

## Watering Trees During Drought

Drought stress shows up on trees in a variety of ways. Premature leaf drop, wilting, yellowing, leaf scorch, and canopy thinning can often be associated with drought stress. Drought-stressed trees are also often highly susceptible to insect and disease attack. Some trees handle drought better than others. Most long-lived native trees, like Live Oak, Cedar Elm, and Pecan, perform fairly well during normal drought periods during the summer. However, this year's drought is much more severe than usual, therefore even native drought hardy trees should be watered. Newly-planted trees, evergreen trees, trees located on shallow rocky soils, and urban trees with limited root space are more prone to water-related stress.

**How often to water?** Distressed trees should be watered at least **once every two weeks** during periods of drought. Newly-planted trees need watering more frequently. Water **deeply**, approximately 6" to 8" into the soil below the dripline of the tree. Avoid shallow, frequent watering. You can test the depth of water penetration into the soil by using a long screw driver and evaluating the ease with which it goes into the soil.

**When to water?** Check with your local water utility company for watering restrictions. Many utility companies limit the time of day, method, and duration of the watering to prevent water waste.

**How much to water?** Trees usually need at least 10 gallons of water for each inch of trunk diameter (width across) per two week watering interval. For really large trees this should be increased proportionately. A twelve inch tree would typically need:  $10 \times 12 = 120$  gallons of water. The amount of time it takes to output this much water will vary greatly from house to house. You should measure the amount of time it takes your hose to fill a 5 gallon water bucket and extrapolate that to determine how long it will take you to output your needed volume of water.

**Methods of watering:** Slowly soaking the soil is the preferable application method in order to prevent runoff. This can be accomplished by the following methods: slow drip from an open-ended hose or spray nozzle, or soaker hose to encircle trees or to cover a larger area.

**Watering saucers / diversion berms:** Four to six inch tall berms of soil (watering saucers) can be built to help direct water directly onto tree rootballs. For newly-planted trees, the inside edge of the berm should be directly over the outside edge of the tree rootball. This directs irrigation water directly into the rootball, instead of into the backfilled soil around the rootball.

**Where do trees need water?** Try to water the soil area that is directly beneath the foliage and shaded by the tree (under the tree's drip-line.) Young trees that have been in the ground less than two years don't have many roots out away from their original rootballs, so be sure to concentrate water into the original rootball.

Old, established trees should be watered throughout their drip area. Avoid repeatedly wetting the trunks of trees or keeping tree trunks wet for prolonged periods.

**How else can trees be protected from drought?** Mulching a tree's root system with a three inch layer of hardwood mulch conserves water, improves water percolation into the soil, decreases water evaporation from the soil, cools the root system, and generally improves overall tree health. Mulch also reduces competition between the tree and turfgrass.

