

## ROOT STARTERS USUALLY NOT NEEDED AT PLANTING

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Fall is planting time for trees, shrubs and spring flowering bulbs. It might be assumed a starter fertilizer, often referred to as a root starter, is needed at planting. This usually is not the case in landscapes and their use could harm plants and the environment.

A common nutrient found in starter fertilizer is phosphorous, a nutrient that is important to root growth. This is why these products are available for sale.

However, many landscape soils in Nebraska have adequate phosphorous. This nutrient binds to soil and does not readily leach out of soil like nitrogen does.

Too much phosphorous can be harmful. Excessive soil phosphorus reduces a plant's ability to take up micronutrients, especially iron and zinc, even when there are adequate amounts of these nutrients in soil.

Phosphorous is also a leading cause of surface water pollution leading to algal problems. Because it binds to soil, phosphorous typically reaches water through soil erosion and sediment being washed into water; or from lawn fertilizer that lands on pavement and is washed into storm drains.

When it comes to soil amendments, it is best to use a soil test from a lab to determine what is needed and in what amounts. A test from a soil lab is inexpensive and provides basic information such as pH, organic matter content and basic nutrients needed.

There are many products advertised as improving soil or sold along with new plants; however, most only work under specific conditions and some could cause harm. Call your local Extension office for information about soil testing and soil labs.

With fall being a great time to plant trees and shrubs, know that the use of root stimulant products have not been shown to be beneficial. Instead, encourage root growth by digging a wide but not deep planting hole, water and mulch correctly, and avoid fertilizing with nitrogen or pruning at planting.

Tree roots grow outward in larger pore spaces of soil. If soil is hard and compacted, making it hard for you to dig the hole; then it will be difficult for roots to grow. If the soil surrounding the root ball is loosened to at least twice the width of the root ball, this will promote root growth.

While it is important to dig a wide planting hole, do not dig too deep. The root ball needs to be set on firm, undisturbed soil. After planting, the root flare at the base of the trunk should be visible above ground and the first lateral root growing off of the trunk should be just below ground.

If the soil beneath the root ball is disturbed, the tree will settle after planting and end up being too deep. These trees grow slower, do not thrive, and often have increased pest issues throughout their lifetime.

Water to keep the root ball and surrounding soil uniformly moist but not too wet. Tree roots also need oxygen to grow and overwatering lowers soil oxygen levels. Apply organic mulch to a two to four inch depth in a four to six foot or larger ring around the tree to limit competition with grass.

Nitrogen is not recommended at planting as fast release source can burn young roots and nitrogen promotes top growth at the expense of roots.

Pruning, other than to remove double leaders and dead or damaged branches, is not recommended at planting as it removes stored food in branches, photosynthetic tissue, and hormones needed for root growth.