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COLORADO STATE UNIVERSITY EXTENSION SERVICE

Pruning techniques for shrubs

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Quick Facts

- Most books place emphasis on the shape and form of a plant and less on how a plant responds to pruning.
- Concentrating on shape and form with little emphasis on the plant's response has too often led to butchering.
- Reasons for pruning should start with improvement of plant health and safety.
- To a plant, pruning is a stimulus; while pruning has a dwarfing tendency, at the same time it stimulates growth or awakens otherwise resting growth points into action.
- Height reduction, thinning and improvement of flower quality all can be done in late winter before bloom by taking out the oldest and weakest canes at or near the ground line.
- Some shrubs may need an occasional heading-back of isolated shoots because of outside influences, such as shade, which may cause the plant to become out-of-balance.
- Normally, for most summer-flowering shoots, a cut-back of all shoots in early spring to near the soil line is desirable.
- Before pruning, think first how the plant will respond to the cut, not how you will respond to the plant's looks.

Pruning is an ancient practice dating back many thousands of years. Perhaps the most ancient reference to pruning pertains to grapes on which severe pruning was and still is practiced to increase fruit production.

Most books describe pruning as an "art." Few, even in recent times, approach pruning as a "science." As a result, references on pruning, for the most part, place emphasis on the shape and form and less on how a plant responds.

Concentrating on shape and form with little or no emphasis on the plant's response has too often lead to butchering.

At this point it should be pointed out that there is a big difference between *pruning* and *shearing*. Good pruning techniques always take the response of the plant into consideration by making cuts that improve the plant's health. *Shearing*, on the other hand, results in formal, unnatural and usually unhealthy effects because it is indiscriminate and promotes weak growth.

Shearing a hedge, while attaining a desirable visual effect in a formal setting, ultimately results in a weaker, shaded-out plant. Topping or "pollarding" a tree is no different except for size. A topped tree always will be weaker and more prone to storm damage, certain insects and diseases than a properly pruned tree. For information on pruning trees, refer to Service in Action sheet 7.207.

Reasons for Pruning

If one is removing growth continually to control size, the result will be shearing, not pruning. The plant probably is too close to a building, walkway or powerlines. In these situations, correct pruning can rarely be practiced. It should correctly be classified as shearing, not pruning.

The legitimate reasons for pruning should start with *improvement of plant health and safety*. This includes removal of diseased, insect-ridden, dying, interfering and weak growth. Properly done, this will promote better flowering, higher fruit quality (as in fruit trees), healthy foliage and safety.

Pruning to *repair storm damage* or other mechanical injury also is "legitimate" but sometimes, necessarily, results in removal of excess growth and a sheared or butchered effect. Over-pruning in these cases can be held to a minimum by keeping in mind and applying the principles of a plant's response whenever possible.

Pruning to *shape a plant* also can be legitimate but care must be exercised. It is too easy to end up with a sheared plant during the shaping process.

One of the most violated horticultural practices pertains to deciduous shrubs. Perhaps you have read a statement similar to the following in one of the many pruning books or pamphlets: "spring-flowering shrubs should be pruned immediately after bloom." Or, "head-back spring-flowering shrubs after bloom." Or, "the time to prune depends on bloom." These are neat little phrases and easy to remember but can result in poor pruning practices that result in shearing, not pruning responses from the plant.

Basic Pruning Responses

To a plant, pruning is a stimulus. While pruning has a dwarfing tendency, at the same time it stimulates growth or, in a sense, "awakens" otherwise resting growth points, called latent and adventitious buds, into action. These buds produce weak sucker growth.

The biological explanation for this phenomenon currently is under "two schools of thought." One side says that pruning removes a *dominance* causing a shift or readjustment of growth regulators in the plant, thus causing latent buds to elongate and/or adventitious buds to form. The other side says that pruning removes the *inhibitor-producing* top. The lack of inhibition, therefore, allows latent growth to develop. In many ways, these two theories are saying the same thing.

Let's apply the latter theory and see how plants respond. When the tip of a shoot is cut, this theory implies that inhibitors to the lateral buds, including latent buds, are removed. Development of latent growth thus can take place. Response (or elongation), however, gradually is lessened the farther you go back from the severed end. This response varies, depending upon the species of plant and certain environmental conditions. Fast-growing trees and shrubs usually will respond more than slow-growing ones.

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The "Why" in Pruning

Knowing that this response occurs, we can now look at "why" certain practices are good, others bad. In a sense, pruning deciduous shrubs is opposite to the practice employed when pruning a tree. In a tree we *drop-crotch,* leaving a leader to "dominate" or produce the inhibitors to prevent latent bud growth. Topping does the opposite. In pruning a shrub, we normally want to encourage latent bud growth *from the base* only. If such a process is performed in late winter, annually, or at least as needed, heading-back of spring-flowering shrubs seldom is necessary.

This type of pruning, which really is a thinning and renewal process, not only maintains a healthier, more attractive plant, but allows the gardener to do the major pruning work in the less busy season, namely the winter months.

Renewal of an Overgrown Shrub

Overgrown shrubs usually are leggy, lacking foliage on the lower one-half to two-thirds of the shrub because of shading from the top. Flowering also will be poorer in quality. The older canes, as is the case in lilacs, usually will be infested with oyster shell scale and borers or some other pest problems.

If the "rule of thumb" cited earlier is followed (to head-back a spring-flowering shrub *after* flowering) we too often see the haircut effect. This results in further legginess due to stimulation of latent buds near the top. While it may not interfere with flowering if done *immediately* after bloom, the blooms next year will be reduced in quality.

Height reduction, thinning and improvement of flower quality can all be done in late winter *before* bloom by taking out the oldest and weakest canes at or near the ground line. At the same time, height is reduced without removal of the healthiest flowering canes. The sprouts from the base will flower the second season and replace those left the previous year.

Pruning to Preserve Stem Color

Some horticulturists remove some of the canes each winter. This is a sound practice for most deciduous shrubs of the spring-flowering type, especially if the plant is noted for attractive stem color as in the case of shrub dogwoods, such as the Red-Osier *(Cornus stolonifera* vars.) Canes of these shrubs, when older than three years lose their brilliance and often become grayish or brownish.

By complete removal of about one-third of the canes, choosing the oldest and weakest each winter, a shoot never overgrows and always maintains a healthy look. Heading-back from the top, if needed, usually is confined to a few "odd" branches.

When Heading-Back is Needed

Some shrubs may need an occasional heading-back of isolated shoots because of outside influences, such as shade, which may cause the plant to become out-of-balance. There still is no reason to wait until after bloom to apply corrective pruning measures. Simply drop-crotch as you would the top of a tree. Make certain that you don't fall into the temptation of snipping here and there out of habit. *Remove the "offending" branch or branches—then quit!*

Summer-Flowering Shrubs

If there were to be rules-of-thumb in pruning, one that might apply with little reservation is the often quoted "...if the shrub flowers on the current-season wood, prune prior to flowering" (i.e., in late winter or early spring). Shrubs, such as orange-eye butterflybush *(Buddleia davidi)* and Anthony Waterer spirea *(Spiraea bumalda* A.W.) fall into this category.

In extreme northern climates, one has little choice because winter cold and desiccation usually cause dieback to near the soil line. Failure to remove these dead or weakened canes in spring results in an unsightly shrub later on in the summer and, furthermore, will tend to crowd the shoots arising from the base. Shoots thus crowded will be weak and poor in flowering.

Normally, for most summer-flowering shoots, a cut-back in early spring of all shoots to near the soil line is desirable. This, of course, really is shearing, not pruning.

Special Cases

This fact sheet so far has discussed pruning on the assumption that most gardeners are dealing with multi-stemmed shrubs. Some shrubs, however, have only a single main trunk. They really are small trees. Included in this category are several of the *Viburnum* species, *Euonymus* and shrubby forms of *Rhamnus*. Obviously, these shrubs should not be cut to the ground but rather treated in the same manner as a small tree.

Occasional thinning of interfering, weak or excessive growth and stepping back by drop-crotch methods may be necessary. This practice should still be performed in late winter. When pruned later, damage to the new succulent growth is inevitable.

Pruning Evergreens

Most needled evergreens, such as pine, spruce, juniper and fir, need little or no pruning. Unfortunately, they often are *sheared.* The classic case is with upright junipers. Shearing is so common with juniper that it is difficult to find the natural shape. Sheared evergreens, like hedges, will always shade out on the inside and become more prone to snow damage.

Where a branch needs to be pruned away from an evergreen, simply follow the usual drop-crotching technique. Where more density is desired, as in pines, snap the "candles" in spring to promote lateral bud development. Remember, however, that this is a *shearing practice* not a pruning practice. (For more information on pruning evergreens, refer to Service in Action sheet 7.205.)

Before pruning, think first how the plant will respond to your cut, not how you are responding to the plant. You'll do a better job of pruning and have healthier plants.