

# Three Steps for Planting Trees & Shrubs

University of Minnesota, Department of Forest Resources – December 10, 2013

A tree that lives to 125 years in the forest will on average live less than 10 years in downtown sites and 35 years in the suburbs (Moll, 1989). Poor planting practices can shorten a tree's life span. This fact sheet will help guide you through the best planting practices to insure the beauty and health of your trees and shrubs.

## **Step 1: Bringing your trees and shrubs home**

Keeping roots moist is important during the move as moist roots help the tree establish quickly. Wrap the soil ball, container, or bare roots in a tarp or large garbage bag to trap moisture until planting time.



## **Step 2: Planting your trees and shrubs**

### **Bare root trees/shrubs:**

Bare root trees and shrubs come without any soil around the roots.

Make sure the planting hole is wide enough to fit all roots inside. Dig the hole deep enough so the first main lateral root is within 1 inch of the soil surface. A common planting error is digging holes too deeply.

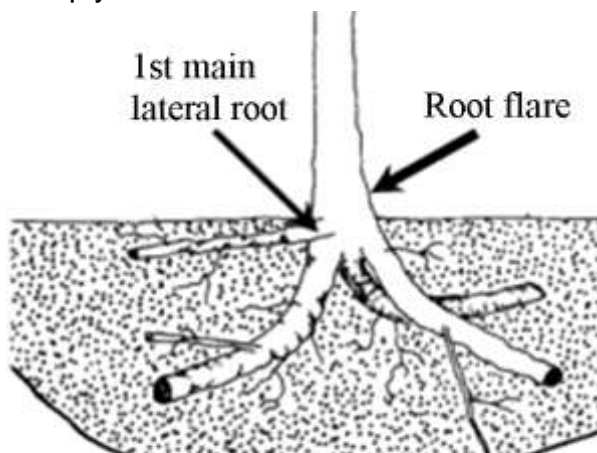


Image Credit: <http://hort.ufl.edu>

### **Containerized trees/shrubs:**

Remove the tree or shrub from the container by lifting it up by the stem and tapping down on the rim of the container.

Then check to see if there is excess soil on top of the root system (often there is at least 4 inches of excess soil over the first main lateral root). Use a kabob skewer or straightened coat hanger to probe next to the stem into the soil ball until the first main lateral root is felt. If there is more than an inch of soil over those roots, use a saw to cut off the extra soil.



Removing excess soil prevents future stem problems and promotes healthy root systems.

Next, check for encircling roots.



Remove encircling roots by sawing off the sides of the soil ball.



This encourages a healthy, spreading root system.

Dig a hole that is at least double the diameter of the soil ball. Doubling the diameter of the hole makes it easier to position and water the plant. More water soaks into the loose soil, rather than running off the top of the soil surface. Measure the distance from the first main lateral root to the bottom of the soil ball to determine the hole's depth and ensure that the first main lateral roots are within 1 inch of the soils surface.

Place the tree in the hole, making sure it stands straight and backfill the hole with the original soil.

### **Planting balled and burlapped trees/shrubs:**

Balled and burlapped trees and shrubs come with burlap around the soil ball that is held together by a wire basket. These trees are often more mature than bare root and containerized trees.

Remove the wire and burlap from the top of the soil ball to check for excess soil over the first main lateral root. Remove excess soil if present.

Use the same steps in the containerized section for determining the hole's width and depth. Be sure all of the burlap is covered up when backfilling the hole.

### **Step 3: Caring for your tree/shrub**

#### **Mulch:**

Create a mulch in a ring that is 2 to 4 inches deep and 6 feet in diameter around the tree. Keep the mulch off the trunk. This will help hold moisture in the soil and prevent trunk damage from lawn care machinery.

#### **Stake (only trees that lean or fall over need to be staked):**

Use two or three stakes to secure a tree. Attachments should be two-thirds of the distance from the ground to the first branch and stakes should be driven into the ground at least 18 inches deep. It is best to use a wide material such as canvas burlap or an old bicycle inner tube to loosely attach the tree trunk to the stakes. This allows the tree to move slightly with out damaging the bark. After one growing season the tree will be established and stakes should be removed to allow for correct development.

#### **Water:**

Thoroughly water the tree at planting. Then water your tree a couple times a week for a total of 15-25 gallons per week until the ground freezes.

#### **Protect trees from critter damage:**

Create a tube around the tree's trunk using ¼ inch hardware cloth to protect it from critter damage. Extend the cloth at least 3 feet up, and don't let it touch the tree. Make sure hardware cloth is on your tree by late summer or early fall. Usually shrubs don't need protection, but fencing or hardware cloth around the shrub can prevent rabbit and vole damage.

Lauren Stuftt, Undergraduate Research Assistant  
Gary Johnson, Technical Advisor  
Jennifer Teegarden, Technical Advisor

#### References:

Moll, Gary. "The state of our urban forest." *American Forests* 95, no. 11/12 (1989): 61-64.