

## Correct Versus Poor Tree Staking

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Each year I see young trees staked with a stiff pole or rod placed against the trunk from the ground almost to the top of the leader; then attached to the trunk so it is rigid and cannot move in the wind.

After planting, this is not a good staking method for trees. It will initially lead to a tall, gangly trunk and eventually to one that may not withstand flexing in the wind as it grows taller.

Research shows trees staked too high on the trunk and too tight have reduced taper and caliper, which is trunk diameter at 6 to 12 inches above ground. There is also reduced root growth and the risk of trunk damage from staking and guying materials.

Tightly staked trees are not as likely to develop trunk flex response to resist storm damage as are trees whose upper trunks are allowed to move with wind from planting onward. I have seen trees whose trunks snapped right above the stem attachment material in high winds.

In windy Nebraska, newly planted trees may need staking to prevent tipping and excessive trunk movement hampering root development or damaging new roots. The key words are root protection.

In home landscapes, focus tree staking on stabilizing the root ball and not on preventing the trunk from moving at all in wind. Trunk movement leads to trunk strength and stimulates root growth to improve establishment. Tree staking also protect trunks from lawn mower damage.

When staking, stake as low on the trunk as possible and for one year only. After staking, about one-half or more of the trunk canopy should be able to move with the wind to help develop strong trunk biomechanics.

Stem attachments are often placed just above the lowest branches to prevent them slipping down. To aid in staking low on the tree, wait to prune off lower branches. This not only helps with staking, but leaving lower branches as long as possible promotes root growth and trunk caliper.

For small to average-sized trees (up to 10 feet tall) wooden stakes are sufficient and should be at least 2 inches by 2 inches by 5 feet long. For larger or heavier trees, or trees in very windy locations, metal fence posts may be needed.

As a rule of thumb, use as few of stakes as possible. If one is sufficient, only use one. Place the stake upwind from the direction of prevailing spring and summer winds. If two stakes are used, run them parallel to prevailing winds.

Drive stakes into the outer edge of the planting hole to protect roots. Keep it within the mulched ring so it is not in the way of mowing. A staking method to consider is driving one stake diagonally into the ground and attaching it to the trunk about two to three feet above ground.

While wire or rope run through a garden hose is a common attachment method used, it is not considered a good method as trunk abrasion and compression does occur, especially if left in place for too long. If hose is used, monitor is closely for signs of rubbing damage and remove it after one year.

Better materials to wrap around the trunk include wide canvas strapping, strips of old carpeting, bicycle inner tubes or burlap. Never place wire or strip ties right next the trunk.

After one year, remove stem attachments. Stakes can be left in place as protection from lawn mowers. After removing attachments, check for tree stability. If the root ball still moves when the trunk is moved, loosely reattach the trunk to the stake for one more season.