

# Watering Trees

## Fact Sheet 3.4

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Water is the most limiting factor for tree survival and growth. Trees use water during photosynthesis and lose water during transpiration. Drought conditions can lead to tree decline, making the tree more susceptible to pest problems. Supplemental watering should be part of the tree-maintenance plans, especially during periods of water deficits and in areas where surface temperatures are escalating.

**HOW TO WATER?** Ideally, watering should begin when soil moisture reaches some critical level. However, most homeowners do not have the instrumentation to measure soil moisture. Thus, precipitation events should be monitored and the soil observed to evaluate when watering is needed. Trees should be watered before they show symptoms of leaf curling or leaf detachment due to a lack of moisture.

The best way to water trees is gradually with a soaker hose or by trickle or drip irrigation. Sprinklers are less efficient, but they are easy to use. Use an organic mulch to conserve moisture and apply water over the top of the mulch. Do not concentrate the water at the base of the tree. Most of the fine feeder roots of trees are located several feet from the trunk. Excessive watering at the base of the tree can lead to pest problems and root diseases.

**WHERE TO WATER?** Watering should take place beneath the crown of the tree and extending a few feet beyond the drip line of the crown. Trees need not be watered closer than 3 feet to the base of the trunk and not much beyond the drip line. These are the areas generally beneath the foliage and shaded by the tree. Be sure that the water slowly soaks into the soil and does not run off. Use mulch and slow application rates and growth. Grass and other landscape plants adjacent to trees will also benefit from deep-soaking water. Young, recently planted, ball-and-burlap trees also require frequent watering.

Since water moves downward more than sideways, application of water should be directly over the planting area or the root ball.

**WHEN TO WATER?** The best time to water is during the evening hours and at night. Trees have a chance to replenish their moisture during these hours when they are not as stressed by hot temperatures. Watering at night allows effective use of water and less evaporative loss.

**HOW MUCH WATER AND HOW OFTEN?** The amount of water used in irrigation will depend on soil texture and structure, temperatures and the amount and timing of previous precipitation. Trees in limited rooting areas (thin soils), in containers or pots, on slopes, adjacent to warmer surfaces and in sandy soils will probably need more water. Trees in heavier soils with greater water-holding capacity will require less water. Over watering these sites often leads to anaerobic soil conditions, leading to root diseases or death.



Image by Wayne K. Clatterbuck

*Example of mulched areas free of vegetation under the drip line of trees.  
 Watering should be concentrated in these areas.*

Water use by trees increases with increasing temperatures. Trees surrounded by pavement or adjacent to other energy-absorbing, increased-temperature surfaces can be 20 to 30 degrees warmer



