

Watering Landscape Trees in Wyoming

Adequate watering is one of the keys to growing healthy trees in Wyoming. In many parts of the state, we do not receive enough precipitation to support trees; therefore, supplemental watering is required. Trees that have not received adequate water can become stressed. Stressed trees are more susceptible to pests and diseases and will have a shortened life span.

Too much water can also be an issue. If the soil is saturated with water for too long, tree roots can become starved of oxygen.

THINK ABOUT TREE ROOTS WHEN YOU WATER

Though you generally can't see them, tree roots are very important to the health of a tree. Tree root systems, which often spread out horizontally to a distance 2–5 times the height of the tree, are composed of different types of roots. Large woody roots provide anchorage and storage, among other functions. Smaller, finer feeder roots (which attach to the larger woody roots) carry out most of the water and nutrient absorption the tree requires. These fine roots tend to grow closer to the soil surface and are located beyond the leafy edge of the tree canopy (also known as the drip line of the tree). To allow these water-absorbing roots to efficiently access water, place water along and beyond the drip line.

Note that lawn grass roots will compete with trees for any water that is applied. Existing automatic sprinkler systems set up to water lawns can only provide enough water for trees if they run long enough that the moisture reaches 10–12 inches into the ground.

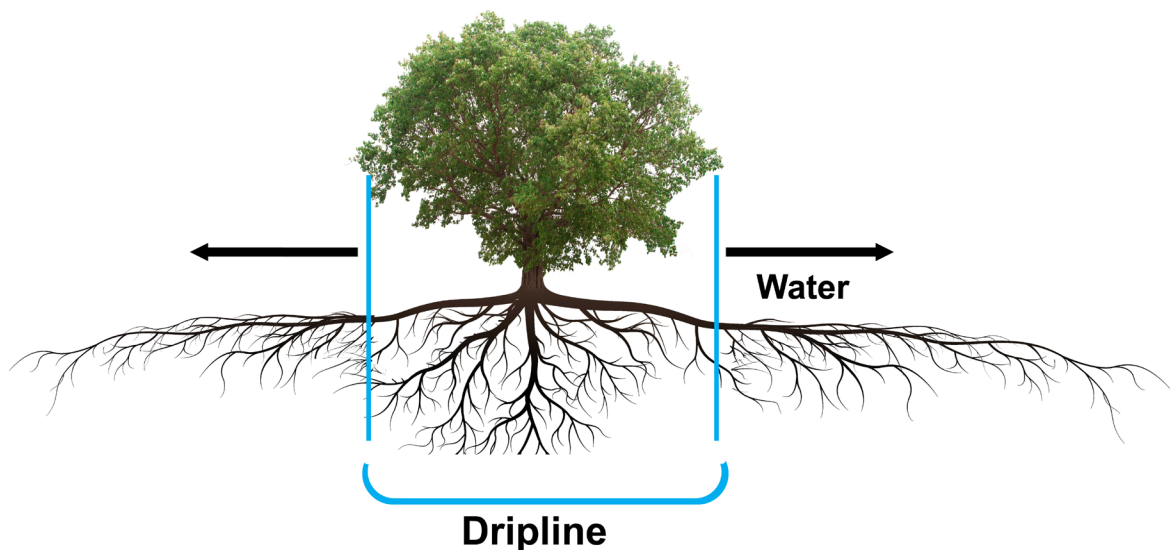
EFFECTIVE WATERING

When watering trees, water should be applied slowly, without runoff. Only water as fast as the ground can absorb the water. This absorption rate varies based on your soil type and other factors.

When watering a tree, make sure the top 10–12 inches of soil are moistened. You can test whether this area is moist by taking a long (12-inches plus) screwdriver or similar type of metal rod and pushing it into the soil. If the screwdriver/rod **cannot** be easily pushed 10–12 inches into the soil, it is time to water.

One good rule of thumb when watering trees is to provide 10 gallons per week per inch of the trunk's diameter at about 2 feet high on the tree. For example, if the trunk is 8 inches in diameter at that height, then the tree requires 80 gallons of water per week.

To make sure that your tree is receiving an adequate amount of water, it's important to measure how much water is being



applied. Below are two ways to determine that your tree is receiving the right amount of water.

Measuring gallons applied via a garden hose – You can water a newly planted tree by running a hose on trickle at different spots around your tree. To measure the amount of water being applied, put the end of the hose in a gallon container. Note the time and turn the hose on at a trickle. If it took 3 minutes to fill the gallon container and your 3-inch diameter tree needs 30 gallons per week, then you would need to run the trickle on that tree for 90 minutes per week.

Note that this method is often inadequate for larger, established trees due to their spreading, shallow root systems. Sprinklers and other systems can cover these root areas more thoroughly.

Measuring depth watered by sprinklers – Do this measurement when the top 6–8 inches of soil are dry. Place an empty straight-sided can, pot, saucer, or calibrated measuring device in the sprinkler area. Turn your sprinkler on and note the time that you started the sprinkler. When the container contains 1 inch of water, stop the timer and check to see how far down the soil is moist (using a probe or digging down with a trowel). If it is not moist down to at least 8 inches, start your timer and water until you collect another ½ inch to 1 inch and check the soil moisture again. Repeat until it is moist down to 10–12 inches. Note how much time it took for your sprinkler to deliver this much water. You can then check the soil during the next week and see how many days it takes for the top 6–8 inches of soil to become dry. Note that the number of days between watering will vary with the temperature outside.

Watering by sprinkler is most efficiently carried out when evaporation factors are low—when the temperature is cool (such as early morning) and there is little wind.

Either of these methods can be used with **drip systems**. Remember that newly transplanted and young trees have a

small root system that should be watered regularly for the first few years. Initial drip systems are great for watering young trees but are usually inadequate for older and more established trees. If you would like to use a drip system for larger trees, you must have the right-sized lines and emitters to deliver more water over the larger root system of more mature trees. For more information on sizing drip systems, see <https://bit.ly/usu-irrigation-calculator>.

Remember that however you irrigate your trees, watering should be reduced when your yard receives precipitation from rain or melted snow.

WINTER WATERING

Trees, particularly conifers, also benefit from winter watering. The screwdriver test can be used in the winter months to determine if it is time to water. If the air temperature is above 40°F and the screwdriver can be inserted easily into the ground, then the ground is not frozen. You can apply water midday to allow the water to soak into the soil before it freezes again at night. See UW Extension bulletin B-1186R at <https://bit.ly/winter-water> for more information on winter watering.

MULCHING

Mulching around trees helps to conserve soil moisture and keep trees healthy. Mulch should be applied in a layer 3–4 inches thick and 2–3 feet or more around the trunk. Keep the mulch 2–5 inches away from the trunk to prevent pest damage and disease.

Trees are a large investment for your property and generally the most expensive part of your yard. They take many years and a lot of care to replace. It is important to take care of them with proper irrigation so you can enjoy them for decades to come.

Questions? Visit <https://bit.ly/uwe-counties> to contact a local UW Extension office.

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