

Planting Too Deep Will Kill Trees and Shrubs



Photo by David W. Marshall, UF-IFAS Leon County Extension: The dark soil-stained area on the trunk of this dying shrub reveals that it was planted too deep.

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Im frequently asked to determine the reason many young landscape shrubs and trees aren't growing well. Most of these plants have been planted less than two years, yet they're stunted, declining, and even dying.

Most of the homeowners, pest control, and landscape personnel that asked me to diagnose these problems thought a pest was involved. What was the problem? Was it some new insect or disease that was playing havoc in these landscapes? Is there a Grim Reaper in our gardens? No, the plants were simply planted too deep. This is a very common problem.

Most trees and shrubs will not forgive you for planting them too deep. At best the plant will become stunted. At worst it will die. Planting trees and shrubs too deep is a slow but sure way to kill them.

Planting too deep is a common cause for plant failure. It's surprising how sensitive plants are to being planted too deep. In some cases it only takes planting just a few inches too deep to kill a nice tree or shrub. There are two main ways deep planting causes the death of landscape plants. It not only suffocates the roots, but it also rots the base of the trunk.

Most people don't realize tree and shrub roots must have atmospheric oxygen. Roots grow where there is optimum oxygen. It's the sudden change in availability of oxygen that creates a problem for roots. Plants could have spent months or years growing roots close to the surface and then all of a sudden, in a matter of minutes, someone puts the plant too deep in a hole and covers over the roots with soil and mulch. It's somewhat like putting a pillow over a person's face. There's simply not enough oxygen to survive. This is especially true if you're also watering too much. The roots slowly suffocate, die, and then begin to decay. Weeks or months

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later, the plant's owner realizes something is not right. At this point, they usually begin looking for a pest to blame.

In addition to root suffocation, the lower part of the plant's trunk begins to rot as a result of being planted too deep. The trunk is supposed to be exposed to air, not covered by soil. As a result, the bark and wood begin to rot and the plant's vascular system becomes compromised. It is no longer able to move water and nutrients from the roots to the top or manufactured food (sugars and starches) from the leaves to the roots. Again, death is usually slow.

Because the above scenario is so common, researchers at the University of Florida have changed planting recommendations for trees and shrubs. Following the new recommendations will prevent planting depth problems. For more in-depth information, with illustrations, visit this webpage <http://hort.ifas.ufl.edu/woody/planting/summaryplanting.htm>

Dig a shallow planting hole as wide as possible, at least two to three times the width of the plant's rootball. The depth of the hole should be slightly less than the height of the root ball. Next, find the point where the top-most main root emerges from the plant's trunk. Because many plants will already be too deep in the container, you may have to remove the upper most potting medium before finding one or more main roots. The main roots I'm referring to will be comparable in size to some of the plant's limbs in diameter. If all you're finding at the surface are very small fibrous roots, you'll have to keep digging until you uncover at least one of the main roots. Then set the plant in the ground so the main root is at the soil surface after the plant has been planted.

It's better to err on planting the plant too shallow rather than plant it too deep.

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