

# Thriving, Not Just Surviving: The Effects of Tree Selection, Planting and Aftercare

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## **Tree Selection: What tree should I plant?**

- See Choosing the right landscape plants: Factors to consider, UW-Extension A3864 by L. G. Jull, available for free PDF on-line for printing at: [www.learningstore.uwex.edu](http://www.learningstore.uwex.edu)
- Properly placed and care for landscape plants including trees can increase the value of real estate.
- Poor plant choices can become a maintenance problem and create an unsightly landscape.
- Mismatched cultural and soil requirements, improper planting techniques and vandalism account for more plant death than insect and disease related deaths combined.
- Plant the right tree in the right place!

## **Avoiding tree and utility conflicts**

- Call Digger's Hotline at least one week before planting a tree in order to locate all underground utilities and fiber-optic lines prior to digging. If you fail to do this step and cut into a line, you are liable for repair costs.

## **Planting a tree**

- Prune out damaged, diseased or dying branches and a double leader as pruning is easier to do when tree is lying on the ground horizontally. Remove all tying material around tree branches. Do not do any major pruning and if a quality tree was selected, little, if any, pruning will need to be done.
- **Balled and Burlapped trees (B&B):**
  - ✓ Identify the trunk flare; this could be 6-8" deep inside a root ball of a B&B tree
  - ✓ Dig a shallow, broad planting hole to the depth of the actual root flare, not necessarily top of ball
  - ✓ Remove the bottom part of wire basket only with bolt cutters, the rest will be removed later
  - ✓ If balled and burlapped (B&B), place the root ball on top of firmly packed soil at the base of the hole to prevent settling
  - ✓ Gently roll tree into planting area and adjust tree to proper height by either adding or removing some of the existing soil
  - ✓ Cut remaining wire basket off and discard, do not place back into hole
  - ✓ Cut and remove all twine and packing material around trunk and discard
  - ✓ Cut and remove as much of the burlap as possible from the root ball, particularly on the top and sides of the root ball
  - ✓ Straighten tree in hole so trunk is not leaning
  - ✓ Fill hole with existing soil removed from area, do not pack down the soil on the top or sides with your foot; make sure the root flare is right at the soil line, but do not expose the roots
  - ✓ As you are backfilling, apply water to the area to help eliminate air pockets and sinking of root ball
- **Container grown trees:**
  - ✓ If container grown tree, remove tree from container and inspect the root system; cut and remove circling roots and straighten remaining roots outward
  - ✓ Dig a shallow, broad planting area and lay the roots outward coming from the trunk like spokes on a wheel
  - ✓ Gently place existing soil back into the planting area with your hands making sure soil comes in contact to the entire root system, both above and below the roots
  - ✓ Fill in remaining soil, but make sure root flare is at the soil line
  - ✓ Water accordingly and then stake; bareroot trees must be staked as there is no existing soil ball to hold the tree upward in stormy weather
- **Bareroot trees:**
  - ✓ Tree caliper larger than 2" is not recommended for bareroot transplanting
  - ✓ Trees are commonly harvested bareroot after leaf fall in mid to late October for fall planting or in mid April before buds have broken.
  - ✓ Similar to container grown trees and the easiest to plant, but not all trees can be planted using this system
  - ✓ Cornell University has done studies using different methods of protecting barerooted trees from desiccation. They found using fine grade hydrogels (15 oz.) added to 25 gal. water works the best.
  - ✓ Use of a plastic, 50-100 gal. horse trough works better than a large trash can. While stirring, allow at least 30 min. to an hour for the hydrogel to become fully hydrated in the water before you dip the roots into it.
  - ✓ Dip tree roots in a hydrogel slurry, but do not shake off the hydrogel. Immediately place the root system into thick plastic bags, to avoid roots poking through it and secure the bag around the tree trunk.

- ✓ After bagging, store trees in a cool, dark location until the trees are ready to be planted (plant within seven days after dipping).
- ✓ Place trees into a truck and water down to increase the humidity around the tree; securely place a tarp over the entire tree, not just the roots, to avoid wind desiccation
- ✓ Do not let these roots dry out. Many trees will not recover if the roots have dried out.
- ✓ Place tree in plastic root bag next to the site and remove after the planting area is dug.
- ✓ Dig a shallow, wide planting hole and do not loosen soil that will be underneath the roots.
- ✓ The planting area should be 2-3 times wider in all directions than the actual spread of the current root system to invite roots to grow outward into existing soil
- ✓ Make sure the root flare is right at the soil line and backfill with existing soil and water, as you are backfilling to eliminate air pockets. Use your hands to also help eliminate air pockets.

## **Aftercare**

- Once backfilled, water again so root ball is well-watered.
- **Staking:**
  - ✓ Stake tree only if necessary if in a windy or exposed location or if planting bareroot or container grown trees
  - ✓ Staking a newly planted tree may also prevent damage from lawn mowing equipment
  - ✓ If staking, use one or two wooden or metal stakes (4-5' tall) pounded into ground outside of root ball into the existing soil
  - ✓ Use wide, flexible, fabric material to go around the lower half of the tree. Do not use rubber hose, wire or other material that can girdle the tree trunk. The tree should still be allowed to gently move.
  - ✓ Secure staking material to stakes pounded into ground. All staking material must be removed after the first year as this avoids future girdling of the trunk and allows for good trunk taper development.
- **Mulching:**
  - ✓ Apply mulch to planting area by using 2-4" of organic mulch (shredded bark, wood chips, compost, pine needle straw, shredded leaves) to help retain soil moisture, moderate soil temperatures and reduce weed and grass competition.
  - ✓ Use slightly less mulch directly on top of root ball to ensure water reaches the roots.
  - ✓ Do not apply mulch more than 4" total or touching the trunk as this keeps the trunk too wet inviting decay organisms and reducing oxygen levels to the roots.
  - ✓ Have at least 1-2" around the trunk base free from mulch. Do not mound mulch high as this creates a mulch volcano and will kill the tree.
- **Watering:**
  - ✓ Monitor moisture levels directly in the root ball by inserting your finger into the root ball soil underneath the mulch. Do not overwater, but under watering newly planted trees can be quite detrimental to tree survivability and transplant shock reduction.
  - ✓ During hot or windy weather, trees may need watering daily if no rainfall occurs.
  - ✓ If tree is < 2" caliper, water daily for at least 1 week, then every other day for 1-2 months, then weekly until established
  - ✓ If tree is 2-4" caliper, water daily for 1-2 weeks, then every other day for 2 months, then weekly until established
  - ✓ Establishment of a tree is approximately 1 year for every 1" of tree caliper, i.e. 2" tree caliper takes 2 years to establish, but this is species dependent
  - ✓ Continue to water into mid to late fall until the ground freezes. Watering less frequently as temperatures decline in fall.
  - ✓ Use of tree gator bags is useful, but ONLY if water is replaced into bag on a regular basis, at least 1-2 times per week or more during very hot or windy, dry weather.
- **Fertilization:**
  - ✓ Do not fertilize the first couple of years after transplanting, as top growth will be promoted at the expense of root growth.
  - ✓ Once a tree is established, fertilization may be needed, but get a soil test to determine what nutrients are actually needed.
  - ✓ Often, only nitrogen is needed. Older trees rarely need supplemental fertilization unless there is a specific deficiency.
  - ✓ By conducting a soil test and choosing the right plant for the right place based on the soil type, drainage and pH, future micronutrient deficiencies can be avoided.