

## Proper Planting and Post-Planting Care Are Keys To Establishing Trees and Shrubs Successfully

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### PART I PREPARATION AND PLANTING

Successful planting starts with proper site preparation. Digging the hole for a new plant is the first step. The hole should be at least 1-2 feet wider than the size of the root system (except for direct tree spade planted trees). A larger hole will allow better root growth, especially in poor soil. Rough up the sides of the hole as wide or wider at the bottom than at the top.

Planting depth is *critical*. For heavy soils, trees and shrubs should be planted at, or slightly higher than, the depth that they grew in the nursery. In poorly drained soils, plants should be planted slightly higher, with soil mounded up to cover the roots. Allow for settling, especially if the hole has been dug deep and backfilled. Air pockets should be eliminated by watering during and after backfilling. Poor soils can be amended with organic material or loamy top soil depending on the improvement needed. Peat is not recommended for poorly drained, clayey soils, as it can act as a sump and draw too much water into the planting hole. *Never* completely backfill with a soil amendment; only create a transition zone to the existing soil where the roots must eventually grow. Too much soil amendment can create moisture gradients and cause roots to be confined to the planting hole. Remove rocks and debris from the hole and never put rocks or gravel in the bottom of the hole to improve drainage unless it is connected to a drain tile.

**Proper fertilization** provides plants with the elements they require for survival and growth. A balanced or complete fertilizer is usually recommended for tree fertilization. Trees and shrubs should be fertilized at the time of planting with a slow-release, complete fertilizer, preferably one high in phos-

phorus. Fertilizer should not be placed directly on the roots, but should be mixed with the backfill. It is best to use a slow-release fertilizer or fertilizer briquettes, at the time of planting. These will not burn the roots and will have longer-lasting effects. Follow label directions.

### PLANTING THE PLANT

**Bare Root and Packaged Stock:** Examine the stock and prune away any diseased or damaged roots or branches. Dig the planting hole and backfill with enough soil to hold the plant slightly higher than the depth it was growing in the nursery. Tamp the soil and center trees with the largest branches facing southwest. Straighten the roots and spread them evenly. Cover the roots with soil, avoiding any clods, rocks, etc. Gently raise and lower the plant while adding soil to eliminate air pockets. When the hole is three-quarters full, tamp the soil and fill the hole with water. This should take care of any remaining air pockets. Finish filling the hole with soil, and then water thoroughly.

**Balled and Burlapped (B & B):** Carefully set the plant in the hole at or slightly higher than it was at the nursery. The root flare and the top of the ball will indicate original planting depth. Take extra care not to loosen or break the soil ball. Fill the hole three-quarters full, tamping to remove air pockets. Cut and remove *all twine* from around the trunk. Pull burlap away from the trunk and top of ball. Water slowly to saturate the soil ball and to remove air pockets in the backfill. Finish filling the hole with soil. No burlap should remain above the soil surface as it may act as a wick and dry the root ball. Evergreens should not be planted later than October so the roots will have a chance to become established.

**Container Grown and Containerized Stock:** Carefully remove the container *at the planting site*. Cutting the container may be necessary. Remove all containers, including biodegradable papier-mache' pots. Newly containerized stock may be only slightly rooted; the container must be removed with great care so as not to disturb the root ball. In contrast, container grown stock may be rootbound. If roots are growing in a spiral around the soil ball, the plant is rootbound. These roots need to be separated or they will eventually girdle the plant. Make vertical cuts on the sides of the ball just deep enough to cut the net of roots (*Figure 1*). Also make a criss-cross cut across the bottom of the ball.

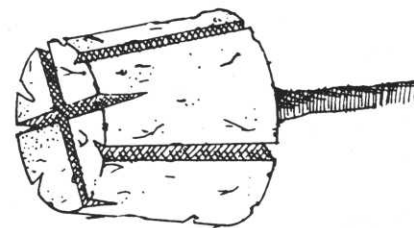


Figure 1. Cutting pattern for rootbound container grown stock. Plant the plant the same as a B & B plant. Don't plant evergreens later than October so the roots will have a chance to become established.

**Tree Spade:** The use of mechanical tree spades has become a common method of tree planting. Trees should be watered thoroughly before moving to hydrate the plant and to avoid soil sifting out during transport. The sides of the planting holes should be roughed up with a shovel, rake, etc., to break up compaction caused by the spade. Trees should be placed at or slightly higher than the original grade to allow for settling. After planting, work loose soil into the area between the hole and the tree plug, and water thoroughly.

\*Adapted from Minnesota Extension Service publication (AG-FO-3825) "Planting and Transplanting Trees and Shrubs" by Bert T. Swanson, James B. Calkins, Peter-Jon Rudquist and Steven Schimek.