

Watering Established Trees and Shrubs

Best Management Practices



After successful initial establishment, it's easy to ignore moisture requirements of trees and shrubs in more mature landscapes. This article addresses that issue.

Location and function

The functional and aesthetic value of trees may influence how much care they receive. Trees that serve a legitimate purpose as landscape elements may justify efforts to maintain their vigor during periods of drought stress. Peripheral trees that are situated away from the developed premises, especially native plants growing on better soil, may be allowed to stress more, even to the point of going into summer dormancy. But even these trees shouldn't be allowed to suffer irreversible drought stress if they have landscape value.

Seasonal transition

Sometimes, we receive adequate to excessive rainfall during spring and early summer, followed by an abrupt change to an extended period of hot, dry weather. Watering may be necessary to help landscape plants make it through the transition from wet to dry.

Root zone considerations

Trees growing in residential, institutional, or commercial landscapes have much less hospitable growing conditions than do trees growing in native woods. In native woods, the soil hasn't been disturbed by construction, and organic matter has accumulated for years. Native soils also may contain naturally occurring beneficial fungi (mycorrhizae) that grow

in a mutually beneficial (symbiotic) relationship with tree roots, aiding in the uptake of nutrients and water – mycorrhizae may not be present in the soil on disturbed sites.

Even established trees and shrubs in landscape plantings will benefit from supplemental irrigation during periods of drought. Trees that have been planted for three to five years benefit from deep watering on a regular basis. However, the interval can be extended to two to three weeks between applications. (Check soil moisture as a guide.)

To maintain the vigor of trees that have been growing in place for more than five years, soak the soil to a minimum depth of 12 inches, out to and beyond the drip line, every three to four weeks if it doesn't rain significantly in the meantime. A rain gauge to measure natural precipitation is essential for determining proper tree irrigation frequency.

Remember, the feeder roots on an established tree will extend well beyond the drip line. In the case of upright evergreens and other columnar/pyramidal varieties that don't have wide spreading branches, it's essential to water established plants beyond their drip line, as the roots may extend to a distance of twice the height of the tree. Also, consider that most of the feeder roots are in the top 12 inches of soil.

Avoid watering established trees at the base of the trunk. The absorbing roots are farther out. Note: It's unwise to plant a ring of flowers around the base of a tree, necessitating regular watering

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that could contribute to basal decay.

Narrow-leaved (needle) and broad-leaved evergreens:

Evergreens are more prone to drought damage during the winter months than are deciduous plants. Complicating matters, these plants don't exhibit symptoms of drought stress as quickly as a deciduous plant. This delayed response may cause a false sense of security on the homeowner's part, resulting in failure to water until irreversible damage has occurred.

Established shrubs: Established shrubs should be watered so the soil is moistened to a depth of 8 to 12 inches every couple of weeks. In mixed landscape borders, trickle or drip irrigation systems work well for this purpose.

Mulch

The mulch ring maintained around young trees can be extended out several feet each way around older

trees. This broad mulched area covers surface roots and makes it unnecessary to try to keep grass watered, where it is growing in competition with tree roots.

Application methods

When applying water around established trees, use any method that thoroughly moistens the soil to a depth of 12 inches or more out to and beyond the drip line. Methods that apply the water directly to the soil surface will be most efficient. A porous soaker hose works well, or just let a pencil thin stream of water from a garden hose soak the ground before moving it to another location. Don't expect to adequately water an established tree with a hand-held hose. It's unlikely you will be willing to stand there long enough to do much good. Water lances or "root feeders" aren't as suitable as surface application in most cases, because they may introduce the water deeper than the surface-feeding roots. However, on steep

slopes or in impervious soil, they may be useful. If such devices are used, they should only be inserted a few inches deep and the water should be released at a very slow rate so that underground air pockets aren't created by a high-pressure stream of water.

Enhance rainfall

Because water moves more readily into moist soil, it might be wise to apply additional water immediately following rainfall of 1/4 to 1/2 inch to move water deeper into the root zone and to maximize the benefit of light precipitation.

Winter watering

Be sure to thoroughly soak the soil around established trees and shrubs before the ground freezes in the fall. And, in the case of a dry winter, water during a mid-winter thaw when the ground isn't frozen and a few days of mild weather are predicted (especially evergreens). Be sure to disconnect and drain the hose.

Authors

Charles Barden, forestry specialist
Emily Nolting, commercial horticulture specialist, retired
Phil Sell, horticulture agent, Shawnee County, retired

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