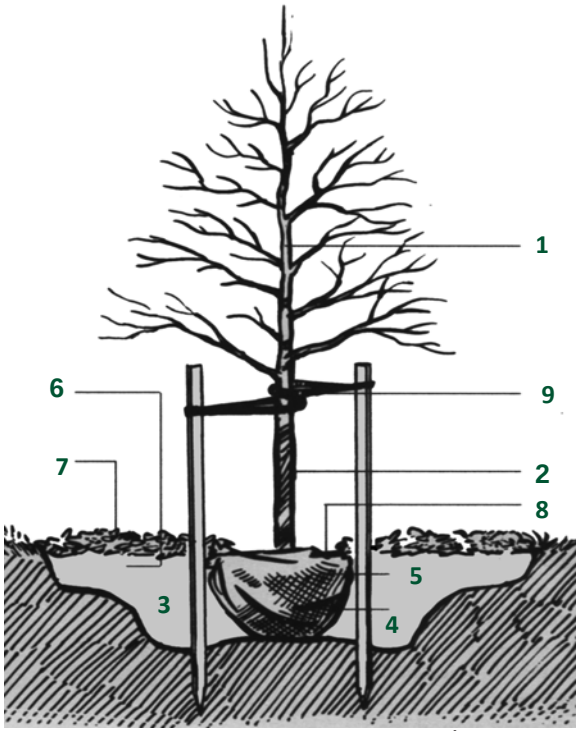

Figure 2. Tree planting diagram*

1. Select trees with a single, straight trunk.
2. Plant trees $1^{1/2}$" to $2^{1/2}$" in caliper.
3. Make the planting hole 2 to 3 times the width of the root ball and only as deep. Be cautious not to plant too deep. Trees should be planted with their root flare even with the soil line. Soil may need to be removed from around the root collar to expose the root flare. If the soil is compacted, make the upper portion of the hole wider.
4. Leave a mound of undisturbed soil in the bottom of the hole to support the root ball and prevent settling.
5. Remove or cut and fold down burlap and/or wire basket away from root ball after tree placement at least 50%. Allow the roots to lay naturally.
6. Use good native soil or topsoil for backfilling.
7. Apply 2" to 3" of wood chip or bark mulch.
8. Keep mulch away from base of tree.
9. If staking, tie with a slack rubber hose or strap; be sure to remove ties within one year.

* Tree planting diagram adapted from Elmendorf, Gerhold, and Kuhns (2001) courtesy of Pennsylvania State University.

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FORESTS, PARKS & RECREATION VERMONT

UNIVERSITY OF VERMONT EXTENSION
CULTIVATING HEALTHY COMMUNITIES

This document is available upon request in large print, braille and audio cassette.

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Caring for Young Trees

A Basic Guide To:

- Planting
- Watering
- Mulching
- Fertilizing
- Tree Health

VT Urban and Community Forestry Program

A joint initiatve between the Department of Forests, Parks and Recreation and the Unversity of Vermont Extension

Caring for Young Trees

Planting

Proper planting is one of the most important steps to a tree's long-term success. Follow the guidelines illustrated in the 'Tree Planting Diagram' in Figure 3 to ensure your trees survive and thrive.

Watering

Water is a critical factor for tree survival after planting. During the first three years after planting, regular watering is necessary. Too little or too much can kill a tree.

- Water where the roots are. The first year they are right around the root ball. Make sure to expand the watering area as the tree and roots grow.
- Watering devices such as TREEGATORS™ or a five gallon bucket with holes release water slowly, soaking the soil while minimizing surface runoff.
- Use less frequent but more intense watering sessions, rather than frequent shallow watering.
- It is difficult to prescribe a certain amount of water to apply to a tree. Different trees, soils and weather conditions will affect the amount and frequency. As a general guide, ten gallons of water should slowly be applied once or twice a week if rainfall is insufficient.

Mulching

Maintaining a mulch layer can significantly improve tree health and vigor by:

- conserving soil moisture
- buffering soil temperature extremes
- controlling competing vegetation
- protecting trees from mower damage
- replenishing soil nutrients
- preventing soil compaction by minmizing traffic
- Most tree species are adapted to forested environments and aggressive grasses growing in the rooting zone can significantly reduce the growth and success of a tree.
- Mulch an area roughly three times the width of the root ball. This ensures that growing roots benefit from the mulch layer.
- Lay mulch to a depth of 2-3 inches. Replenish mulch to maintain this depth; doing so will also improve soil structure.
- Never mound mulch around the base of a tree like a volcano. This can result in rot and fungal damage to the root collar. Mounding around the perimeter of the mulched area to create a water retaining berm is OK.

Figure 1. Mulch Volcano Excavated to Expose Buried Trunk. Mulch should not be touching a tree's trunk. Some trees may develop girdling roots under the mulch pile. The trunk flare is not visible, and note the discoloration on the stem just below the mulch line. This discoloration may develop into disease and decay (© Copyright TLC for Trees).

Fertilization

Most Vermont soils contain adequate nutrients to successfully grow trees without the addition of fertilizer. However, fertilizing can help to improve the growth and vigor of young trees, but only if done properly. Obtain a soil test (available through the University of Vermont Extension) to determine if the soil is lacking essential nutrients. If so, keep the following in mind:

- Only apply those nutrients that are deficient in the soil. Applying unnecessary nutrients may be harmful to the tree.
- Don't over-fertilize young trees. Nitrogen, in particular, can cause excessive foliar growth the roots cannot support.
- Use fertilizers with a low salt index. Expanding roots of young trees are highly sensitive to salt.

Tree Health

It is extremely important to monitor your tree regularly for health problems. Early detection and proper diagnosis is crucial in preventing unnecessary treatments and minimizing damage.

- Check the tree several times each year. The symptoms of various health problems are exhibited at different times.
- Check the crown for discolored foliage, reduced leaf size, early fall coloration and branch dieback.
- Check the stem for insect borer holes, cankers and mechanical injuries.
- Avoid using lawnmowers and string trimmers close to the tree. They can easily cause damage to a tree's bark and cambium and create entry points for insects and diseases. Properly maintaining mulch will eliminate the problem.
- If you do detect a problem, consult a professional as soon as possible for an accurate diagnosis and treatment plan.