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Pruning Landscape Trees and Shrubs

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Beautiful trees and shrubs can greatly increase aesthetic and property values of private homes. Since these plants seldom grow to a perfect or desired shape, pruning is often necessary to enhance their beauty. Pruning involves the removal of plant parts to improve health, landscape effect or value of a tree or shrub. When pruning plants, certain principles should be kept in mind since proper techniques will promote strong growth and flowering or fruiting. Before pruning is started, evaluate the landscape plants to determine what parts should be removed.

Why Prune?

Plants are pruned for a variety of reasons. First, plants should be pruned to maintain health and desired appearance. Dead, diseased, injured, insect infested or rubbing branches should be removed. Young trees are pruned to attain proper branch attachment and arrangement. Old flowers and fruit can be unsightly and should also be removed. Flowering and fruiting are also effected by pruning. Removing old flowers enables the plant to put more of its food reserves into growth so that more flowers will be formed the next year.

Another reason for pruning is to control plant size. Often the "small" plants bought at a garden center or other store turn into "overgrown plants" that block views, screen traffic and interfere with utility lines. Select plants for particular locations based on size at maturity. A rule of thumb is that a plant which must be pruned back severely more than once every 5 years is the wrong species for that particular location or use. Rather than ruining the appearance of a plant because of severe annual pruning, time and labor can be saved over the years if the overgrown plant is removed and replaced by one that grows to the desired size at maturity.

Removing undesirable plant growth on a regular basis will prevent the need for extensive pruning on an irregular basis. The important point is the plants around your home and property should be examined yearly. If stems are injured or branches are rubbing, prune the

plant. Late fall is a good time to evaluate deciduous plants after the leaves have fallen.

When To Prune

Selecting the proper time to prune is important. Heavy pruning in late summer or early fall can actually stimulate new growth. If this growth does not harden off before a heavy frost, the stem or branch can be killed. For this reason, deciduous plants should be pruned when they are dormant from late fall to early spring (Table 1). However, don't prune when the plant tissue is frozen. In general, most evergreen species are pruned just before or during spring growth, but pine is pruned in early summer. Keep in mind that light pruning can be done year-round. This includes the removal of unwanted growth, injured or diseased plant parts.

Table 1. Time of year to prune various types of plants.

Type of plant	Season				Comments
	Fall		Spring		
	early	late	early	late	
Deciduous shrubs			x	x	flowers before June 1
shrubs	x	x	x	x	flowers after May 31
trees	x	x	x	x	
Conifers shrubs			x	x	
trees			x	x	except for pine
pine					x
Broadleaf evergreens shrubs			x	x	grown for flowers
shrubs			x	x	grown for foliage

The time of flowering will also dictate when a plant should be pruned. Plants that bloom in early spring produce flower buds the previous year. Pruning from late fall to early spring will eliminate flowers in the spring. On the other hand, plants that bloom in summer produce flowers on new wood. These plants can be pruned during winter without reducing the number of flowers. A general rule is that plants that flower before June 1 should be pruned immediately after flowering; plants that flower after May 31 should be pruned while the plant is dormant.

Types of Pruning

The two basic types of pruning are (1) a heading cut and (2) a thinning cut. These cuts cause plants to grow in different ways. Even though pruning can have a dwarfing effect on a plant, it can also stimulate new growth, depending on the type of cut.

Heading is cutting plant stems or branches back to a bud, twig or stub. Shearing is a type of heading in that foliage is indiscriminately removed from the plant (Fig. 1). Heading can cause problems for a plant. First, a stub is often left on a twig, and the stub may become infested with diseases or insects. Heading usually stimulates new and vigorous growth. This undesirable effect is usually the opposite of the original reason for pruning. Finally, the new growth may be weakly attached to the old stem. Weakly attached branches are

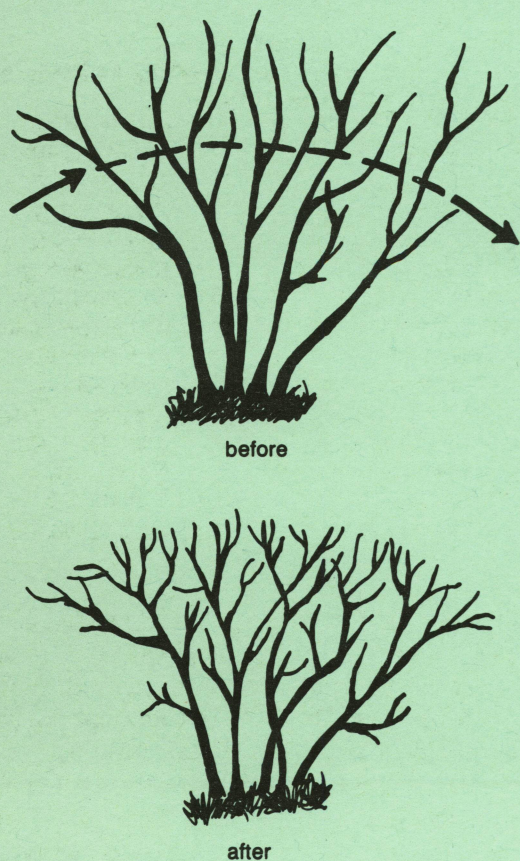


Fig. 1. Shearing is indiscriminate removal of foliage from a plant. Notice the dense, twiggy regrowth after shearing.

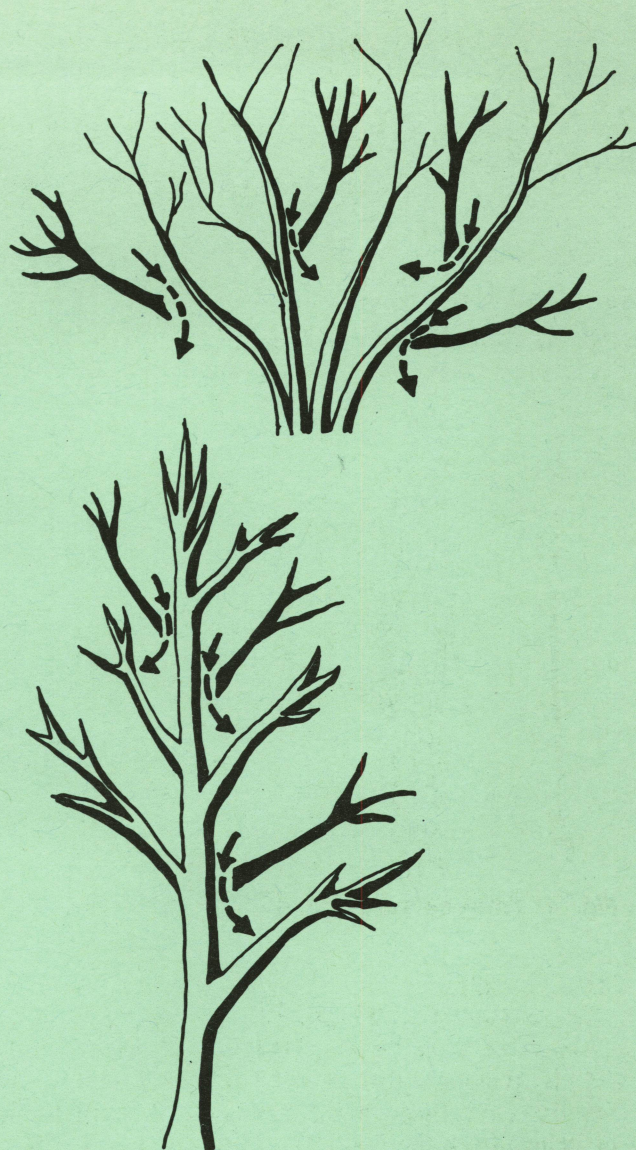


Fig. 2. Thinning can be used to retain the natural shape of trees and control height of trees and shrubs.

likely to split or break at the point of attachment (crotch) because of snow loads or wind storms. Even with these drawbacks, heading or shearing is a useful pruning method for hedges if done properly (Fig. 5).

Thinning is the removal of a branch at its point of origin or shortening a branch to a larger lateral branch (Fig. 2). No branch stub remains on the plant. The advantages of thinning are that the plant retains its natural form, light is more accessible to inner foliage, and vigorous shoot growth is not induced. For these reasons, thinning is the preferred method of pruning.

Location of Pruning Cut

The size of the twig or limb to be removed will dictate the placement of the pruning cut. Twigs and small branches are cut back to a bud or a lateral branch that is directed away from the interior of the plant. Make the cut one-quarter inch above the bud, and slant the cut away from the bud (Fig. 3).

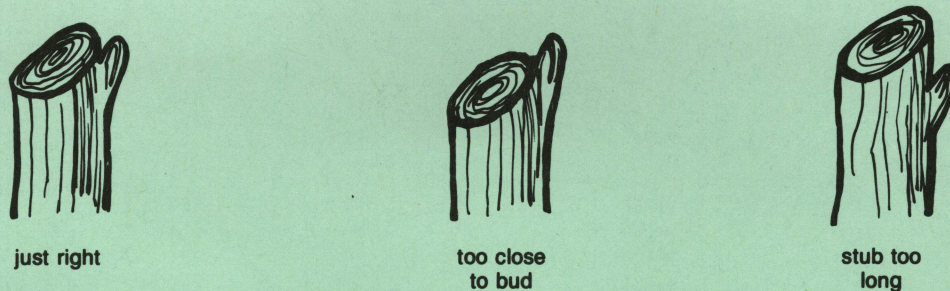


Fig. 3. Make pruning cuts about one-quarter inch above a bud and slightly angled away from the bud.

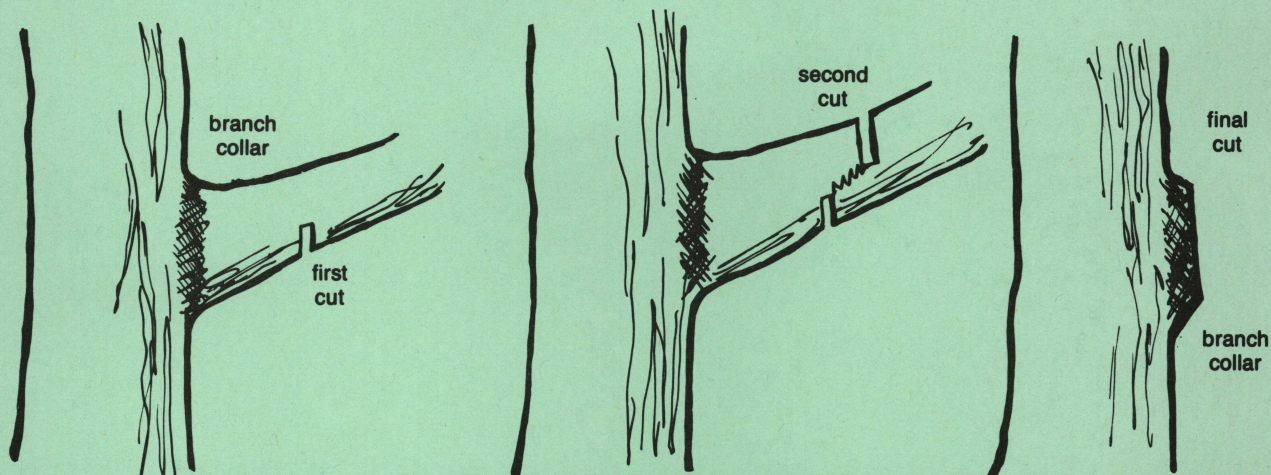


Fig. 4. Three cuts are necessary to remove large limbs. This procedure prevents bark from stripping down the trunk.

Large branches (limbs too heavy to support by hand) are removed with three cuts (Fig. 4). Multiple cuts are used to avoid splitting the branch or tearing the bark. The first cut is made on the underside of the limb about 12 inches from the branch crotch. This cut should go at least one-quarter of the way through the branch. The second cut is made on the top side of the branch about 1 inch farther out on the limb from the undercut. Cut down until the branch drops off. Be careful to avoid being hit by the branch if it "jumps" or springs up. The third cut is made on the top side just outside the branch collar (bark ridge) at the base of the branch. This cut removes the stump and allows new tissue to quickly grow over the wound.

Pruning Deciduous Shrubs

As part of a regular maintenance program, shrubs should be checked each year and pruned if needed. If lower branches are weak, thin out some upper foliage to allow light to penetrate when growth resumes in spring. Fast-growing shrubs often sprout vigorously from their base and usually need severe pruning to keep them attractive and contained. Remove about one-third of the oldest branches annually, but first try to picture what the plant will look like without these branches.

Rejuvenate old, overgrown shrubs with severe pruning during late winter or early spring. Cut all branches back to 6 inches above the ground. New growth that

Table 2. Popular deciduous shrubs which tolerate rejuvenation pruning.

Common name	Scientific name
Bayberry species	<i>Berberis</i> spp.
Flowering quince	<i>Chaenomeles speciosa</i>
Redosier dogwood	<i>Cornus sericea</i>
Forsythia species	<i>Forsythia</i> spp.
Beautybush	<i>Kolkwitzia amabilis</i>
Privet species	<i>Ligustrum</i> spp.
Honeysuckle species	<i>Lonicera</i> spp.
Mockorange species	<i>Philadelphus</i> spp.
Elderberry species	<i>Sambucus</i> spp.
Spiraea species	<i>Spiraea</i> spp.
Lilac species	<i>Syringa</i> spp.
Flowering weigela	<i>Weigela florida</i>

sprouts from the remaining branches should then be carefully thinned to shape the plant. Some plants such as privet, barberry and redosier dogwood tolerate rejuvenation pruning (Table 2), but other species like magnolia and daphne do not regrow as well.

Whether hedges are sheared into a formal shape or allowed to grow naturally, the base should always be wider than the top (Fig. 5). This shape allows light to reach lower foliage. If the shape is reversed, the screening effect of the hedge will be lost because the lower limbs will weaken, and foliage will drop off.

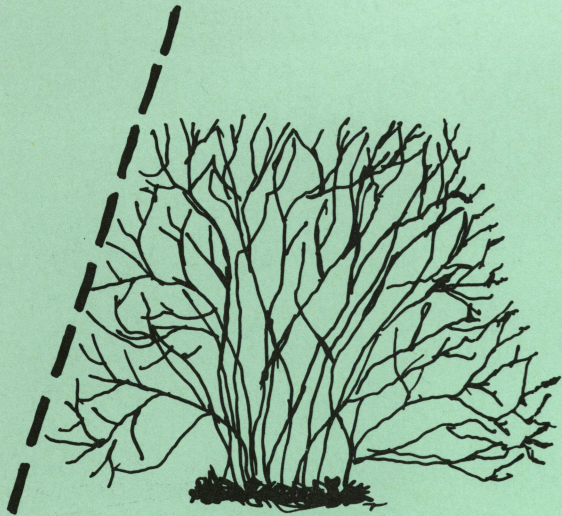


Fig. 5. Prune a hedge so that the base is broader than the top.

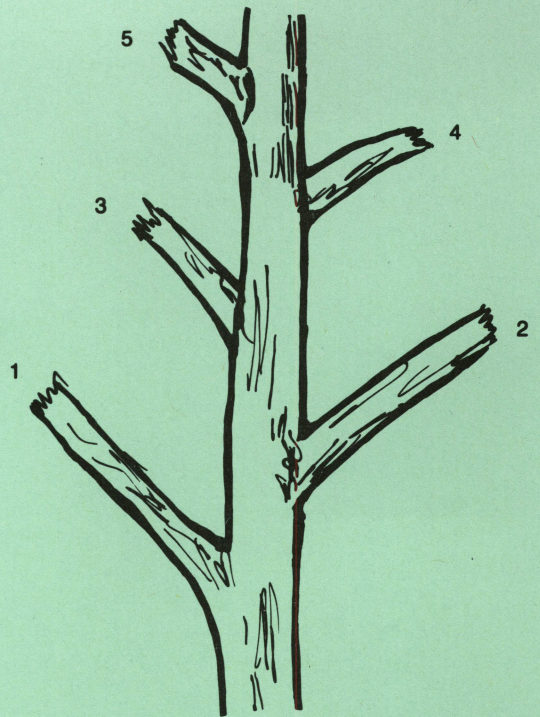


Fig. 6. When possible, select a scaffold branch with a wide angle of attachment. A branch with a narrow angle of attachment is more likely to split.

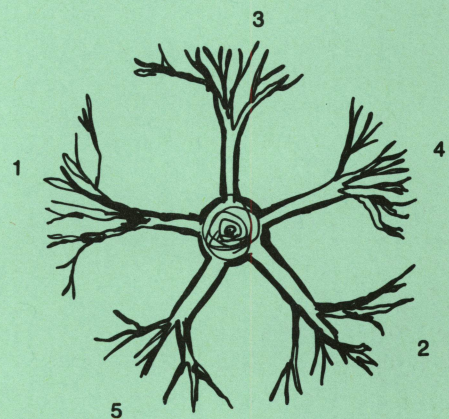


Fig. 7. Scaffold branches require proper vertical and radial spacing on the trunk.

Pruning Deciduous Trees

Deciduous trees should also be checked yearly and pruned if needed. These trees can be pruned to attain good plant strength by paying attention to the attachment and spacing of scaffold branches, the permanent branches that form the framework of the tree. A wide angle of branch attachment is best (Fig. 6). Narrow or V-shaped crotches will become weak as the tree grows older because bark becomes embedded in the growing tissue. Scaffold branches should be spaced vertically about 2 feet apart since closely spaced branches can break out more easily. Branches should also be radially spaced with five to seven scaffold branches selected to circle the trunk (Fig. 7).

Young trees should be pruned only to correct growth and structural weaknesses. Mature trees should be pruned to remove dead, pest-infested or broken

branches. Structural weaknesses should also be corrected. If an upright branch on a mature tree outgrows the central leader (dominant trunk), you may let the vigorous branch take over as the new leader and remove the old leader.

A detailed description of pruning deciduous trees can be found in Extension Bulletin 621, *How To Prune Deciduous Trees*. This publication is available from the Agricultural Communications Center at the University of Idaho or any Extension county office in Idaho.

Pruning Coniferous Trees and Shrubs

Most conifers (needle-leaved evergreens) must be pruned differently than deciduous plants. Latent buds are distributed differently in conifers, and this limits the amount and type of pruning that these species will tolerate without being permanently misshapen. A latent bud is an inactive bud that will grow when forced by a shock such as pruning. On many conifers, latent buds are only on the current year's growth. Pruning back into old wood will leave a permanent stub and no regrowth.

Various pruning methods are used on the more popular conifers. Pines have buds only at the tip of a branch. If a branch is pruned after its growth flush and the terminal bud is set, regrowth is impossible. Pine branches should be pruned or pinched in early summer when the new branch (candle) has begun to elongate but before the needle bundles open. This pruning causes the growth to be more compact but still allows buds to form for the following year.

Spruce, fir and Douglas-fir have latent buds on the current season's growth and sometimes back in 2-year-old wood. The current season's growth can be pruned anytime but is usually done while the plant is dormant.

Hemlock and yews have many latent buds along new and old wood. These species tolerate heavy pruning and will grow back. It is best to prune them while they are actively growing in early spring.

Species such as arborvitae, falsecypress and juniper have latent buds only among green leaves or foliage. If these plants are pruned back to bare branches, foliage will not regrow. These species can be pruned during early spring. Prune these plants early enough to allow some growth to cover the pruning cuts.

A detailed description of pruning conifers can be found in Extension Bulletin 644, *How To Prune Coniferous Evergreen Trees*. This publication is available from the Agricultural Communications Center at the University of Idaho or from any Extension county office in Idaho.

Pruning Broadleaf Evergreens

Since most broadleaf evergreens grow slowly, occasional pruning will keep them attractive. In contrast to conifers, many broadleaf evergreens have latent buds on wood that is up to 3 years old. Plants with leaves

that are 2 to 3 inches long may be sheared. If the leaf is greater than 4 inches long, the plant should be pruned. Keep in mind that sheared plants appear more compact and "formal" or dense, whereas pruned plants appear more open and "informal" or natural.

Prune broadleaf evergreens according to their landscape usage. Boxwood and Japanese holly are grown for foliage rather than flowers or fruit. Prune these plants in late winter or during active growth in early spring. If used as a hedge or border, remember to keep the lower branches wider than the upper ones.

Since azaleas and rhododendrons are grown for their flowers, removal of spent flowers is important. Snap or cut out old flower clusters, being careful not to damage the new shoots just below. Removing old flower heads will encourage blossoms for the next year.

Species like firethorn and Oregon grape holly deserve special attention since they are grown for flowers and fruit. Pruning in late winter removes flowers, whereas pruning after flowering will eliminate fruit. If the plant is overgrown, late winter is the best time to prune. If light pruning is needed, winter is still the proper time. In this case, be careful to keep enough of last year's growth on the plant to ensure flowers and fruits for the current year.

Pruning Tools and Sanitation

When pruning, many people are tempted to use small pruners on a large twig. They proceed to twist and bend the pruners and limb until they have muscled their way through the branch. By doing this, they leave the plant damaged and susceptible to disease and insect problems as well as damaging the tool.

The proper tools should be used to make a clean cut. Tools should be made of tempered steel that will take and hold a sharp edge. Hand pruners are used to cut branches less than one-half inch in diameter. Lopping shears are best for branches between one-half and 1 inch thick. A bow saw or pruning saw is used to cut limbs greater than 1 inch in diameter. Twisting the tool while trying to cut a limb will bend or spring the blade. In other words, making a cut should be relatively easy; if not, use a larger tool. Be sure to keep your tools clean and sharp.

Pruning tools are an effective way to spread diseases from plant to plant. Tools should be disinfected after each cut. Dip the cutting blade in a disinfectant solution such as denatured alcohol, methanol or diluted household bleach (1 part bleach plus 9 parts of water) to sanitize the tool. You can use an old paint brush to swab a saw blade with disinfectant solution. Since bleach will cause tools to rust, apply a thin coat of oil to the blade before storing the pruners.

Covering a large or small wound with an asphalt emulsion or paint does little to protect deciduous or evergreen plants from diseases and insects. In fact, these coverings may seal rot-causing organisms in the wound

and ultimately promote decay. Therefore, covering wounds is really only for cosmetic purposes. In some cases, however, wounds can be treated with fungicides to reduce the chances of infection.

In summary, trees and shrubs should be evaluated before being pruned. If plants are damaged, pest infested or misshapen, proper pruning techniques will promote strong growth and ensure plant health. Pruning cuts should be made with the proper tool so that all cuts

are smooth and limit tissue damage. Thinning is usually the best pruning method. Pruning done on a regular basis will prevent the need for an extensive or expensive pruning job at a later time.

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