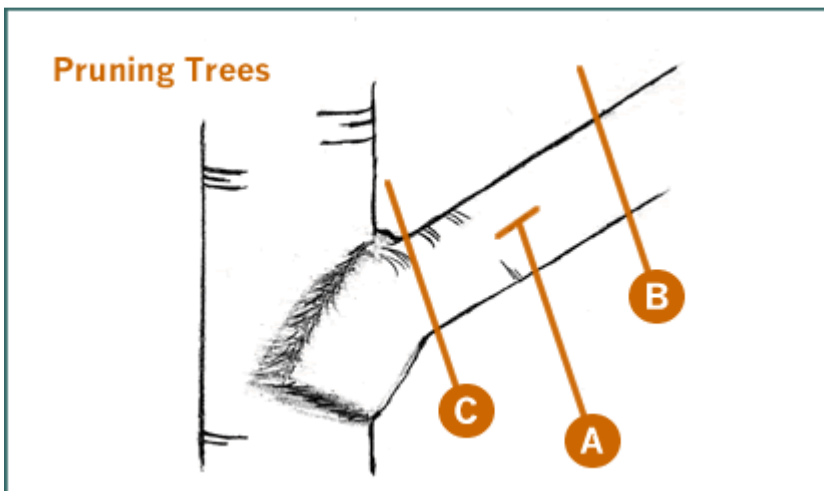


Trees - How to Maintain

Learning how to properly maintain your trees and shrubs can make the difference between a healthy, successful landscape and one that struggles on the verge of extinction. Selecting the right plant in the first place will make this job much easier, but some times we inherit gardens whose creators, although well intentioned, planted without respect for the plants' own needs. We may not be able to correct all of an existing landscape's problems without some ripping out and replanting, but, by following some simple rules for correct maintenance, we can begin to develop our gardens to their fullest potential.

Pruning Trees

Large, shade trees should be pruned in the winter during their dormancy. These trees should not require pruning often if they are healthy; however, you may occasionally have to remove a large limb that is dead, diseased or otherwise damaged. This can be a daunting task – we recommend hiring a professional arborist if the limb is overly large. If you decide that you can manage, follow these three steps to keep both yourself and your tree in the best shape. First, cut halfway through the branch at approximately six inches from the trunk (start at the bottom and work your way up) (**See diagram below, Step A**). Next, move out another six inches from the tree trunk and make a complete cut through the branch from top to bottom (**Step B**). Finally, remove the excess by cutting just outside of the branch collar (the slight bulge where the branch meets the trunk) (**Step C**). Cutting into the branch collar itself will impede the natural healing processes of the tree.



Newly planted trees may be pruned at the time of planting to remove any overlapping limbs or "suckers" (sprouts growing from the base of the tree due to stress).

Avoid pruning late in the summer or fall; doing so may stimulate the tree to produce tender, new growth that will be susceptible to frost damage.

Fertilizing Trees

Fertilize your large, deciduous or evergreen shade trees around the beginning of February with a granular fertilizer. The area of most active root growth is at the tree's drip line (the area under the perimeter of the canopy of the tree). Distribute the fertilizer evenly through this area at a rate of 1 pound per inch of circumference of the trunk at a height of 3 feet. Your larger, established trees should require fertilization only once yearly. The fertilizer will move slowly through these trees' developed root systems and bodies; by the time it reaches the branches, the new growth should be safe from damage due to frost.

A young or newly planted tree requires fertilization at a lower rate of one teaspoon of granular fertilizer per foot of height until it establishes itself in the landscape (approximately 3 years). Fertilize these smaller trees late in the winter, just before new spring growth begins to push out, or as needed throughout the growing season.

Do **not** fertilize in the late summer or fall. Fertilizer causes the tree to push out a flush of tender, new growth, which will be more susceptible to frost damage and die back.

Mulching

Uniformly apply a two- to four-inch layer of mulch, pine straw, or bark to the soil surface. This will aid in moisture retention, weed control, and temperature regulation (keeping the soil cool in summer and insulating the soil in winter).

Watering

Rooftop Gardens:

- ***NOTE: Watering – Must be equivalent to a Minimum of 1" of rainfall during the summer and ½" during the winter. Requires extra monitoring due to drainage.***

Improper watering practices are the leading cause of plant loss in the landscape. It's important to know what each plant needs and the signs that it will give to let you know whether those needs are being met.

Here are some general guidelines for proper watering:

- Water your trees and shrubs thoroughly after planting.
- Continue to water plants regularly for the first two years that they are planted. Proper watering is especially crucial during this time as the plants are working to establish themselves in the landscape and to overcome any transplant shock.
- Deep, less frequent watering is better than frequent, shallow watering. This promotes deep root growth and can reduce water loss by evaporation.
- Sandy soils drain water much faster than clay soils. In an area with a heavy clay soil, the water percolates slowly into the ground, so water at a slower rate to help reduce run off.
- Know how much water each plant type needs to thrive.

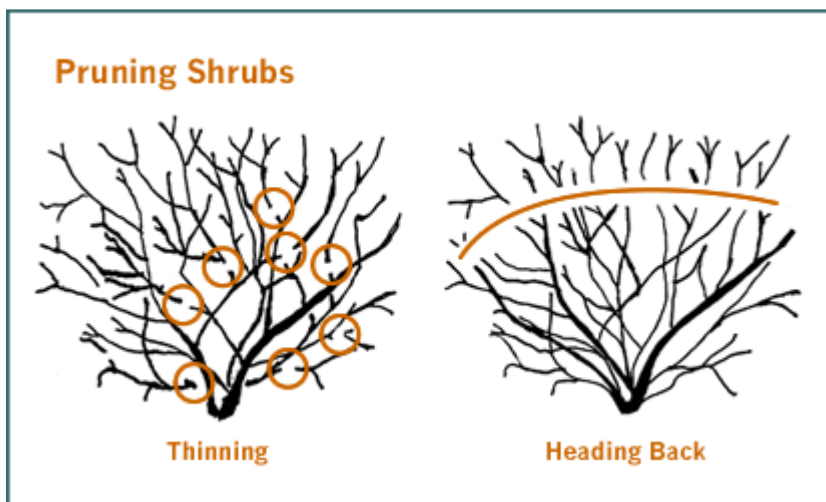
- Water the rootball or the area directly below the plant rather than the leaves. The leaves can take in water, but the main uptake of water and nutrients is through the roots.
- The best time to water is during the morning hours. Afternoon watering tends to increase the chances of water loss through evaporation. Watering at night increases the likelihood of fungal infections.
- Mulch around your plantings. This helps to reduce evaporation and to suppress weeds.
- Control your weeds - they will be competing with your plants for the same water.

For specific fertilizer recommendations, please contact your local county extension agent.

Shrubs - How to Maintain

Pruning Shrubs

Thinning, severe renewal and heading back are all effective pruning techniques for controlling the size of a shrub. Thinning is the process of removing select branches at their base. Heading back a shrub is cutting all of its branches to the same height in order to stimulate a new flush of growth at that point (**See diagram below**). Severe renewal pruning is cutting all of the branches back almost to the ground in order to cause dormant buds at the plant's base to flush. Some shrubs such as juniper and boxwood will not recover from such drastic treatment; prune these by thinning or heading back.



The best time to prune evergreen shrubs such as boxwoods or hollies is late in the winter just before they begin to flush new spring growth. (It is fine to prune throughout the dormant season; late pruning just lessens the time that your plant has that stubby, "just cut" look.) If you are too busy to prune in February, you can prune these shrubs throughout the growing season until mid-August, but doing so may stunt the new growth.

Flowering shrubs require a little more attention to timing. Plants that bloom in the spring

typically do so from buds that developed at the end of the previous summer or fall. In order to avoid removing buds, wait to prune these shrubs until just after they finish blooming. Summer-flowering shrubs should be pruned late in the winter, just before they begin to flush new spring growth. Because these shrubs usually bloom on new wood, pruning this early should not put your summer blooms at risk.

Avoid pruning late in the summer or fall; doing so may stimulate the shrub to produce tender, new growth that will be susceptible to frost damage.

Fertilizing Shrubs

Fertilize evergreen shrubs like hollies and boxwoods in early spring, just as new growth begins to push out, or throughout the growing season as needed at a rate of one teaspoon per foot of height.

Fertilizer can interfere with the production of blooms in flowering shrubs. Spring-blooming shrubs should be fertilized at a rate of one teaspoon per three feet of height just at the end of their bloom cycle. Use this same rate for summer-blooming shrubs just as they begin to flush new growth early in the spring. Fertilize shrubs with shallower root systems at a rate of one half teaspoon of fertilizer per foot of height.

As with your trees, do not fertilize in the late summer or fall. Fertilizer causes the shrub to push out a flush of tender, new growth, which will be more susceptible to frost damage and die back.

Different shrubs vary in their ability to withstand fertilization; over-fertilizing can result in leaf burn. For specific recommendations, please contact your local county extension agent.

Mulching

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- Know how much water each plant type needs to thrive.
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- Mulch around your plantings. This helps to reduce evaporation and to suppress weeds.
- Control your weeds - they will be competing with your plants for the same water.

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Perennials - How to Maintain

- Weeding is best handled by the hand method of pulling the weeds up at least during the first year in the ground. Many newly planted perennials may not bloom during their first year. Some perennials such as Echinacea, which is a taller growing variety, may need support by staking them with bamboo or other wooden or metal stakes and string. Deadheading flowers will encourage new blooms and new growth. After their blooming period, if a perennial looks a bit withered, cut it back almost to the ground and allow it to produce new growth. In fall/winter, remove all dead foliage and stems, then mulch for seasonal protection.

Rooftop Gardens:

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Ornamental Grasses - How to Maintain

- If applying aged manure or compost, fertilizing won't be necessary for ornamental grasses. They are generally happy without fertilizing. In fact, too much nitrogen in the soil can lead to problems. If you must fertilize, apply a slow release of 3-1-2 ratio **ONLY ONCE** in spring.
- Ornamental grasses provide lots of texture and interest during the fall and winter. The birds often eat the seeds from the plumes. In late winter, usually February-March, they can be pruned back to a few inches above the ground by using shears or a weed eater. As they age, they may become thinner. Dig them up and divide them. Replant them or throw them away.
- Ornamental grasses, like lawn grasses, are divided into 2 categories: **Warm Season** and **Cool Season**.
- **Cool season grasses** will produce their growth during spring when the temperatures are cool and there is more moisture. In summer, when the temperatures heat up, their growth will slow and they may even turn brown if not watered regularly. The latter part of summer/early fall when the temperatures begin to fall again, they will perk up and resume growth. They prefer temperatures in the 40's to 70's.
- **Warm season grasses** begin to put on new growth in late spring and early summer when the temperatures are consistently in the 70's and up. They bloom in late summer or early fall. You may want to consider surrounding the warm season grasses with early and mid-spring flowers.

Rooftop Gardens:

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