University of California
Agriculture and Natural Resources

UCCE Master Gardener Program
San Luis Obispo County

LANDSCAPE TREES DURING DROUGHT

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Californians concerned about water resources during the drought are making tough choices involving home irrigation. Reducing irrigation takes a toll on landscape trees already struggling through the drought. Mature landscape and fruit trees are worth saving. Recognizing signs of drought stress along with informed irrigation practices can help save these valuable trees.

Recognizing Drought Stress

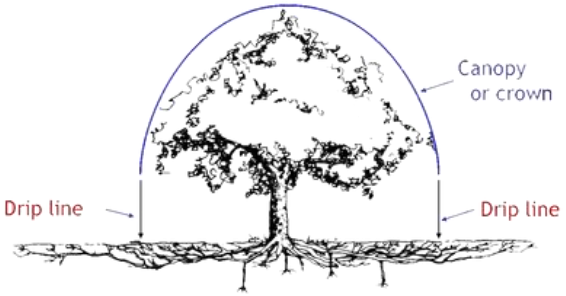
Examine your trees for the following signs of drought stress in the late afternoon

- Wilting, drooping or yellow leaves which may curl or drop.
- Leaves which are faded green or gray. Leaves brown at the tips, margins or between veins
- Yellow, red or purple discoloration of evergreen needles or tips.
- Even if drought stress does not kill a tree, it can increase its susceptibility to pests and disease.

Deciding Whether to Keep the Tree

It's time to decide which trees to keep and which to remove. Consider removing trees not suitable for your climate or soil. Water-thirsty trees native to high rainfall areas require more water and cost more money to maintain. Likewise, if a tree is causing unsafe conditions such as roots disrupting sidewalks or growing too close to your house foundation or sewer lines, removing the tree now will save both water and maintenance costs.

How to Water Correctly



General Rules:

- Roots are generally located in the top 3 feet of soil. The most active zone of water absorption is in the area from the drip line outward.
- Apply water slowly and deeply to the root zone to avoid runoff.
- The goal is to water enough to moisten the top 12 inches.
- The frequency of irrigation depends on multiple factors such as tree species, water needs, evapotranspiration rate, and soil type. However, a general guideline is to irrigate trees every 5-10 days with approximately 10 gallons per inch of trunk diameter.
- Water deeply and infrequently as opposed to short frequent irrigations and always consider the water holding capacity of your specific soil in addition to the evapotranspiration rate and climate. Clay soil will hold water longer than sandy soil.
- Use a soil probe two days after irrigation to make sure irrigation was sufficient. Use a metal probe, long screwdriver, or straightened wire coat hanger and push it into the soil. The probe will move easily through moist soil indicating the depth of moisture. Adjust your watering schedule based on these findings.
- Plants in full sun need more water than those in shade. Established trees need less water than newly planted or young trees.
- Do not dig holes in soil to move water deeper as this may damage tree roots.

Tree Ring Irrigation Contraption (TRIC)

There are several ways to accomplish deep, slow watering including encircling the tree with a soaker hose, using a hose with a shower attachment, using drip irrigation, or using a soil needle (deep root feeder). A more precise method of water delivery is a system called Tree Ring Irrigation Contraption (TRIC) developed at UC Davis. This device circles the tree at one-foot intervals and enables homeowners to adequately water trees to the depth of 3 feet around the perimeter of the tree. More information about this device and instructions on how to make the device is available online at: http://ccuh.ucdavis.edu/public/drought/tree-ring-irrigation-contraption-tric-1/tree-ring-irrigation-contraption-tric

The following are tips to help trees better tolerate drought conditions and conserve water:

- Prevent soil compaction around trees and avoid disruption of tree roots. Remove any plants under the tree's canopy which compete for moisture, especially turf grass or weeds.
- Mulch under and around tree to a depth of 4 inches, but keep mulch 6 inches from tree trunk to prevent disease. Use organic mulch and avoid rock mulch as this can increase water needs of tree.
- Do not fertilize or prune trees as this encourages new growth which increases water requirements. However, pruning to remove diseased, damaged or dead branches is encouraged to minimize unnecessary stress.

Coast redwoods

Coast Redwoods are native to a narrow fog drenched coastal area of California and Oregon which receives a minimum 30 inches of rain per year. The various microclimates and alkaline clay soil of San Luis Obispo County are ill-suited for redwoods. Coast Redwoods in this county require ample irrigation to ensure their health.

- Mature redwoods need approximately 10 gallons of water every day or 70 gallons per week.
- Long, deep soakings are required; not short, shallow irrigation.
- Keep the top 18 inches of soil moist, but not soggy.
- Leave leaf litter on the ground. If needed, add 2-4 inches of mulch, but always keep mulch away from trunk.

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Availability	on VMS > News/Docs > Documents/Presentations > INFO DOCS > Drought: Landscape trees during drought	
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