

Trees Suffer During Prolonged Drought

Dryer than normal conditions straddle much of the nation this summer, especially in the Central and Southern Rockies, parts of the Midwest, and in the East, from the Carolinas through southern New England. The U.S. Seasonal Drought Outlook calls for some areas to remain dry through the summer. What can homeowners do to keep their trees healthy during hotter, drier summer months?

“While it’s impossible to keep every tree in good health in times of severe drought, taking a proactive approach for a prized or sentimental tree can support its good health,” recommends Tchukki Andersen, staff arborist with the Tree Care Industry Association. “A plan that is supported with good cultural practices, proactive monitoring for pests and disease, and response to warning signs is more likely to survive.”

Silent Suffering: A tree’s first damage from drought occurs beneath the soil line in the form of root damage, long before any outward signs of trouble. After a tree’s unsuccessful attempts to conserve water by closing stomates, feeder roots die back, sometimes so drastically that the tree is unable to take up enough water to support itself. In the worst case, drought stress will lead to tree death. More often, though, the signs of stress are much less dramatic. “Leaves are undersized and may wilt, yellow, curl or crinkle, will be marginally scorched or even turn brown and drop early,” explains Andersen. “Emergent shoots are short. In an effort to right the imbalance caused by root-loss, crown dieback or a general thinning of the canopy occurs.”

Opportunistic pests and diseases: That’s when “opportunistic” pests make their move. Boring insects are thought to be drawn by the chemical and acoustic signals of stressed trees. The sound of water columns breaking cues the borer to invade the tree and lay eggs. Andersen recommends applying a 3-inch layer of organic mulch or wood chips over the root zone at least out to the drip line. This will hold moisture longer for stressed roots to access, and will provide a long-term nutritional source for the soil. Prized or important trees may be protected from wood-boring insects with spray or injection chemicals.

Another danger to stressed trees are fungal pathogens. Andersen notes that when a chemical change in the tree signals a weakened state, certain pathogens penetrate the bark, wood and cambial zone, with fan-like, leathery clumps, cutting off the water supply to the tree.

While all trees are at risk during long period of drought, some are more prone to its effects. New transplants are highly vulnerable to drought stress, and supplemental watering for the first few years of establishment is necessary, to the extent that it’s allowed. But even mature trees are suffering.

Watering trees deeply with soaker hoses or irrigation systems – as opposed to brief, surface watering – helps sustain trees. But it’s very difficult to do much for a large tree because of the massive amounts of water it needs. With so many trees affected, Andersen recommends watering only those trees that you can help. How much water a home landscape needs depends upon its soil, sun and shade exposure, plant types, irrigation system and local climate. How much water trees require depends upon the type of tree. Applying the right amount of water, based on the local weather and the tree’s actual need, is the key to using water efficiently. But homeowners often over-water their lawns, which in turn surpasses a tree’s real needs.

Drought exacerbates matters for trees already under stress, like those on dry slopes, surrounded by pavement, or improperly planted. In landscape situations, consider taking action, such as moving smaller trees to a better location, alleviating compaction, or replacing moisture-draining lawn with a layer of mulch. Pine needles or a two- to three-inch layer of compost will help trees in maintaining moisture.

Outlook: The aftereffects of drought may last three to five years, with the strongest trees surviving. Trees have developed their own mechanisms for coping with these cycles, but some trees are on the brink of survival and could go either way. If it means the difference between keeping a tree around for your lifetime or losing it in the next five years,” Andersen says, “it’s worth doing something about.”

What can you do?

A professional arborist can assess your landscape and work with you to determine the best drought-resistant trees and shrubs to plant and to care for your existing landscape. Contact the Tree Care Industry Association (TCIA), a public and professional resource on trees and arboriculture since 1938. It has more than 2,000 member companies who recognize stringent safety and performance standards and who are required to carry liability insurance. TCIA has the nation’s only Accreditation program that helps consumers find tree care companies that have been inspected and accredited based on: adherence to industry standards for quality and safety; maintenance of trained, professional staff; and dedication to ethics and quality in business practices. An easy way to find a tree care service provider in your area is to use the “Locate Your Local TCIA Member Companies” program. You can use this service by calling 1-800-733-2622 or by doing a ZIP Code search on www.treecaretips.org.

Editors: If you would like additional information or digital photos, please contact Editor@tcia.org

TCIA arborists, safety and business professionals are also available as sources for tree related articles and issues: 1-800-733-2622 or andersen@tcia.org.