

Are you thinking about planting a new tree? If so, did you know the goal in planting is to achieve rapid root growth to reduce the water stress imposed by the limited root system—a stress often referred to as transplant shock.

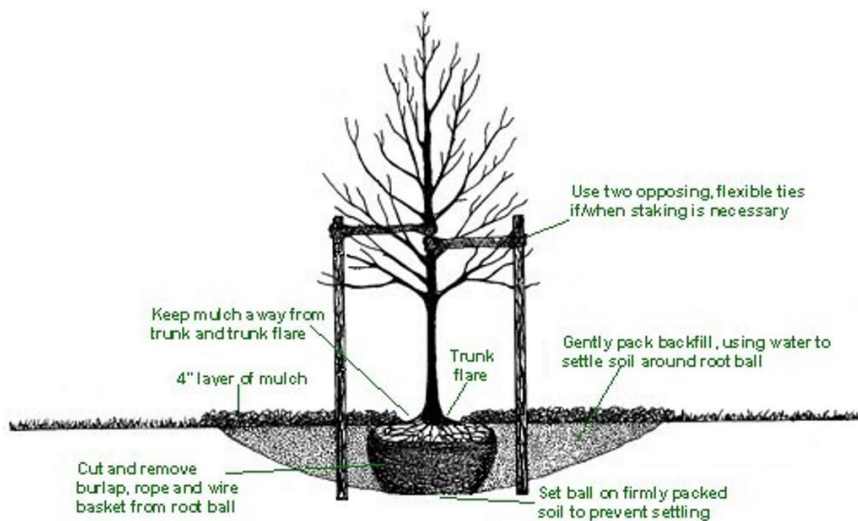
Most nursery grown trees are available either as container-grown or field-grown, balled and burlapped trees. Research has shown that these trees have only five percent to twenty percent of the absorbing roots found on the same size tree growing in an open landscape. Knowing this will perhaps motivate you to pay close attention to common mistakes people make when planting trees.

According to the American Society of Landscape Architects (ASLA) two common mistakes contribute to the highest death rate of newly planted trees. Those two are (1) planting too deeply, and (2) root girdling. The two are closely related. Research has shown trees planted too deeply often develop girdled roots. Root girdling is when the tree's roots encircle the hole rather than growing in an outward direction, ultimately strangling the trunk of the tree. Trunk girdling roots regularly contribute to the decline and death of the tree —something that usually occurs ten to twenty years after planting.

Encircling roots often begin and are exacerbated when a young tree is allowed to grow too long in a container. Perhaps you've experienced the disappointment when sliding a newly purchased tree out of its container only to find a tightly woven mosaic of circling roots. Before planting a tree in this condition, one must root prune. Rather than slitting the root ball all around with a sharp knife, the new standard is to shave off the outer one inch of the root ball on four sides cutting it into a box shape. This encourages roots to grow outward. Keep in mind, root pruning works only if the tree is then planted to the proper depth.

Before digging the hole, look for the root flare in the root ball. Never assume the tree was planted correctly at the nursery. The root flare is the point where the first attached structural roots flare out from the trunk. That is the point of reference used to determine the proper planting depth.

The root ball must sit on solid, undisturbed soil. This prevents the tree from sinking as the backfilled soil settles. If a hole is dug too deeply, backfill it to the correct depth and firm the soil before planting. Dig a saucer-shaped hole, if possible three times the diameter of the root ball. Wide, sloped sides support rapid root growth directing the roots in an upward and outward direction. Roots that do not penetrate this area may begin circling the hole leading to trunk-girdling roots.



When placing the tree into the hole, it is imperative the top of the root ball rises *slightly* above the grade of the surrounding soil. After backfilling the hole, the top of the root ball should appear above the soil surface with no backfill covering it. If

one covers the top of the root ball with backfilled soil, the texture is changed which greatly impedes water and air movement to the roots.

If amending the soil, use only organic matter and only amend up to five percent. When backfilling, avoid compacting the soil by walking or stamping on it. Simply return the soil to the hole and water-in to settle.

Staking might be needed in landscapes exposed to high winds. It is best to water after staking. Avoid compacting the soil while installing the stakes. Watering settles the backfilled soil without overly packing it. Remember, if planted properly, the very top of the root ball should remain visible, with no backfill covering it. A mulch ring of bark or wood chips three to four inches deep is suggested around all trees to conserve moisture, minimize weed growth and protect the tree from such perils as lawnmower and weed-eater damage. Also, avoid having the mulch touch the trunk of the tree.

If tree planting is on your list, I urge you to follow these simple guidelines. By so doing, you will encourage rapid root growth while minimizing root girdling, a major killer of new trees.