

How to water established trees

I have been doing some online research on watering established trees. It is amazing how much contradictory information is out there! Some say water once or twice a week for twenty minutes, others suggest monthly for several hours at a time. As always, the reason for the spread is partly due to the fact that it depends on many, many factors - what type of tree, where does it live, what is the soil like, what time of year is it, how much natural precipitation is there, how windy is it, how old is the tree... - and partly due to the fact that it is the web, duh!

So I put together the best info I could find (I find university and ag extension websites to be more accurate, though even some of these have pretty funky info) and wrote it up in one of my gardening tip sheets: [How to water established trees](#).

Basically, water when the tree needs it. It is best to water before it shows signs of drought-stress (wilted leaves, yellowed leaves, stunted growth, and general malaise). You will get to know when your trees need water by observing them and checking the soil, a soil probe is an excellent tool for this. Moisture probes are a great concept but they break very easily, giving incorrect readings.

When you water, as with most plants, make sure the [root zone](#) gets wet, and then lay off the water until it has dried pretty well. Again, a soil probe is helpful until you are comfortable with caring for your trees. The [root zone](#) under established trees can extend approximately 2 to 4 times the diameter of the dripline. Yes, that big!

Water and nutrients are typically absorbed in the top 12 to 18 inches of soil, so again, that is where you want the water to be. If you water several times each week for 20 minutes per time, use your probe to see how far down the water is reaching. In my yard this will dampen the top inch or so. The tree's tiny little root hairs will congregate right under the surface to absorb this water. Next time it reaches 110 degrees, those root hairs are going to be mighty hot. It would be much better for the tree to have a more extensive root structure collecting water throughout the soil and down to a depth of at least 12 inches. It won't dry out so fast and won't get stressed as much.

According to [University of Arizona, Cooperative Extension](#):

"The soil surrounding the plant's roots, called the "root zone," serves as a storage tank from which the plant draws moisture and nutrients. Most trees and shrubs shed rain water to the "drip line," much like an umbrella. **The most active water absorption area is at the drip line and beyond, not close to the trunk.** This is where you should water. Most of the roots spread 1 1/2 to 4 times as wide as the plant's canopy."

Mulch is a great way to save water but make sure that the water penetrates the soil below, otherwise the roots will just grow in the mulch - a bad thing! And please keep the [mulch away from](#)

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[the trunk](#) of the tree. First of all this provides nasty micro-organisms a perfect place to grow and live and enter the tree. Second, it encourages lots of root growth near the trunk that can ultimately girdle and strangle the tree.

The type of tree really matters, too. Native evergreen oaks go dormant in summer and all you get by watering them during the heat is the likelihood of causing root rot. Native trees that grow in wet riparian areas, like alders, cottonwoods, willows and even sycamores, need water all year. Water deep and occasionally. Sometimes older riparian trees have tapped into deep underground sources and don't need supplemental water; however, we have pumped so much ground water out that this is not common. Nevertheless, if you have an old tree that seems to be doing fine on its own, don't mess with success.

Finally, remember that watering newly planted trees, for the first five years or so, is not at all the same as watering established trees. They usually have undersized root systems and therefore need to be watered often, though constantly soggy soil will starve the roots of oxygen even for these plants. The tips on the attached sheet apply to established trees, whose roots typically extend beyond the dripline.

Sources

[Healthy Roots and Healthy Trees](#) by J.M. Sillick and W.R. Jacobi 1 (3/09)

[Mulch and Planting Depth Affect Live Oak Establishment](#), University of Florida

[Mulch can damage trees](#), University of Florida

[Picture of tree roots](#)

[How to water your tree](#), Vacaville Tree Foundation

[Watering Shade Trees](#), Missouri Department of Conservation



Magnificent old oak at [Chino Basin Water Conservation District](#). Picture was taken in 2007. Notice that mulch is allowed to accumulate beneath the tree. Hopefully it is not receiving any supplemental irrigation.