The blade should be sharp and the cut made prior to new leaf emergence.

Management of young trees

Even though a large amount of tree roots are left in the production field when ball and burlap or bare-root trees are harvested, it is not necessary or desirable to cut back the tree canopy when transplanting. Research has shown that trees pruned at planting do no better and sometimes do worse than trees that are not cut back. Cutting back a dormant tree can actually delay bud break in spring and slow the tree's initial growth.

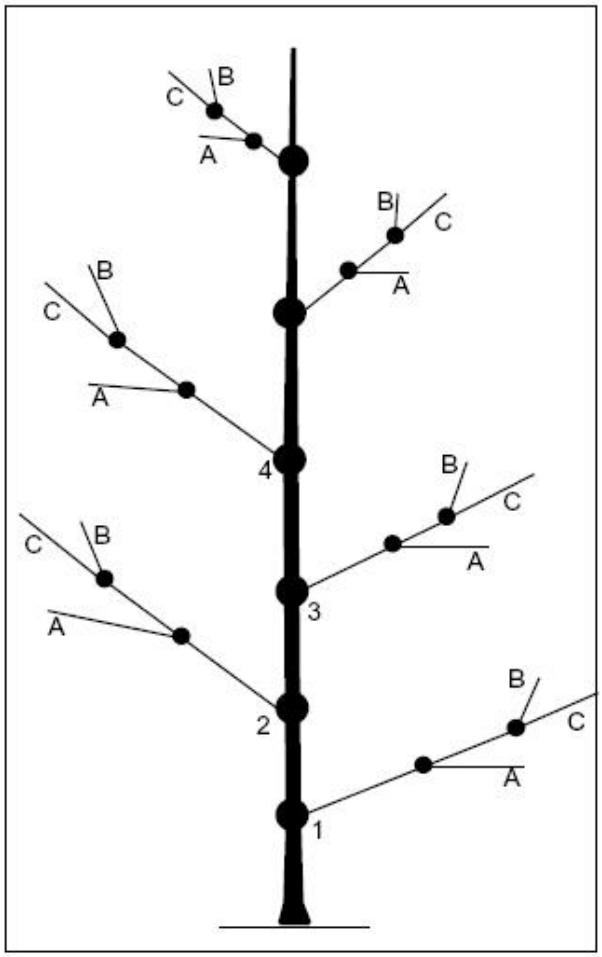


Figure 11. Training young trees

To develop a strong, straight trunk, start early in the life of a young tree and remove branches at positions 1, 2 and 3 (Figure 11). The trunk should be limbed up only one-third to one-half of the height. For instance, if a tree is 6 feet (1.8 m) tall, remove limbs that are about 2 to 3 feet (0.5 to 1 m) above the soil line. For a more compact tree, remove the C limbs. For a more upright tree, remove the A limbs. For a more open tree, remove the B limbs. Do not remove more than one-third of the living branches in any one pruning event. All cuts should be made at nodes or back to the next limb. Do not remove, cut or head the central leader except to remove a tight group of terminal twigs so a more vigorous dominant shoot will develop.

Figure 12. Narrow branch angles

For greatest strength, branches selected to become permanent scaffolds must have wide angle of attachment to the trunk. Branch angles of less than 30 degrees from the main trunk have the highest probability of breakage (Figure 12), while those between 60 and 70 degrees have a small breakage rate. In part, weak branch unions occur because narrow branch angles weaken when dead bark tissue is trapped in the space between two branches (Figure 13). Often, as limbs break due to bark inclusion, they tear bark down the trunk and damage supporting branches. Bradford pears in particular have narrow branch angles and are susceptible to limb breakage when they have

Figure 13. Bark inclusion

been in the landscape more than 10 to 12 years.

On young trees, scaffold branches can be spaced about 6 to 12 inches (15 to 30 cm) apart. Young scaffold branches low on the trunk can be kept the first few years to help increase lower-trunk size and protect the trunk from sun. In time, however, closely spaced scaffolds will produce few lateral branches and result in long, thin branches with poor structural strength.

By about the fifth year, shade tree scaffold branches should be pruned from 8 inches (20 cm) to preferably 20 to 24 inches (50 to 60 cm) apart. There should be five to seven scaffold branches distributed to fill the radial space around a properly pruned trunk. Radial spacing prevents one limb from overshadowing another.

Management of mature trees

Improper pruning can cause irreparable damage to mature trees. Most homeowners are only equipped to safely prune branches on large shade trees that can be reached from the ground. Observe caution when pruning around power or utility lines. Removal of larger and higher limbs should involve the professional services of an arborist who has the proper skills, equipment and insurance. The International Society of Arboriculture (ISA) certifies that professional arborists have a minimum of three years' experience and have passed a written exam regarding pruning, problem diagnosis, tree biology and safety. Certified arborists evaluate location and condition of the tree and focus on maintaining tree structure, form, health and appearance (Figure 14). Common methods used to prune large trees are crown thinning, crown cleaning, crown or height crown reduction, and crown raising (see definitions below). Discuss with the arborist the best and most desired method of pruning before the

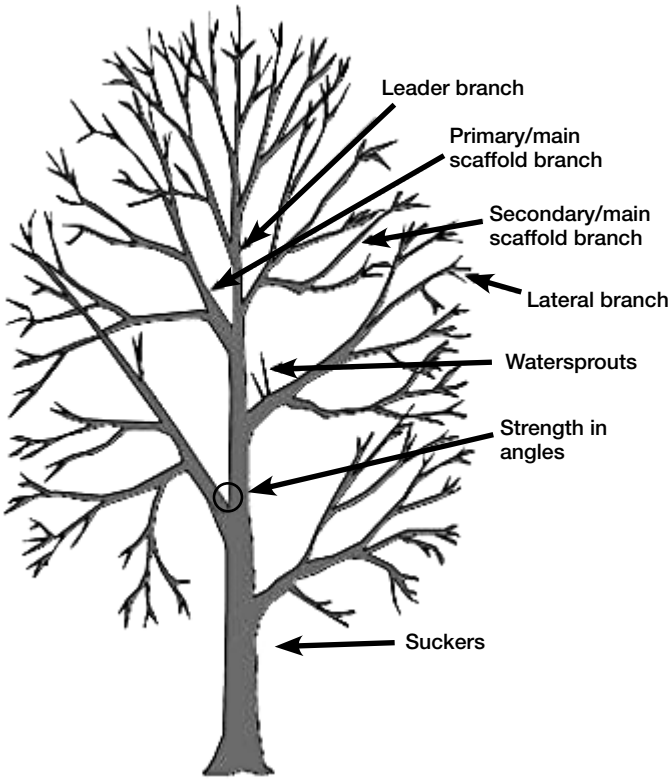


Figure 14. Tree anatomy

work is done. When hiring an arborist, check his or her references and make sure the arborist's liability insurance is current.

On mature trees, branches should be cut back to the branch collar or to a lateral branch that is at least one-third of the diameter of the parent branch, depending on the diameter of the limb. Each cut should leave a smooth surface with no jagged edges

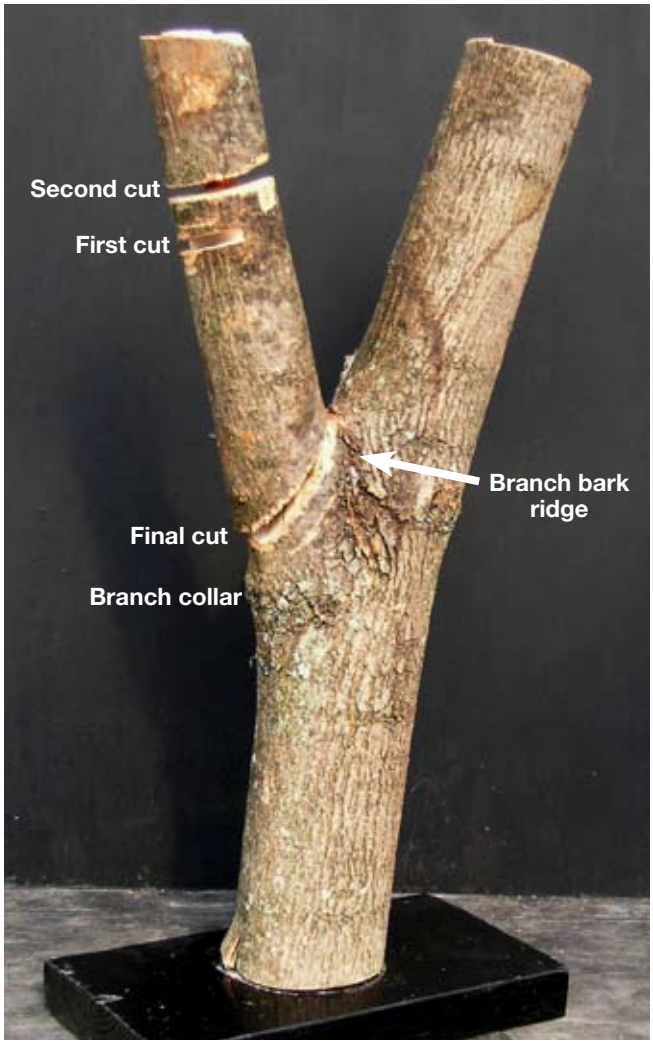


Figure 15. Three-Cut method for larger diameter limbs

or torn bark. Heavy limbs and branches 1½ inches (4 cm) in diameter or greater, should be removed using the three-cut method. The first cut is a shallow saw cut on the underside of the limb about 10 to 12 inches (25 to 30 cm) away from the trunk that will prevent the branch from tearing bark from the trunk. The second cut is a top cut about 3 to 4 inches (7 to 10 cm) past the undercut. The third and final cut removes the stub *just outside of the branch collar* and should leave no tears or jagged edges (Figure 15). Both flush cutting into the branch collar and leaving stubs will lead to wood decay and slow healing of the pruning wound. Remember not to paint or tar pruning cuts. These ineffective practices interfere with the tree's normal wound healing process.

Terms associated with pruning large shade trees

Crown cleaning:
Selective removal of dead, dying, diseased or weak branches and water sprouts.

Crown thinning:
Selective removal of healthy, live branches to increase light penetration and reduce weight. Cleaning is typically done at the same time. One-half of foliage on the lower one-third of the tree must be left so thinned branches continue to grow and strengthen the limb.

Crown raising:
Removal of lower branches for clearance of obstacles, traffic and pedestrians. Some arborists refer to crown raising as "limbing-up" the canopy.

Crown reduction:
Selective removal of both living and dead branches to reduce tree height or spread. Good crown reduction practices include cutting branches to larger lateral limbs while not removing more than one-third of the tree crown in any single pruning event.

Pruning tables

Pruning Instructions

Table 1. Spring-flowering Shrubs

Because they have produced flower buds on old wood, *spring-flowering shrubs can be pruned immediately after flowering* to avoid reducing floral display and to promote new growth. On plants where the fruit is as important as the flowers, delay pruning until after fruits have lost their aesthetic appeal.

Common Management Tasks for Familiar Plants

Azalea *(Rhododendron spp.)*	Don't prune if the plant looks good. Pinch tips to produce a more compact plant.
Barberry *(Berberis spp.)*	Flowering may be nondescript on some species, but prune to produce ornamental fruit. Flowers on old wood.
Beautybush *(Kolkwitzia amabilis)*	Remove about one-third of the older stems at ground level every couple of years. Head back new growth to produce more lateral shoots if needed.
Burning Bush *(Euonymus alatus)*	Prune to control shape and size. Thin out and head back crowded branches on plants.
Chokeberry *(Aronia spp.)*	Flowering may be a secondary interest compared to the ornamental fruit. Flowers on old wood.
Deutzia *(Deutzia spp.)*	Remove about one-third of the older stems at ground level every couple of years. Head back new growth to produce more lateral shoots.
Dogwood, bush forms *(Cornus spp.)*	Prune to display stem color and ornamental fruit.
Flowering quince *(Chaenomeles spp.)*	Remove older branches. Head back new growth to produce more lateral shoots.
Forsythia *(Forsythia spp.)*	Remove about one-third of the older stems at ground level every couple of years. Head back new growth to produce more lateral shoots if needed.
Fothergilla *(Fothergilla spp.)*	Pinch tips to produce a more compact plant.
Hydrangea, Bigleaf, Oakleaf *(Hydrangea macrophylla, H. quercifolia)*	Remove older branches. Head back new growth to produce more lateral shoots as needed.
Kerria *(Kerria spp.)*	Remove old wood to the ground. Head back longer stems to promote lateral shoots.
Lilac *(Syringa spp.)*	Prune out all suckers and old flower clusters before seeds are developed. Remove old wood every couple of years to promote new growth. Thin out branches to shape to a desirable form.
Mock orange *(Philadelphus spp.)*	Remove about one-third of the older stems at ground level every couple of years. Head back new growth to produce more lateral shoots.
Pearlbush *(Exochorda racemosa)*	Prune to control shape and size. Thin out and head back crowded branches on plants.
Pieris *(Pieris japonica)*	Remove crowded stems from inside the plant. Head back new growth to produce more lateral shoots.
Photinia *(Photinia spp.)*	Pinch out tips to produce a more compact plant.
Rhododendron *(Rhododendron spp.)*	Make major cuts in late winter. Light pruning can be done after flowering.
Smoketree *(Cotinus spp.)*	Prune to maintain desired form.
Snowbell *(Styrax japonicus)*	Remove crowded stems from inside the plant. Head back new growth to produce more lateral shoots.
Spicebush *(Lindera spp.)*	Remove crowded stems from inside the plant. Head back new growth to produce more lateral shoots.
Spirea *(Spiraea spp.)*	Remove about one-third of the older stems at ground level every couple of years. Head back new growth to produce more lateral shoots.
Sweetshrub *(Calycanthus spp.)*	Remove individual stems from inside the plant rather than shearing. Head back new growth to produce more lateral shoots.
Viburnum *(Viburnum spp.)*	Prune after flowering or fruit set to thin out oldest, non-fruiting wood and to improve shape.
Weigelia *(Weigelia spp.)*	Remove individual stems from inside the plant. Head back new growth to produce more lateral shoots.
Witchhazel *(Hamamelis spp.)*	Prune out older wood to control size and promote new growth.

Table 2. Spring-flowering Trees

Spring-flowering trees can be pruned immediately after flowering to avoid reducing floral display and to promote new growth. If pruning to control size and shape, dormant pruning is recommended.

Common Management Tasks for Familiar Plants

Bradford ornamental pear *(Pyrus calleryana)*	Make major cuts in late winter, even though some blossoms may be sacrificed. Lightly prune after flowering if necessary.
Crabapple *(Malus spp.)*	Prune when fully dormant to remove suckers and to produce a desirable shape. Young suckers can be removed during the growing season.
Dogwood *(Cornus spp.)*	Make major cuts in late winter even though some blossoms may be sacrificed. Lightly prune after flowering if necessary.
Flowering almond, cherry *(Prunus spp.)*	Prune lightly after bloom to remove suckers or develop desired plum shape.
Fringe tree *(Chionanthus spp.)*	Prune to maintain desired form. Birds enjoy the late summer fruit, so avoid pruning after flowering.
Hawthorn *(Crataegus spp.)*	Start pruning plant at a young age to develop the main branching pattern. Thin out crowded branches and head back other branches to develop a desired form.
Magnolia, Saucer *(Magnolia spp.)*	Prune to maintain desired form.
Maples *(Acer spp.)*	Prune in late winter if major cuts are necessary. Light pruning in midsummer can be done. Avoid early spring pruning because unsightly sap will flow from the pruning cuts.
Redbud *(Cercis spp.)*	Prune to maintain desired form. May need to remove individual stems from inside the canopy.
Serviceberry *(Amelanchier spp.)*	Prune to maintain desired form. May need to remove individual stems from inside the canopy.
Silverbell *(Halesia spp.)*	Remove sucker growth from base of plant. Thin out crowded branches and head back other longer branches.

Table 3. Summer-flowering Trees and Shrubs

Because they produce flowers on new growth or current season wood, the optimal time to *prune summer-flowering trees and shrubs is late winter or early spring, before new growth starts*.

Common Management Tasks for Familiar Plants

Abelia *(Abelia* x *grandiflora)*	Remove about one-third individual stems at ground level every couple of years rather than shearing. Head back new growth to produce more lateral shoots.
Beautyberry *(Callicarpa spp.)*	Remove individual stems from inside the plant to promote new growth. Head back new growth to produce more lateral shoots. Flowers on new wood.
Bottlebrush buckeye *(Aesculus parviflora)*	Prune to keep desired size. Flowers on old wood.
Butterfly bush *(Buddleia spp.)*	Remove individual stems from inside the plant. Head back new growth to produce more lateral shoots. In some years it may be necessary to cut back shoots back to the ground.
Chastetree *(Vitex spp.)*	Remove individual stems from inside the plant. Head back new growth to produce more lateral shoots. Flowers on new wood.
Crapemyrtle *(Lagerstroemia spp.)*	Prune by thinning to produce desired form. To produce small trees remove all but three or four main stems and cut off side branches to the desired height.
Hydrangea, hills-of-snow *(Hydrangea arborescens, H. paniculata)*	Prune to maintain desired form for summer flowering. Head back new growth on "Pee-Gee" hydrangeas to produce more lateral shoots.
Rose-of-sharon *(Hibiscus syriacus)*	Prune to maintain desired form for summer flowering.
Japanese Spirea *(Spiraea japonica, S.* x *bumalda)*	Prune to maintain desired form for summer flowering.
Summer-sweet *(Clethra alnifolia)*	Prune to maintain desired form for summer flowering. Flowers on old wood.
Sweetspire *(Itea spp.)*	Prune to maintain desired form for summer flowering. Flowers on old wood.

Table 4. Evergreen Trees and Shrubs

The optimal time to prune evergreen trees and shrubs is late winter or early spring, before new growth starts. Frequent pruning in spring and summer may be necessary to develop desired size and shape.

Common Management Tasks for Familiar Plants

Arborvitae *(Thuja spp.)*	Prune when it needs shaping. Avoid making major cuts.
Boxwood *(Buxus spp.)*	Reach in and remove limbs from the center of shrubs to retain a natural shape. In formal gardens and settings, shear once or twice during summer months.
Cherry laurel *(Prunus lauracerasus)*	To develop desired form, begin pruning plants when small. Frequent pruning is necessary to maintain a compact plant.
Chinese holly *(Ilex cornuta)*	To develop desired form, begin pruning plants when small. Head back growing shoots in spring and summer to develop a compact, dense plant. Heavy pruning will reduce berry production. Severe renewal may be necessary if plants get too large.
Cotoneaster *(Cotoneaster spp.)*	Make thinning cuts to remove old wood and to produce a more compact plant.
Eleagnus *(Eleagnus spp.)*	To develop desired form, begin pruning plants when small. Frequent pruning is necessary to maintain a compact plant.
Euonymus *(Euonymus spp.)*	Prune by thinning to desired shape.
Falsecypress *(Chamaecyparis spp.)*	Prune in dormant season. Avoid making major pruning cuts.
Fir *(Abies spp.)*	To shorten a leader, cut it back by about one-half in the early spring before growth begins. Make sure there are a few buds near the end of the remaining stem.
Hemlock *(Tsuga spp.)*	Responds to moderate pruning or shearing. Avoid major pruning cuts.
Hollies *(Ilex spp.)*	To develop desired form, begin pruning plants when small. Head back growing shoots in spring and summer to develop a compact, dense plant. For informal plantings, thin out older stems and head back leggy growth. Formal hedges may be sheared to develop a dense compact plant. Severe renewal may be necessary if plants get too large.
Junipers *(Juniperus spp.)*	Maintain shape or eliminate undergrowth of groundcover types by thinning during the growing season. Do not cut into old wood because new growth will not occur.
Ligustrum *(Ligustrum spp.)*	To develop desired form, begin pruning plants when small. Frequent pruning is necessary to maintain a compact plant.
Mahonia *(Mahonia spp.)*	Begin pruning when plants are small to develop desired form. Frequent pruning is necessary to maintain a compact plant.
Nandina *(Nandina domestica)*	Remove one-third of the older canes every couple of years. Selectively cut one-third of the other branches about half their length to encourage a full, dense canopy. Dwarf selections may not need pruning.
Pine *(Pinus spp.)*	Prune back the “candles” (new growth) about 50 percent as they expand in the spring. These new candles should be pinched by hand, since pruning shears will damage the surrounding needles.
Pyracantha *(Pyracantha spp.)*	Prune after fruit set to remove non-fruiting wood. Remove long, vigorous shoots to maintain desired size.
Spruce *(Picea spp.)*	To shorten a leader cut it back by about one-half in the early spring before growth begins. Make sure there are a few buds near the end of the remaining stem.
Yews *(Taxus spp.)*	To develop desired form, begin pruning plants when small. Frequent pruning is necessary to maintain a compact plant.

Table 5. Groundcovers and Vines

The optimal time to prune groundcovers and vines is late winter or early spring, before new growth starts. Frequent pruning in spring and summer may be necessary to develop desired size with vines.

Common Management Tasks for Familiar Plants

Bittersweet *(Celastrus spp.)*	Prune vigorous stems each season, leaving three to four buds per stem. Head back tips to develop branching.
Clematis *(Clematis spp.)*	Plants may flower on old wood or new wood depending on the species. It is best to wait until after bloom to prune. Thin out old wood. Vigorous varieties can be pruned within 12 inches of ground level.
Honeysuckle *(Lonicera spp.)*	Prune old stems and branches as needed to control size. Periodic thinning of sucker shoots will reduce top growth.
Liriope *(Liriope spp.)*	Remove old foliage four to six weeks before the spring growing season. Set lawnmowers to their highest setting to prune old foliage.
Trumpetcreeper *(Campsis spp.)*	Flowers on new growth and this plant tolerates severe pruning during the dormant season. Head back new growth to promote lateral shoots.
Wintercreeper *(Euonymus spp.)*	Thin out branches to control spreading.
Wisteria *(Wisteria spp.)*	Prune vigorously after flowering.

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