

Dealing with the Drought



Watering Trees and Shrubs

There's an old adage that a 90-foot oak tree with a 90-foot spread will lose more than 90 gallons of water daily when the temperatures are about 90 degrees. Whether the story is 100 percent true or not, the point is that trees do lose lots of water when the temperature climbs. They just don't wilt as obviously as other plants.

Fortunately, most trees and shrubs have a fairly extensive root system once they become established. But, it may take five to ten years for a tree to become fully established rather than the one or two years we might expect. In addition, most tree and shrub roots are not buried deep in the soil. More than 90 percent of a tree's root system is within the top 12 to 15 inches of soil. Few water-absorbing roots are located at the trunk or under the canopy of trees and shrubs. The hair roots, which take in the water, are located at the plant's drip-line, or outermost branches, and beyond. That layer is also the part of the soil that dries out the fastest during hot, dry conditions.

We often assume an established tree or shrub can withstand droughts better than tomatoes or impatiens. While the oak and lilac might be able to go without water for a while, there comes a time when they are water deprived.

Woody plants do wilt, but generally they are genetically programmed to safeguard themselves against drought conditions. Some trees such as birches and tuliptrees (*Liriodendron*) will shed leaves to cut down on water loss. Oaks and beeches develop a thick waxy coat to reduce transpiration. Needled evergreens such as spruces, yews, juniper and pines have resins that protect the plant from drying out quickly.

While tomatoes and impatiens are worthy plants, they aren't as valuable in the grand scheme of things. Annuals can be replaced each year; their value is only in the short term.

Trees may take 40 to 100 years to mature. Shrubs may take 5 to 10 years. These plants are a long-term investment and cannot be easily replaced. Limited watering efforts should be directed toward keeping trees and shrubs healthy.

On the plus side, woody plants do not need to be watered every day or even every week. A bi-weekly watering schedule should provide sufficient water as long as the watering is done properly.

Our 90-foot oak example could have roots at least 40 feet beyond the tree's drip-line. The same goes for most shrubs. So, apply water at the tree or shrub's drip-line, not at the trunk.

Root feeders are one method of applying the water, though they require frequent moving. Soil soakers are another option, but the water does not tend to soak in as deeply in an average time period. Soakers almost need to be left running overnight to adequately water a large tree. A garden sprinkler may be the best choice, provided the water is applied slowly so it soaks in rather than running off.

The goal is to provide at least 1 to 2 inches of water every two weeks. Place a 1-inch thick can, like a tuna fish or cat food can, near the drip-line. As soon as the can is filled, empty it and allow it to refill once more.

Water-loving trees such as birches, alders, poplars, tuliptrees, pin oaks and silver maples may need at least 3 inches of water when temperatures climb above 90 degrees. These trees are best watered once a week.

Remember that plants growing under a tree, including flowers and turfgrass, may absorb the water before trees and shrubs—especially

if sprinklers are used. Most sprinklers need to be on for 90 to 120 minutes to provide the correct amount of water. It's better to apply the entire 1 to 2 inches of water in one slow application than small amounts daily.

You can test your watering depth by sticking a metal rod into the soil. If watered properly, the soil should be moist at least 12 to 15 inches deep.

Some shrubs, including hydrangea, always appear wilted or on the verge. It may be necessary to water them every day or every other day.

Water early in the morning to reduce evaporation. Avoid the temptation to wet the foliage, as diseases are more likely to occur.



Mulching out to the drip-line of trees and shrubs helps conserve moisture, although many homeowners frown on the huge mulch rings that would be needed for large, mature trees.



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