

Trees That Belong Here and Trees That Don't

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Walking around my neighborhood, I see the evidence this year's changing weather patterns. Many lawns are golden-brown and crispy and trees are showing signs of drought stress with brown leaves and twig dieback.



Oak Tree, UCANR Repository

Especially hard-hit are the trees native to other climates. These are often planted in our suburban landscapes because they are “pretty” or “fast-growing.” European white birch is native to the northern and coastal areas of the cool, foggy, windy Baltic States. Leyland cypress,

believed to be a cross between a Monterey cypress and an Alaskan cypress, could not cross in nature because their ranges are too distant. Leyland cypress instead was crossed on an estate in England where it's cool and foggy, with ample rainfall. Coast redwoods also live in areas where the climate is cool and foggy. Giant sequoias, although native to the Central Sierra, grow at higher elevations where temperatures are cooler and snow stays on the ground in winter.

Even trees that are native here are suffering in this year's drought. Native oaks, toyons and redbuds are showing signs of stress from inadequate ground water. Our office is receiving inquiries about whether the drooping, browning black oaks are dying at 2500' elevation. But these trees are adapted to the vagaries of California's climate and they usually survive.

In general, an oak tree is not dead until it fails to leaf out the following spring or, in rare cases, even two years later. This summer we experienced intense heat and very hot, drying winds. Our oak trees are simply responding to that stress. Oaks will drop their leaves and go dormant early when there isn't enough water to support the canopy. Also, trees in clumps are affected earlier because they share resources and so have less water for each individual tree.

Because of this year's early, warm, dry spring, most plants seem to be three to six weeks ahead of the general “season.” Poison oak started turning red in June; California buckeye began browning at the same time. According to Master Gardener Linda Reavley, speaking of those California native plants on which bees depend, “Everything has come earlier and gone sooner.” Reportedly, winery owners are harvesting grapes six weeks ahead of two years ago. So, we should not be shocked that oaks also are turning brown.

Native oak trees, depending on the species, live two to four centuries. They have experienced drought before. They are one of California's best-adapted plants, slowing growth and going dormant when there isn't enough water; growing and putting on layers of wood when conditions are right.

UC staff has monitored oaks and drought. Much of that research can be found here: http://ucanr.edu/sites/oak_range/. You might like to read two articles, [The Effects of Drought on California Oaks](#) and [Brown Oak Trees Dot California's Landscape](#) found on that same website by clicking "Oak Articles Online" and then "Oaks and Climatic Factors."

It is not practical or possible to protect all our oak trees from the effects of drought. However, if you have one specimen oak that you would like to "baby," you can run a soaker hose along the drip line (straight below the outside edge of the canopy) and let it run very slowly all night. Do this once a month until autumn rains arrive. Be sure to allow the soil to dry completely between deep waterings; damp, warm soil breeds fungi that will kill oak trees.

You simply cannot assume an oak tree is dead. You must wait at least until next spring to see if it leafs out. In research plots, the trees that turned brown earliest leafed out earliest the next year. Here's a link to a blog post written by UCCE staffer Bill Tietje. He's writing about oaks along last winter's California coast, but the information is still applicable: <http://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=12797>.

And one final, reassuring note, in response to a drought in the 1990s, UC researchers monitored blue oaks living in the Don Pedro area. During that time, not a single oak died from drought stress in their research plot.

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