

Help Your Tree Survive in El Paso

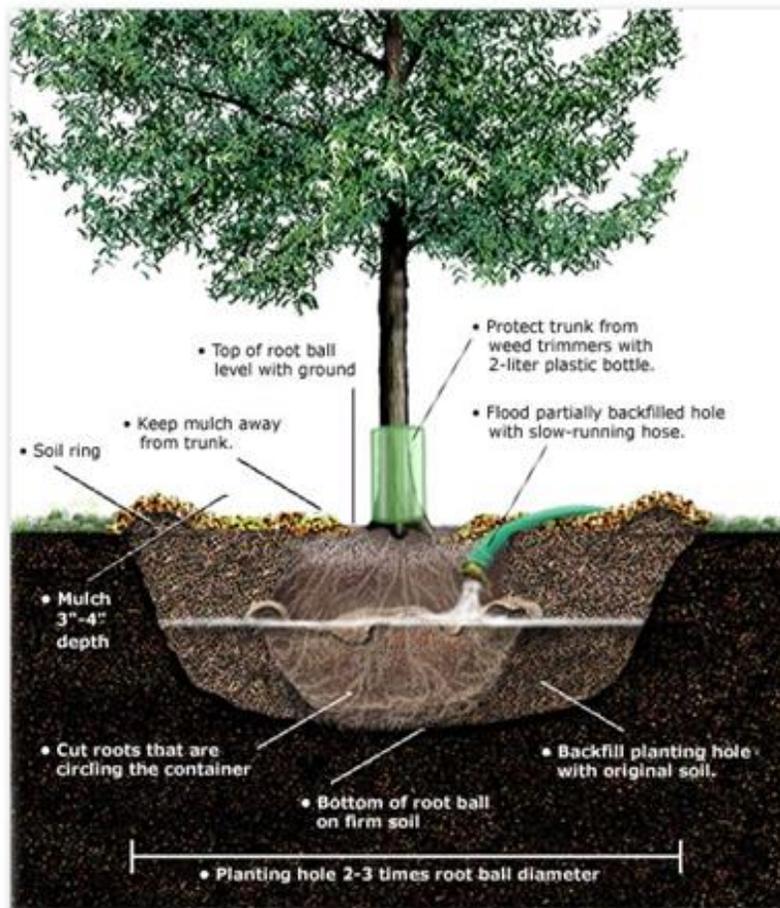
Adapted from "To Kill a Maple Tree" with permission of the
Native Plant Society of Texas – Boerne Chapter
(<http://npsot.org/wp/boerne/about-us/>)

Nature designed trees to grow successfully in many environments. Unfortunately, our own actions often lead to shortened lifespans for trees in residential landscapes. Here are some tips to help your tree survive in El Paso.

- **Select a tree suitable for our desert environment.** Before purchasing, do research to determine if a candidate tree is likely to survive winter temperatures in USDA Hardiness Zone 8a (15° F to 10° F), tolerates salty water, alkaline soils, and is wind and drought resistant. Trees prone to specific diseases and insect infestations in El Paso should not be high on your list of possible candidates. Consider trees native to our region to help ensure growing success. For additional assistance, call the El Paso *Master Gardener Help Desk at (915) 771-2354 or refer to the Texas Tree Planting Guide at: <http://texastreeplanting.tamu.edu/index.html>.
- **Check the root system before buying.** Purchasing a tree that is root bound, has major encircling roots, or an inadequate root system for the container size may lead to problems after the tree is planted. Don't be shy! After all, you are buying the entire tree, not just the parts showing above ground. Carefully check the root ball before you buy, or ask the nursery staff for assistance.
- **Don't leave a "to-be-planted-tree" exposed to drying sunlight and winds.** A young tree in a container should be shielded from the wind and direct sun. Water daily or every other day to prevent tender, young roots from drying out.
- **Select a good planting site.** Trees require good drainage. Before planting, fill the planting hole with water, then monitor to be sure the water drains away in a few hours. Planting holes dug in low spots, over hardpan, or that form a basin in a caliche layer will not drain well and may likely kill the tree. Dig drainage 'chimneys' through hardpan or a caliche layer to ensure proper drainage.
- **Plant a tree where there is space and water.** The root systems and canopies of trees need space to grow. Digging the planting hole under power and utility lines or too close to structures and hardscape (paved streets, sidewalks, driveways, patios, rock walls, swimming pools, etc.) may result in a mature tree that requires frequent, severe pruning to restrict its size. Planting a tree next to hardscape or a graveled area laid over plastic sheeting will restrict water from penetrating into the soil where

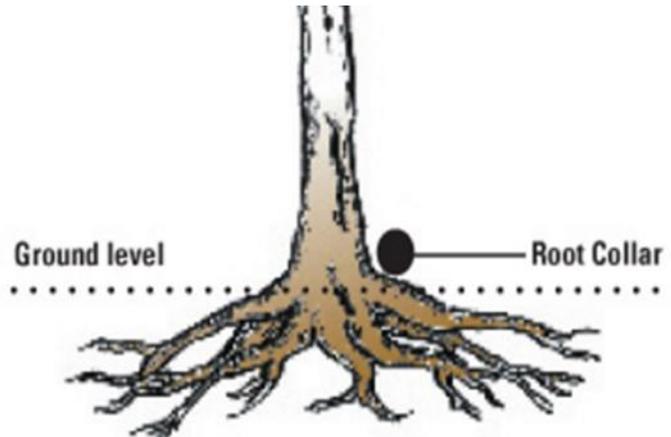
the root system will eventually grow. Trees planted in a lawn will compete with surrounding turfgrass for moisture and nutrients.

Plant Your Tree Properly



- **Don't pick a tree up by the trunk.** To avoid root damage, don't drag or lift the tree by the trunk. Gently guide the tree into the planting hole by the container or root ball.
- **Don't drop or damage the root ball.** Gently remove or cut away the container leaving potting soil firm around tree roots.
- **Dig large planting holes.** Placing a tree into a small or narrow hole impedes root penetration into surrounding compacted soils and the tree may become root bound and eventually die from the encircling roots. The soil should be loosened far beyond the drip line of the plant. Dig the planting hole two-to-three times the root ball diameter (wider is better) to give roots a place to easily spread and grow. Any glazed areas in heavy clay soil should be loosened or scored to allow roots and water to penetrate the sides of the hole.

- **Don't plant trees too deeply.** Many premature tree deaths result from burying the area called the root collar or root flare at the base of the trunk where the topmost primary lateral roots emerge. Burying the root collar underground can restrict gas exchange by roots and may cause rotting of the lower trunk. Growers sometimes may add extra soil over the top of root collar in containers. Before planting, carefully remove any soil over the root collar in the shipping container. Dig the planting hole so the root collar will be one to three-inches above the soil surrounding the hole, and the bottom of the root ball rests on firm soil to help prevent the root ball and from sinking after watering or from soil compaction. When a tree is planted too deeply, the trunk bark is exposed to excess moisture that may promote rot and disease that may destroy the tree circulatory system (the xylem and phloem) just under the outer layer of bark, causing the tree to die from a lack of nutrients.



- **Remove all fabric or plastic covering from the root ball.** Some trees may be shipped with the root ball encased in fabric or plastic. Before planting, remove all material covering the root ball and any wire or other material used to secure the covering material.
- **Provide adequate water.** Planting and caring for trees in a desert environment needs a different irrigation schedule and owner monitoring than in the wetter parts of Texas. The following table from the University of Arizona Cooperative Extension provides guidelines for watering native, drought resistant trees based on the age after planting and daytime temperatures. **These recommendations should be adjusted for the type of tree, seasonal climatic conditions, and soil type.**

Irrigating Schedule for Trees			
Temperature	1st Year	2nd Year	After 2 Years
Over 108°	Every 2 days	Every 10 days	Every 3 weeks
Over 100°	Once a week	Every 10 days	Gradually extend to every 4 weeks
90° - 100°	Every 10 days	Every 2 weeks	Gradually extend to every 6 weeks
75° - 90°	Every 2 weeks	Every 3 weeks	Water if no rainfall for 60 days
*Below 75°	Every 30 days	Every 30 days	Water if no rainfall for 60 days

* Applies year round (including winter months if temperatures are above freezing)

Deeply watering the root ball of young trees and the surrounding soil is crucial the first two years until the tree has developed a large enough root system to survive on less frequent irrigation. In general, thoroughly soaking the entire root system to a depth of 12 to 18 inches each watering helps to establish and sustain a deep, drought resistant root system. Frequent, shallow watering – especially by lawn sprinklers - will encourage a shallow root system that has little drought tolerance and prevents roots from absorbing sufficient oxygen from the soil. The area around the tree receiving water should be increased each year as the root system grows past the canopy dripline and into the surrounding soil. Watering established trees next to the trunk should be avoided as mature roots close to trunks take up little moisture. Apply water to established trees about a foot from the trunk and out to beyond the canopy dripline. After two to three years, the tree should be established and able to survive without frequent irrigation.

- **Don't push mulch up against trunks of trees or create a "mulch volcano"**

Organic mulch conserves soil moisture, moderates soil temperatures, suppresses weeds, and adds nutrients to soil as it decays. Apply two-to-four-inches of mulch out to the canopy dripline and up to, but not touching, the trunk. Gently pull mulch back at least three to six-inches away from the trunk so the trunk does not stay moist and cause rot.

- **Don't drown trees.** Keeping the soil around tree roots completely saturated or overly moist is just as bad as letting it become too dry. Try to achieve an evenly moist (not soggy) environment for trees to grow in and adjust irrigation amounts as needed. Overwatering young native trees may also encourage rapid canopy growth that can make the tree top heavy and prone to blowing over in strong winds.

- **Don't create an artificial environment by adding soil amendments or fertilizer to the planting hole.** To create a natural growing environment, backfill the planting hole with the same soil that was dug from the planting hole.

- **Don't tamp the fill soil.** This causes the soil to compact and could damage roots. Settle the fill soil around the root ball by applying water and add additional fill soil if necessary.

- **Don't stake young trees for too long or too tightly.** Remove grower- or nursery-installed stakes. Stake only if the root ball is unstable or a young, thin trunk is bending. Use wide nylon, canvas straps, or nylon stockings wrapped around the trunk. (Do not use wire to secure the trunk.) The tree should not be held so securely that no trunk movement is allowed. Staking should be removed within the first or second year as the trunk strengthens and the roots expand in the surrounding soil.

- **Protect young trees from deer.** A few neighborhoods in El Paso County do have problems with roaming deer. If you live in one of those areas, a wire cage around the tree (at least four feet in diameter, four feet tall, and staked to the ground) works well. Caging keeps deer from browsing the leaves and bucks from rubbing their antlers on the tender bark.

- **Don't apply "Weed and Feed" or other herbicides near or over tree roots.**

As a tree matures, the root system will expand underground to reach some distance from the trunk. Some herbicides will injure or kill tree roots as well as weeds. These herbicides may remain in the soil around tree roots that grow beneath lawns without breaking down or being leached away. Repeated applications of weed and feed products during the growing season can increase the buildup of herbicide residuals in the soil.

- **Don't injure trees with weed trimmers or lawnmowers.** Improper use of trimmers and mowers next to trees is another leading cause of tree deaths. Wounds on the tree's bark allow fungi, and insects to enter the tree and compete for the tree's carbohydrate reserves. When a tree's circulatory system is cut, it does not regenerate. If a wound encircles the trunk, the tree will almost certainly die as the transport of water and nutrients is blocked. As a tree's health declines, insects and disease may invade the tree and the tree quickly succumbs to accumulative adverse effects.

- **Don't remove more than 25% of the canopy when pruning.** Improper pruning weakens a tree and makes it susceptible to fungi and insects. A young tree needs all the leaves possible to feed the tree and the roots. Examples of improper pruning are "topping", leaving branch or limb stubs, cutting too close to the trunk, and removing all the branches on a limb except for a few at the end. More information on pruning may be found at: http://isatexas.com/wp-content/uploads/2015/10/htprune_USFS.pdf

- **Don't allow construction activities around trees.** Pouring a concrete slab for a home addition, patio, or driveway on top of tree roots can damage or kill a tree. Do not use or store construction chemicals over the root zone. Trenching utility or irrigation lines through the root zone can cut major roots. Plan for, and complete, major construction and irrigation system installations before planting trees.

- **Don't park vehicles or drive over the root zone.** Compacting the soil around the tree can damage the roots and reduce oxygen, water, and nutrient uptake.

- **Don't hit or scrape tree bark with vehicles.** A trunk wound weakens the tree by cutting off the supply of water and nutrients to the canopy, and provides an entry point for disease or insects.

- **Don't use a tree as a pole for fences, mailboxes, auxiliary power boxes or lights.** Nail, screw, and spike wounds weaken the tree and provide an entry point for insects and disease.

- **Check trees frequently.** Inspect all trees regularly throughout the year for signs of stress, damage, disease and insect infestation. Identifying problems early will help to keep your tree healthy and attractive for many years. For problems beyond your ability to correctly diagnose or safely treat, an ISA Certified Arborist can be consulted. Local Certified Arborists are listed on the following website:

<http://www.treesaregood.org/findanarborist/findanarborist>



**EL PASO COUNTY
MASTER GARDENERS**

**Gardening Questions? Call the Master Gardener Help Desk at
(915) 771-2354, or email us at: elpasomg@ag.tamu.edu**