UC Berkeley scientist says drought has weakened sudden oak death, now the time to go on the offensive

By Richard Halstead, The Marin Independent Journal

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A University of California at Berkeley scientist studying sudden oak death says California's drought has reduced the pathogen's presence in some areas, including parts of Marin, and now is the time to go on the offensive against the scourge.

"People should try to do something during the drought because the drought itself lowers the number of trees that are infected," said Matteo Garbelotto, a forest pathologist with the UC Berkeley Forest Pathology and Mycology Laboratory and one of the foremost experts on sudden oak death. Garbelotto and David Rizzo, also a University of California at Davis plant pathologist, identified an unknown species of phytophthora as the cause of sudden oak death in 2000.

First discovered in Mill Valley in 1995, the disease kills tanoak, coast live oak, California black oak, Shreve's oak, and canyon live oak trees, among others. Since 2000, more than 3 million trees have been killed by the disease.

In 2008, Garbelotto began enlisting the help of volunteers to survey trees and collect samples in their locales. In April and May, some 500 participating citizen scientists surveyed more than 10,000 trees and collected more than 2,000 samples.

Garbelotto said in previous years he encouraged volunteers to survey as wide an area as possible.

"This year," he said, "because of the drought we were also interested in finding out how many trees in any given area are still infectious for the pathogen, so we were asking people to sample intensively. We collected more samples than ever before."

Using that data, Garbelotto said he was able to detect many areas where the disease is only present in a very small number of trees. He is recommending that property owners remove these infected trees.

"That should affect the overall epidemic," Garbelotto said, "because basically we will be taking away the places that the pathogen survives during the drought."

During the spring survey, 172 trees were examined in Marin. Samples were collected from 24 of those trees, and based on test results Garbelotto estimates that about 2.5 percent of the total were infected.

"The total average infection rate for California is 5.4 percent," Garbelotto said. "If you're under that number, that means that selective removal may be really worthwhile. So in this case, at least in the eastern part of Marin, this really seems to make sense."

Garbelotto said infected trees should definitely be removed if they are within 10 yards of a highly valued oak tree. He said the pathogen generally doesn't travel through the air much farther than 10 yards.

And Garbelotto has other suggestions for property owners hoping to keep their oaks healthy. He says the late fall is the best time to apply a preventive phosphonate treatment to oaks that are at risk.

Data from Garbelotto's "SOD Blitz" surveys has been digitized so it can be viewed using a free smartphone application. Users of the app can call up a map of all of the surveyed trees, as well as information about the risk level of individual trees. Information about the app and data from the recent SOB Blitz survey is available at sodblitz.org.

Jon Elam, general manager of the Tamalpais Community Services District, said, "I know we would support these kind of strategies. We have a number of world-class oaks in our open space and parks that it would be a tragedy to lose. We need to do everything we can to reduce the threat to those oaks."

In 2010, the Tamalpais CSD received a $10,020 grant from the U.S. Forest Service to identify oak trees affected by sudden oak death there.

Elam said, "In our case, the trees that are more in the sun are less vulnerable than the ones that are clouded by fog."

Garbelotto said the spring SOD Blitz found that to be true statewide. Scientists have long known that the sudden oak death pathogen, Phytophthora ramorum, thrives in warm, wet conditions.

Unexpectedly high levels of the pathogen were found this spring in north Berkeley and an area just north of Novato between Petaluma and the city of Sonoma. Garbelotto said this is a lowland area with many streams that are likely to provide the moisture the sudden oak pathogen needs.

Because of the pathogen's reliance on water, Garbelotto advises against doing major yard work during the rainy season if homeowners live in close proximity to infected trees.