Watering Newly Planted and Young Trees and Shrubs

Best Management Practices

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**Kansas State University
Agricultural Experiment Station
and Cooperative Extension Service**

Many trees and shrubs fail to survive transplant shock because they receive too much or too little moisture. This fact sheet offers tips on proper watering techniques.

Watering at planting time

Do not plant moisture-stressed plants. Water thoroughly before planting, at planting time, and again the following day to thoroughly settle the soil and eliminate large air pockets. Water new trees frequently during the first month. Unless it rains, water container-grown or balled and burlapped (B&B) trees one to two times a week during the first month after planting.

Watering during the first year

Proper watering throughout the first growing season often means the difference between success and failure. Problems arise when the medium in the root ball accepts and retains moisture differently than surrounding soil. Backfill soil can be thoroughly saturated, while the medium in the root ball is relatively dry.

Retain water around the base of newly planted trees by building a low berm just outside the planting hole. This creates a basin to retain moisture until it soaks into the root ball and adjacent backfill soil.

Note: An alternative to a handheld garden hose is a 5 gallon bucket with one or more small holes (1/8 inch diameter) drilled in the side near the bottom. Simply fill the bucket and let it leak slowly. Bags made specifically to retain and slowly release water are also available.

After the first month, a weekly soaking to apply approximately 10 gallons of water should be sufficient to support spring- or summer-planted trees and large shrubs on most sites. On sandy soil, split the 10-gallon application into two 5-gallon applications three to four days apart. Larger B&B or spade-dug trees require more water. Add 10 more gallons per inch of trunk diameter greater than 2 inches. (Measure 6 inches above the ground.)

Smaller trees and shrubs may require less water, but the quantity should be sufficient to thoroughly moisten the entire rootball.

Note: In an effort to get new trees and shrubs off to a good start, it is easy to overreact and water too often. This keeps soil excessively wet and causes a different set of problems. Over watering can cause "wet wilt," which looks similar to wilt caused by dryness. When soil stays wet for an extended time, root damage can occur due to oxygen depletion. As a result, leaves wilt and do not recover, even if water is added.

In the absence of rainfall, continue watering newly planted deciduous trees and shrubs until their leaves fall. Evergreens should be watered until the soil freezes. But as temperatures cool and days become shorter, plants use less water. In a typical year, watering evergreen plants can be reduced to alternate weeks by mid-November.

During dry winters, water young plants, particularly evergreens, when the ground isn't frozen and a few days of mild weather are predicted.

Check moisture status as a guide

Adjust the watering schedule based on soil moisture content. Check moisture with a trowel, rod, screwdriver, or probe.

Watering young trees and shrubs during establishment

Continue regular watering as long as the tree is considered a new transplant. Without rainfall, plants require regular watering until they become established. This may take a couple of years depending on when they were planted. The establishment period for trees extends through the first three growing seasons, and even longer for larger-diameter trees.

During the second and third growing seasons after planting, continue to water trees and shrubs every 10 to 14 days if it doesn't rain and soil moisture indicates a need. As the root system of these plants extends during establishment, water in a wider ring around the plants, soaking the soil to a depth of 8 to 12 inches.

Grass competition

Turfgrass growing over the root system of young trees competes for moisture. To reduce competition, maintain a grass-free area around the base of the young tree, extending to the drip line of the outer branches or beyond.

Use mulch

An organic mulch around the base of young trees and shrubs is recommended to keep the soil moisture more uniform and to stabilize soil temperature. Apply and maintain an organic mulch ring 2 to 3 inches deep around the base of the tree, covering the grass-free area. Apply mulch at least 3 feet out from the trunk, creating a ring at least 6 feet across.

Keep mulch a few inches away from the main stem of the plant. Mulch in contact with the lower bark can keep bark wet, contributing to a canker infection or decay. Especially avoid tall cones of mulch around the trunk.

Avoid the use of black plastic or fabric weed barrier as a mulch in landscape beds or borders. Plastic or fabric mulches can cause soil to stay excessively wet. This could contribute to surface rooting and interferes with gas exchange into and out of the soil.

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