

Protecting Trees During Drought & Water Restrictions

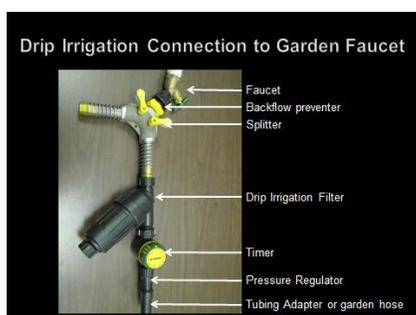
Trees are the most valuable investment in all landscapes.

- Trees provide shade which moderates both the outdoor and indoor environment.
- Tree leaves clean air by intercepting airborne particles and absorbing pollutants like carbon monoxide, sulfur dioxide, and nitrogen dioxide.
- Tree roots slow down, absorb and clean storm water.
- Trees remove, trap and use carbon dioxide and produce oxygen.
- They act as noise, sight and wind buffer and increase the value of your home or business.

Trees may require extra attention during drought and water restrictions. Many cities allow watering trees during water restrictions for a certain length of time. There may also be time of day and day of week restrictions. Each city has a drought and water emergency plan which will list the water restriction in stages and what irrigation is allowed for each stage. Read and follow your city's water restriction directions to help protect your landscape, trees and water resources. The most restrictive water stages may limit the amount of time allowed to use automatic irrigation systems. These stages are when you should consider watering trees as individuals to make sure the trees do not suffer.

1. **Water Slowly:** Water moves slowly into dense clay soil as gravity pulls the water down and the capillary action of the soil spreads water horizontally. Watering slowly allows the water to percolate deeper reaching the water absorbing roots which are located in the top 6 to 10 inches of soil.

Soaker Hose: Utilize soaker hose/hoses around the tree to water. Place the soaker hose at the drip line of the tree and beyond. Attach a garden hose to the soaker hose and turn on at the faucet. Use a faucet timer to run the water for the desired length of time and to ensure the water turns off (*Note: turn the faucet off after the timer has completed its cycle*). Read the soaker hose instructions. Most will say to run the soaker hose for 2 hours. Soaker hoses run at a low pressure created by a restrictor, usually a plastic disk with a small hole at the faucet attachment end of the soaker hose. This disk must be in place for the soaker hose to work properly. When attaching 2 or 3 soaker hoses together to water a large tree, keep the disk in the soaker hose attached to the faucet and remove the disk from the additional hoses (*Be sure to store extra disks for later use*).



TIP: For faucet attachments, make sure you have a backflow preventer on the faucet. Add a splitter or manifold to each faucet so you can use the faucet as needed for other uses (see picture).



Soaker Hose attached to Garden Hose and Faucet Timer

Drip Irrigation: Many cities allow drip irrigation during certain water restriction stages. Check your water utility web site or customer service for specific information. Drip irrigation applies water very slowly so little is lost to evaporation, wind displacement and runoff. Place drip irrigation tubing around the tree at the drip line of the tree (see diagram). Attach the drip tubing to a sprinkler system on a separate zone or with a garden hose attachment to water with a garden hose from a garden faucet. If the sprinkler system has or had a bubbler tree watering zone, this could be utilized to attach drip tubing. In fact some cities now require new sprinkler system to use drip tubing around trees instead of bubblers. Always check with your water utility to sure make drip tubing is allowed to run off an automatic sprinkler system during their water restriction stages.



Drip Tubing Attached to Sprinkler

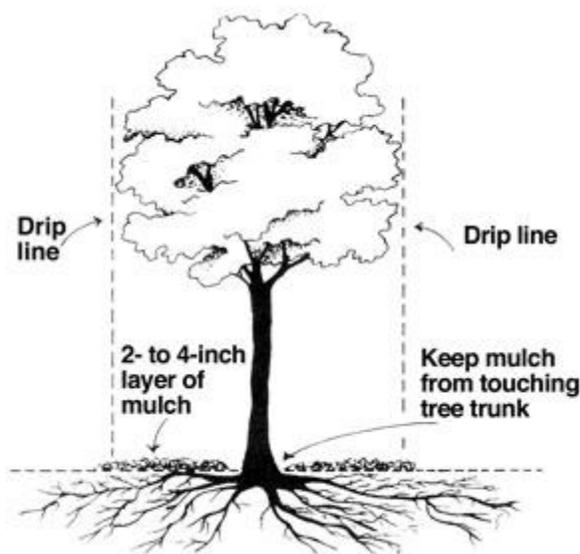


Drip Tubing with Hose Attachment

Water Bag System: If soaker hose or drip tubing is not the answer, a water bag or pillow system is a good choice. These systems work best on newly planted or smaller trees. Newly planted trees are more susceptible to drought damage than established trees. Water bag/pillow systems apply water close to the trunk which works for a new or small tree. Large trees require water at the drip line. These bags/pillows come in many sizes and are available in most garden centers or on-line. Fill the bag regularly once or twice a week depending on the temperature and lack of rainfall.



2. Do not plant trees during a drought. It's better to wait until the soil has regained some moisture. Trees are best planted in the fall, winter or early spring.
3. Never prune a tree during a drought. It reduces the tree's ability to make food, transport water and survive.
4. Do not give up on the tree just because the leaves drop or turn brown. Trees may go dormant during a drought. (Pine trees are the exception.) Some trees drop leaves to reduce transpiration, the loss of water from the leaves. Transpiration is a natural tree process. Transpiration increases when the temperature and wind speed increases, when the relative humidity drops and when solar radiation is highest. Keep watering.
5. Do not fertilize trees during a drought. This also means do not fertilize the grass or groundcover growing under trees. Slow growth and respiration will compensate for the lack of water.
6. Monitor trees for symptoms of stress. Trees are like people — when under stress, they are more susceptible to disease and insect attacks.
7. Consult with a Certified Arborist before doing anything that may damage tree roots — building, trenching or extending a driveway.
8. Maintain a 2 to 4 inch mulch layer around trees. Start the mulch a few inches away from the trunk to about a foot beyond the drip line of trees. Mulch slows down evaporation of water from the soil so the roots have water available for a longer time.



Tip: Mulch reduces loss of water from the plant root zone, moderates the soil temperature, helps keep string trimmers and mowers from damaging trunk, helps control weeds and breaks down into plant essential nutrients.

To determine whether tree branches are dead or dormant, scrape a small amount of bark on small stems. Green tissue is under the bark on live stems and the wood is white. Live wood will bend when you try to break a stem. Dead stems will snap when bent. The small twigs on the outer branches may die during drought but the large branches may remain alive. If you have doubts, consult an arborist or wait until spring to see if the tree grows new leaves. Unfortunately, large dead limbs can snap just like small limbs. A drought damaged or dead tree near a house or other structure may endanger people or property. Remove dead, damaged or diseased branches or trees. Wind, ice or snow can cause tree to split or branches to snap off. If a large dead tree has lost roots, the entire tree may fall during a strong and rain storm. For large tree removal or pruning, consult and contract a International Society of Arboriculture (ISA) Certified Arborist, www.isa-arbor.com. Pruning may seem costly but pruning is an investment to maintain the health and safety of a tree.