

*Taking care of trees is a lifelong commitment and critical to helping trees reach their maximum size, life span, and potential.*

## Tree Care and Maintenance During Establishment

After a tree is first transplanted, good care and maintenance is especially important as the tree gets established in the landscape.

### Watering

Perhaps the most important task required for newly transplanted trees is watering. The frequency and amount of watering varies based on area rainfall, moisture-holding capacity of the soil, and site drainage characteristics. A good general rule is that newly transplanted trees need an inch of water every week to 10 days (including rainwater). A 5-gallon container-grown tree will need roughly 5-10 gallons of water per week when there is no rainfall. Slow soaking is preferable to a heavy quick watering; consider using a 5-gallon bucket that has a small hole drilled in its side near the bottom or a Gator Bag to help slowly release water to the area where the roots are. Focus watering in the area just covering the root ball. Caution: Overwatering can be just as harmful to the tree as underwatering.

### Mulching

Newly transplanted trees do much better when mulched. Mulch conserves soil moisture, moderates extreme temperature changes, prevents soil compaction, reduces competition with turf grass, and helps prevent mechanical injury from mowers and string trimmers. Organic materials such as wood chips and shredded bark make excellent mulches. Grass clippings should not be used. Mulch young trees beyond the edge of the branch canopy to a depth of 2-4 inches. Be sure not to pile the mulch around the trunk of the tree: think of a mulch doughnut around the trunk of the tree, not a volcano.



*This newly planted tree has been mulched generously, staked with a flexible material (pantyhose), has a bucket to help ensure slow, soaking watering, and is caged for protection in an area with heavy deer pressure.*

### Pruning

Pruning at planting time is only necessary if branches are crowded, rubbing, weak, or damaged. Removal of co-dominant stems is also important to create a single leader.

### Supporting

Newly transplanted trees sometimes need help to stay in an upright position. Small trees or those with large heavy root balls probably don't need to be staked. Top-heavy trees, bare-root trees, and those planted in exposed, windy sites may require some support until their roots develop, usually never more than one or two growing seasons. To prevent girdling injury, avoid using wire against the trunk to stake a tree. Instead, use any strong, soft, wide strips of material, such as canvas or pantyhose. Also, don't support the tree too rigidly. Trees that have some sway develop a stronger trunk with more girth.

### Trunk wrapping

Thin-barked trees may benefit by having their trunks wrapped to prevent injuries caused by sunscald and frost crack. For example, maples tend to be susceptible to these injuries. If wrap is needed, install in late fall and remove early the following spring to prevent potential harmful high temperatures and moisture between the trunk and the wrap.

### Fertilizing

Fertilizing a tree is generally not recommended unless you know the soil is deficient in certain essential minerals.

### Animal protection

In areas with large populations of wildlife, consider fencing around the mulched area. Heavy, hog panel-type fence will help prevent damage by large animals like deer, while smaller chicken wire or plastic tubes will help with small animals such as rabbits.

## Long-Term Tree Care – Promoting Tree Vigor After Establishment

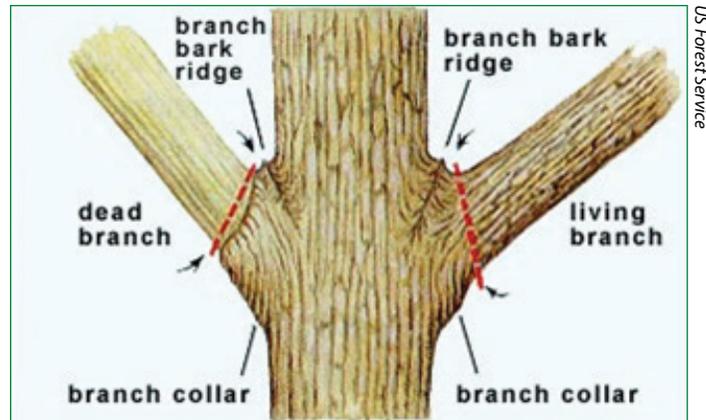
After the tree is established and begins growing, it is important to continue caring for your tree to ensure it provides full benefits. The steps listed below should be used together since no one step will guarantee the survival and vigor of a tree.

### Pruning Young Trees

Pruning is probably the most important care you can provide for your young trees. You want to shape a healthy canopy for your tree, especially a single, strong, central main trunk, otherwise called the central leader. The central leader is critical because it is the structure from which all the other branches will grow.

### Why Prune?

- To develop a strong central leader in shade trees and eliminate competing leaders.
- To eliminate crossing/rubbing branches.
- To remove diseased, dead, or storm-damaged branches.
- For safety – removing branches that, if they were to fall, could hurt someone or cause property damage.
- To remove branches that interfere with a motorist's or bicyclist's ability to see street signs or traffic.
- To maintain clearance for cars and people using sidewalks.



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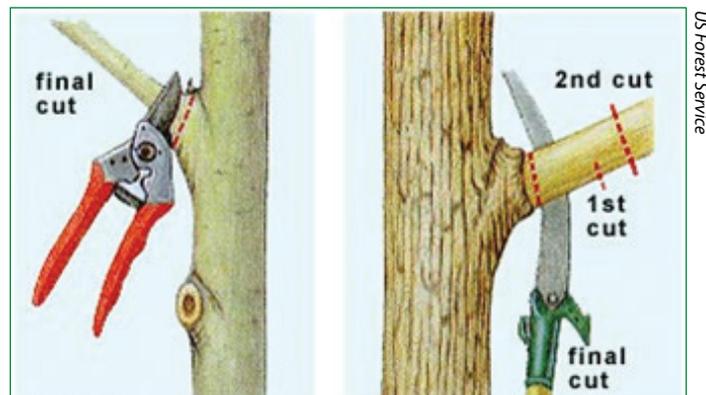
Figure 1

### When to Prune?

- Best time: January through February, when the tree is dormant, pathogens are dormant, and you can see the tree's branches clearly.
- Avoid spring leaf-out time and fall leaf color-change time.
- Avoid pruning oaks from April 1 - December 1 due to oak wilt disease. If you do need to prune during these months, apply latex paint to the wound.

### How to Prune:

- Remove no more than 20% to 30% of the canopy at one time.
- Two-thirds of the tree height should be in crown (branches and leaves).
- The ideal size of branches to prune is between 1 and 2 inches in diameter.
- Never top a tree! This weakens the branching patterns and can cause safety issues in the future.
- Minimize the size of the pruning wound.



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Figure 2

- Remove dead, broken, or rubbing branches promptly.
- Prune outside the branch “collar” and not flush with the tree trunk. (Figure 1)
- For larger branches, use the 3-cut method. (Figure 2)
  1. The first, small cut is made outside the branch collar on the underside of the branch. Cut only halfway through the branch. This step is important to prevent the branch from tearing from the trunk.
  2. The second cut is made farther out on the branch from the first cut, which helps reduce the weight of the branch.
  3. The final cut is made just outside the bark branch ridge/branch collar.
- Strong branch angles are U-shaped; remove weak V-shaped attachments. (Figure 3)
- Disinfect your pruning tools before you work on other trees.
- Stay away from utility lines! Contact your local utility if a branch or tree is close enough to a utility line to touch it.

### Other Ways to Promote Tree Vigor

In addition to pruning, there are several other ways to promote tree vigor and help ensure a healthy, long-lived tree.

- **Water** – Water during extended dry periods, even if the tree was planted several years ago.
- **Mulch** – As the tree grows and the original mulch breaks down, add more mulch. Mulch will help retain moisture and cuts down on competition for nutrients from weeds and grasses.
- **Avoid Mechanical and Animal Damage** – Fences, mulch, or other barriers can be used to prevent damage to the trunk and limbs caused by lawn mowers, string trimmers, livestock, and wildlife.



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Figure 3

- **Wrap** – Wrap young, smooth-barked trees in the winter months to prevent sunscald injuries. Maples, lindens, and fruit trees are examples of some trees that are susceptible to sunscald.
- **Maintain Soil at Current Grade** – Do not add fill soil around a tree trunk or scrape and remove soil from the area within the furthest reach of the branches. Do not store excess soil underneath a tree’s canopy during construction.
- **Do Not Compact Soil** – Keep cars, tractors, and other heavy equipment beyond the farthest reaches of the branches.
- **Do Not Trench** – Do not dig, trench, or cut into the soil near the tree.
- **Use Herbicides Sparingly** – Do not use broadleaf weed killers directly under the tree.

Additional detailed information on tree care topics can be found online at [na.fs.fed.us/urban/treeownersmanual](http://na.fs.fed.us/urban/treeownersmanual).

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