

Watering Established Trees and Shrubs

Best Management Practices

After successful initial establishment, it is easy to ignore moisture requirements of trees and shrubs in mature landscapes. This fact sheet addresses that issue.

Location and function

The functional and aesthetic value of trees might influence how much care they receive. Trees that serve a legitimate purpose as landscape elements justify efforts to maintain vigor during periods of drought. Peripheral trees 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 should not be allowed to suffer irreversible drought stress if they have landscape value.

Seasonal transition

Sometimes, the landscape receives 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 the transition from wet to dry.

Root zone considerations

Trees growing in residential, institutional, or commercial landscapes have far less hospitable growing conditions than do trees growing in native woods. In native woods, 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 the uptake

of nutrients and water. Suitable mycorrhizae may not be present in the soil on disturbed sites.

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

To maintain 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. A rain gauge to measure natural precipitation is essential for determining proper tree irrigation frequency.

Feeder roots on an established tree extend well beyond the drip line. In the case of upright evergreens and other columnar/pyramidal varieties that do not have wide, spreading branches, it is essential to water established plants beyond their drip line because roots can extend laterally twice the height of the tree. Also, consider that most feeder roots are in the top 12 inches of soil.

Avoid watering established trees at the base of the trunk. Absorbing roots are further out. It is unwise to plant a ring of flowers around the tree base. Doing so necessitates regular watering, which could contribute to basal decay.

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

Evergreens are more prone to drought damage during the



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winter than are deciduous plants. Complicating matters, these plants do not exhibit symptoms of drought stress as quickly as deciduous plants. The delayed response could result 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 several feet around the trunks of older trees. This broad mulched area covers surface roots and makes it unnecessary to try to water grass, where it could compete 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 water directly to the soil surface are most efficient. A porous soaker hose works well, as does allowing a pencil-thin stream of water from a garden hose soak the ground before moving it to another location. Do not expect to adequately water an established tree with a handheld hose. Water lances or "root feeders" are not as suitable as surface application because they can 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 be inserted just a few inches deep. Water should be released slowly, so underground air pockets are not 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 after rainfall of ¼ to ½ inch to move water deeper into the root zone and maximize the benefit of light precipitation.

Winter watering

Be sure to thoroughly soak the soil around established trees and shrubs before ground freezes in the fall. In the case of a dry winter, water during a midwinter thaw when ground is not frozen and a few days of mild weather are predicted. This is especially important for evergreens. Disconnect and drain the hose after winter watering.

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