



TEXAS A&M FOREST SERVICE

What's Wrong With My Tree?

It hasn't grown since I planted it!

"My tree hasn't grown since I planted it," is a common comment from new tree owners. When it comes to planting new trees no matter what part of Texas you live in this old nursery saying holds true:

The first year it sleeps, the second year it creeps and the third year it leaps.

Tree growing requires a little patience. But, if after three full growing seasons your newly planted tree doesn't appear to have grown, then it is time to do some investigation. Below is a list of common planting errors made before, during and after installing a new tree. Each one could be the reason for slow establishment or slow growth.

- 1. An inappropriate tree species was selected for the planting site.**
- 2. A poor quality tree was purchased at the nursery.**
- 3. The tree was mishandled when transporting the tree from the nursery to the planting location.**
- 4. The tree was neglected before planting.**
- 5. The tree was not planted properly.**
- 6. The tree was not maintained properly after planting.**

Any one of these issues will have an adverse reaction to tree growth. Remember that tree growth is not only determined by genetics but also greatly affected by the surrounding environment.

This information sheet takes a look at each of these concerns.

Inappropriate tree species: All trees have different tolerance levels and intolerance limits their ability to thrive in their environment. Some tree species tolerate very wet soils others very dry soils. Some trees tolerate high pH (basic) soils others tolerate low pH (acidic) soils. Some trees tolerate full sun while others tolerate heavy shade. Some trees tolerate hot temperatures while others tolerate cold temperatures.

So first and foremost, if the tree you planted is not tolerant of the environment where it is planted, then this is likely a reason for slow growth.



Poor quality tree: If individual tree quality is poor, it will have a negative effect on growth rate. When selecting a tree at the nursery, inspect the tree starting at the top or crown of the tree and working your way down to the roots. Things to avoid include an unhealthy crown with too many dead or dying branches or leaves; a skinny trunk with no taper which must be supported by a pole; or a trunk with several wounds or sap oozing. For balled & burlap trees an undersized root ball, broken root ball or dry root ball is undesirable. For container grown trees, an all too common concern is the formation of circling and stem girdling roots. Root crown buried too deep (>2") within the container is also a factor for slow growth after planting.

Handling and transport: When handling a tree, banging and bouncing the root ball of a balled and burlap tree may destroy the integrity of the roots by creating gaps in the soil, drying out the roots, and tearing smaller roots. Scraping the bark off the trunk or tying down the trunk of the tree to the side of a truck or trailer may crush the delicate living tissue of a young tree. Open transport of a young tree (especially if it is in leaf) without protecting it from the drying effects of the wind as you travel will stress a tree and may be a reason for slower growth.

Neglect before planting: The tree you just purchased is used to having daily care and watering at the nursery. Storage of your tree on a hot concrete or asphalt surface in full sun exposes the tree to radiant heat and allows the root ball to dry out. Black containers exposed to full sun may also cook the young roots inside the container. This pre-planting stress will contribute to slow growth.

Improper planting: This is probably the number one reason for your tree not leaping after three full growing seasons. Research has shown that below grade planting adversely affects survival and growth (Arnold et al: *Arboriculture & Urban Forestry* 2007, 33(1):64-69.) As little as three inches below grade can have an adverse effect on growth and increased mortality.



Planted too deep; root crown buried several inches

Planting at or slightly above grade shows greater survival rates, taller trees and increased diameter growth after three full growing seasons. Also, not correcting for circling and girdling roots at the time of planting will have a long-term adverse effect on tree health and growth.

After planting care: Once the tree is in the ground, it needs nurturing to help it become established so that it leaps. Competition from turf or weeds over the rooting area decreases the amount of water and nutrients reaching the tree roots. String trimmer operators are a young trees worst enemy. Weekly debarking around the lower portion of the trunk as a result of grass or weed removal eventually girdles the tree and results in slow growth and eventually death. Piling of mulch around the base of the young tree also may have the same effect. Volcano mulching is similar to planting deeply and encourages fungal growth, rot, decay and stem girdling roots. Keeping the soil wet to the point of saturation suffocates and rots roots and inadequate watering also kills roots. Without roots for anchor and support your young tree will suffer in growth.