

Tree Planting:

When purchasing a tree you will find they will be in either a container, usually a plastic pot, or the roots will be 'Balled' in burlap. When purchasing a balled tree you have purchased one that was grown in the ground, at a nursery, till it reaches the desired size and condition for sale. Container trees may be grown either within the containers, or grown in the ground and then placed into a container. Upon purchasing a tree the consumer should be aware of certain conditions so they may pick the tree that will have the greatest chance for survival.



Container Tree



Balled Tree

Healthy Tree selection:

- ◆ Is the rootball big enough?
 - ◆ In general, the rootball should measure 10 to 12 inches in diameter for every inch in tree trunk diameter. Thus, a 2 inch tree should have a rootball that measures 20 to 24 inches across.
- ◆ Is the tree supported by the rootball?
 - ◆ The trunk or stem of the tree should not appear loose in the rootball. If you move the trunk, the entire rootball should move.
- ◆ Check the rootball for proper moisture.
 - ◆ Most nurseries will have the rootball protected with mulch which will help keep moisture constant and roots should not be dried out. Once you get your tree home if you cannot plant it immediately you should protect the rootball from drying out by covering it and keeping it evenly moist. Do not overwater the rootball!
- ◆ Check the trunk for any damage.
 - ◆ No damage is the best – however, small scrapes and scratches that are less than 25% of the trunk's diameter should be able to heal properly. If any blemishes are greater than 25% of the trunk's diameter, you should choose another tree.

- ◆ Check for co-dominate stems.

- ◆ What is a co-dominate stem? That is when a tree has two or more main branches that reach up through the canopy of the tree (See picture below). Choose a tree that does not have co-dominate stems – one single stem is your best choice.



An example of Co-dominance. Notice the two large upright stems.

- ◆ Is the crown of the tree shaped in a way that you like? Its branches should have an even distribution and be nicely spaced throughout.

Transporting a Tree:

Transporting a tree in the proper way is required to minimize shock.

- ◆ Wrap the crown of the tree with an appropriate tarp.
 - ◆ Wind, and heat will quickly desiccate any leaf that is not protected. The leaf can also become torn and damaged by the winds created in transport.
 - ◆ Most Garden Centers and Nurseries will help you tarp your tree appropriately
- ◆ Be very protective of the rootball.
 - ◆ If the rootball becomes damaged and broken the tree may not tolerate the stress. If you are not sure you can handle the weight of the tree without dropping it please have the nursery deliver it.



Planting Location: Right Tree, Right Place

When choosing a tree, its planting site must be considered. Pick a species of tree that has a growth habit that is appropriate for the space as well as one which will adapt to the sites growing conditions. Site conditions to consider are:

- ♦ Width and height of the trees crown
 - ♦ Look up are there over head utility lines. Make sure your tree selection will have a maximum height lower than they are.
 - ♦ Narrow spaces vs open yard: Choose a tree with a upright growth habit for areas between houses, where one with a wider canopy can be grown for shade away from buildings or other areas where branches may grow into obstacles
- ♦ Soil type:
 - ♦ Clay soils often make iron unavailable to trees which can make them prone to chlorosis. This is generally indicated by yellowing of leaves during the growing season.
 - ♦ Sandy soils will drain quickly and do not hold water.
 - ♦ Alkaline soils are soils with a higher Ph level.
- ♦ Moisture and water availability:
 - ♦ Is the tree to be planted in a turf area that is not yet established. Watering turf to establish it may drowned a new tree.
 - ♦ Low spots where water accumulates will not be an appropriate spot for low water use trees
 - ♦ Is there a sprinkler system available or will hand watering be required? Watering is a must for a tree to become established. Even low and very low water use species need regular water to allow for proper establishment.



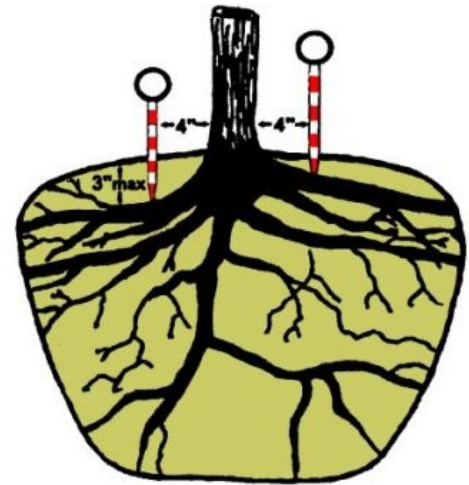
Most nurseries will have staff that can help determine which species of tree is right if they are given an idea of the site in which the tree will be planted.

The Planting Hole:

Preparing the planting hole is the most important step in planting a tree. This will be the area into which new roots will grow and allow the tree to become established. When determining the holes dimensions numerous variables should be considered.

1. Find the first structural root with in the rootball.

- Trees are not always at the correct depth with in their rootball. Begin by removing the burlap from the top of the rootball and gently probing in a circular pattern, 4" away from the trunk, and locate the major root that is closest to the surface. The depth of this root should be 1 to 3 inches below the soil surface. If it is deeper excavate the top of the rootball placing it at the correct depth.

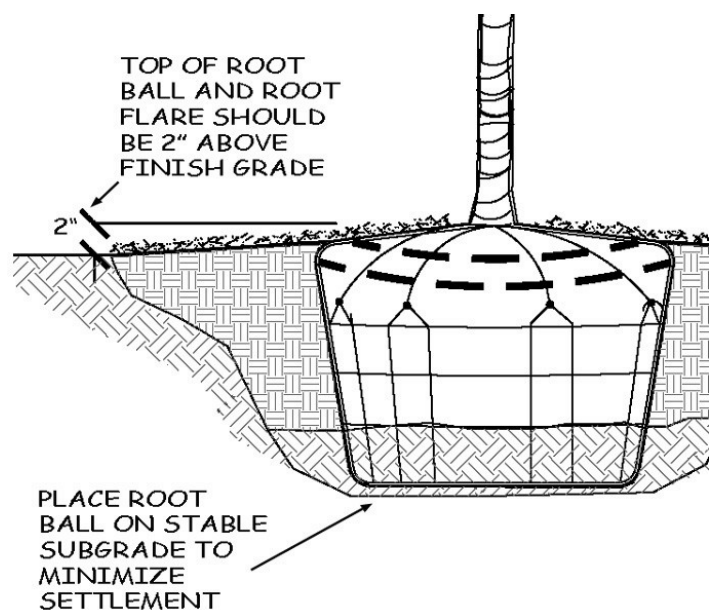


2. Measure the rootball to determine the proper hole depth.

- Make this measurement after any corrections are made for proper structural root placement
- Hole depth should be 2 inches less than the height of the rootball. For example after removing soil from the top of the rootball for root placement a rootball may measure 22 inches. The proper hole depth would be 20 inches.
- Do not dig deeper than the desired depth. It is important that the rootball be placed on solid subgrade at the bottom of the planting hole. This insures the tree will not settle to an improper depth below the grade.

3. Determine hole width.

- The planting hole should be, 2 or 3 time the size of the rootball at the top. A more precise measurement would be make it 24 inches larger than the top of the rootball.
- Slope the sides inward toward the base of the hole.



4. Dig the hole.

Prepare the Tree for Planting:

This is where we begin to see some differences between container trees and balled trees.

Balled trees:

Determine if the rootball is strong enough to hold together during the process of being placed in the hole.

- In transporting the tree has the rootball retained its shape and stayed solid or has it flattened on one side or changed shape in some way?

1. Once it has been determined that the rootball is solid

- Remove any plastic, the wire basket and burlap from the rootball.



Remove Plastic



Cut through the wire basket



Carefully pull the basket away from the rootball.
BE AWARE: The wire can be very sharp when it has been cut.



Carefully remove the burlap from around the ball



You may need to prune a few thin adventitious roots from the rootball so that you may remove the burlap.

Once the rootball has been cleared of all of its dressing it is ready to be gently rolled into the hole.

2. If the root ball is not solid only a portion of the wire basket and burlap will be removed.
 - Remove all plastic as with a solid rootball
 - Cut the wire basket leaving the bottom third in place.
 - Roll the rootball gently into the hole. Once placed in the hole remove as much the burlap as you possibly can. Leaving the burlap in place will greatly deter root growth.
3. If dealing with a containerized tree you will be removing the tree from the container.
 - Do not force the tree out of the pot by pulling on the trunk. If needed carefully cut the pot with a sharp utility knife.
 - Once the container has been removed asses the roots. Are they highly pot bound?

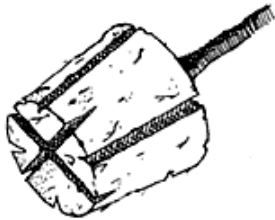


If roots are growing in a circular pattern around the pot

- ⇒ Tease the roots by hand, pulling them out from the rootball. Loosening them in this way will stop them from continuing to grow in a circular pattern. If this is not done, girdling roots will form which will choke the tree as they grow.



- ⇒ If the roots are too thick and inner twined to loosen by hand use a sharp utility knife and slice vertically into the rootball. Do this repeatedly around the rootball. Also cut a cross into the bottom of the rootball. After making these cuts loosen as many of the roots as you can by hand.



Once the circling, pot bound roots have been corrected the tree is ready to be placed gently into the hole

Tree Placement and Backfill:

Placement of the tree into the planting hole can be as simple as gently picking up the tree and putting it into place. For larger trees with heavy rootballs it is a bigger chore.

When placing a heavy rootball into the planting hole:

1. Gently roll the ball as close to the edge of the hole as possible without having it drop in.
2. With 2 or 3 people (or more if needed) roll the ball slowly into the hole.
3. Once the tree is in the hole, use the blade of your shovel to get it properly set on the base of the rootball.



Place the blade of the shovel underneath the rootball and then gently push the tree so that it slides on the blade to the correct location.

4. Now is the time to correct any girdling roots on a balled tree. Correct them by cutting them away from the trunk. The one pictured below should be cut and removed.

⇒ Note the root that is growing around the trunk. As the tree grows both the trunk and the root will increase in girth. Eventually the root will choke the trunk of the tree, limiting its ability to transport nutrients and water. This will severely stress the tree and can even kill it.



5. Using the native soil which you removed when making the hole, backfill around the rootball. Fill the hole approximately 1/3 full then gently tamp the soil. Use water to settle the soil around the rootball, removing any large pockets of air.



6. Complete the filling of the hole, settling the soil in the same way. Once completely backfilled the tree should be steady and stable.



7. With the remainder of the soil create a water well around the edge of the planting hole. This allows for irrigation water to puddle over the rootball and slowly soak in.

8. Place 2 to 3 inches of mulch on top of the soil thinning its depth as it gets closer to the trunk of the tree. **Do not** place mulch so that is touching or covering the trunk of the tree. The root flare should be visible.



Root flare

Staking for Stability:

Not all trees need to be staked. If the tree planted was balled with the rootball remaining in tact through out the planting process, and it feels solidly planted, stakes will not be required. If the rootball was damaged and fell apart, or if planting a tree that was in a container, staking is required.

Solid wood stakes,



or T-posts

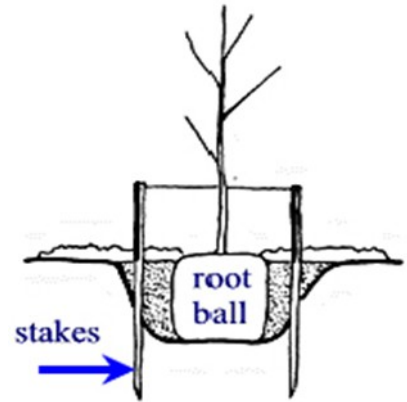


are best for this process.

Stake Placement:

When pounding stakes into the ground make sure

- ⇒ You are not driving the stakes into the trees rootball.
- ⇒ The stake is being driven into solid, undisturbed soil.
- ⇒ The stake is driven deep enough to provide the appropriate support

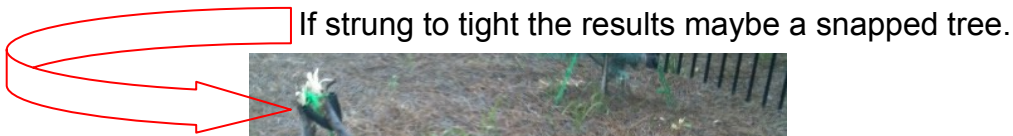


Tree Straps:



- ⇒ Do not wrap wire or twine directly around the tree.
- ⇒ 1-1/2 inch polypropylene webbing straps with grommets or similar are best for protecting the tree.
- ⇒ **Do Not** leave straps on the tree for more than 1 year

When tightening the straps allow for enough play that the tree trunk is able to sway in a moderate wind.



Now, enjoy your new tree. Remember, it will need to be watered on a regular basis till it becomes established.