

# To Kill a Maple Tree

## *Confessions from tree owners*

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People probably cause more tree deaths than all insects and diseases combined. Their actions, directly or indirectly, often lead to the trees short life span. In Boerne, the following are some of the most prevalent ways that people have killed their trees.

### Trees die because people:

- 1. Leave their tree unprotected from deer.** Caging keeps deer from browsing the leaves and keeps bucks from rubbing their antlers on the tender bark. A wire cage at least 4 feet in diameter and 4 feet tall staked to the ground works well.
- 2. Leave “to be planted tree” out in the drying sun and wind.** A young tree in a container should be shielded from the hot sun and watered daily or every other day to prevent the tender young roots from drying out.
- 3. Select a bad planting site location.** Bigtooth maples require good drainage. Slopes are ideal. Low spots that hold water will kill the tree. Before planting, fill hole with water, then watch to be sure water drains in a few hours. There must also be space for tree branches and roots to grow and mature.
- 4. Plant a young tree and forget to water it.** A newly planted tree requires 5 gallons of water per diameter inch of trunk every 7-10 days during the first two years. A thorough soaking is best to establish a deep root system. Watering out beyond the root ball to encourage root development.
- 5. Pick the 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.
- 6. Drop and damage root ball.** Gently remove or cut away the container leaving potting soil firm around tree roots.
- 7. Plant tree too deep.** Planting the tree root collar below the surrounding ground level (below grade) is a leading cause of death of newly planted trees, especially in Boerne's heavy clay soils. This can cause lack of oxygen to the roots and rotting of lower trunk, which are leading causes of tree death. The outer surface of roots and trunks are different types of tissue. Roots tissue is designed to be below ground and trunk tissue is designed to be above ground. When the trunk is below grade, the bark is subject to rot and disease as it is not designed to stay moist. This destroys the trees “circulatory” or transport system (the xylem and phloem), which is just inside the outer layer of bark, so the tree dies from lack of nutrients. The bottom of the root ball should be planted on firm soil so it does not sink after watering or soil compaction. By planting root collar 1” to 2” above ground level, water can run away from trunk of tree. Mulch or compost should not touch trunk of tree.
- 8. Create an artificial environment by adding soil amendments or fertilizer.** Back fill planting hole with the same natural soil that came out of the hole. Chemical abuse is another leading cause of death of trees. Too much nitrogen will burn tender young roots, slowing growth, and delaying establishment or kill tree. Create a natural environment.
- 9. Tamp the soil.** This causes the soil to compact and damages roots. Settle the soil with water.
- 10. Use “Weed and Feed”.** All broadleaf herbicides can kill trees as well as weeds and are able to move readily through the soil. They can kill trees at a considerable distance from where they are originally applied. Tree roots go well beyond the drip line. Keep herbicides and chemical fertilizers away from trees. Fabric mulch squares can be used along with or in addition to mulch and may provide better weed control than regular mulch.
- 11. Bang tree with weed trimmer or lawnmower.** Improper use of trimmers is an instant and a 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. The tree's transport system is cut, which does not regenerate. If it is cut all the way around the tree, there is certain death. If the tree is cut on one side, the tree will be weakened. As the tree's health begins to decline, insects and disease invade the tree.

The tree succumbs to the accumulative effects. A 2"-4" layer of mulch over root zone will reduce weeds but must be kept 3"-6" away from tree trunk. Hand weeding around the tree trunk is recommended.

**12. Dig planting hole too narrow.** A narrow hole impedes root penetration into surrounding compacted soil and tree may become root bound. The soil should be loosened far beyond the drip line of the plant. Digging a hole 2-5 times root ball diameter (wider is better) gives roots a place to spread and grow. Any glazed areas in the soil due to digging should be loosened or scored in order to allow roots and water to penetrate.

**13. Push mulch up against trunk of tree.** Apply 2" - 3" of mulch out to the drip line and up to but not touching the trunk. Gently pull mulch back at least 3" - 6" away from trunk so the trunk will not stay moist and cause bark to rot. Mulch conserves soil moisture, moderates soil temperatures, suppresses weeds, and adds nutrients to soil as it decays.

**14. Over-water the tree.** Shallow and frequent watering of a tree prevents the roots from getting enough oxygen and establishing a deep root system. Deep watering of the root ball and the surrounding soil is crucial the first two years until the tree has grown a large enough root system to survive on its own. A young tree with 2" of mulch only needs to be watered a few days after planting, then repeat watering every 7-10 days, skipping only after 1/2 inch rainfall. After 2 years, the tree should be able to survive on its own. The secret is to use mulch around the drip line and to establish a deep root system.

**15. Prune tree limbs way back, leaving less than 2/3 of the live crown.** Improper pruning weakens a tree and makes it susceptible to fungi and insects. A young tree needs all the leaves it can get to feed the tree and the roots. Examples of improper pruning are topping, leaving stubs and the removing all branches on a limb except for a few at the end.

**16. Allow construction activities around tree.** Building a house, patio, or driveway on top of tree roots will damage them. Roots provide nutrients to the tree. Do not use or store chemicals over root zone.

**17. Allow vehicles to park or drive over the root zone.** Compacting the soil will damage the roots below the ground cutting off the oxygen supply.

**18. Allow cars to tap or hit the tree bark.** A trunk wound weakens the tree by cutting off the supply of water and nutrients, and provides an entry point for disease.

**19. Allow trenching for utilities.** Vital roots are cut preventing the absorption of water and nutrients.

**20. Use tree as a utility pole for fences, mailboxes, deer stands or lights.** Wounds weaken the tree.

**21. Plant tree under or near a power line.** Tree then requires regular pruning and topping of tree which can weaken the tree. Pruning less is best.

**22. Stake the young tree too tightly.** Stake a tree only when absolutely necessary to keep it upright and for the shortest time possible. It is not necessary for a tree to be absolutely straight as an arrow. If it is growing in full sun, a maple will usually grow a very straight trunk without any staking. If staking is required, broad bands of cloth webbing should be placed loosely around the trunk of the tree. Using a flexible guying material will allow movement and strengthening of the trunk. Do not use wire. Where the guying material contacts the trunk, be sure to check regularly to make sure it is not rubbing, scratching or cutting the trunk and causing damage to the tree. Check the guying regularly. Stakes and guying should be removed within the first year as the trunk strengthens and the roots expand into the surrounding soil.