Experts say rain likely to spread sudden oak death

A scientist examines oak tree leaves in Olema. (Frankie Frost - IJ archive) 2008

By **Richard Halstead***, Marin Independent Journal*

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Closeup of a tree with sudden oak death in Inverness. (Photo by Robert Durell)

Scientists studying sudden oak death say that this year more than ever volunteers are needed in Marin and throughout Northern California to survey trees for spread of the plant disease.

"With all of the wet weather, it is likely that Phytophthora ramorum is on the move. It is essential that we have as many eyes in the field as possible looking for sudden oak death symptoms this spring," said Matteo Garbelotto, a forest pathologist with the University of California at Berkeley and one of the foremost experts on sudden oak death, in a statement.

Garbelotto and David Rizzo, a University of California at Davis plant pathologist, identified Phytophthora ramorum, a fungus-like organism, as the cause of sudden oak death in 2000.

Production of the Phytophthora spores spike during warm, wet weather. Dry weather doesn't kill the spores; they just lie dormant waiting for the next rain. High winds help spread the disease.

After rains in the winter of 2015 and spring of 2016, scientists discovered the number of bay laurel trees infected with sudden oak death disease in Marin had increased 30 percent over the previous year; statewide, the number of diseased bay laurels doubled over the same period. Infected bay laurels typically spread sudden oak to oak trees.

Given the amount of rain this winter and spring, Garbelotto said the stage is set for a major increase in infected trees, which will result in more dead oaks in the next few

years. Garbelotto said the pathogen may spread into drier areas that have so far avoided the disease.

First discovered in Mill Valley in 1995, sudden oak 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.

Since 2008, Garbelotto has been enlisting the help of volunteers to survey trees and collect samples in their locales. Garbelotto has dubbed the surveys "sudden oak death (SOD) blitzes." Some 500 trained volunteers participated in the 2016 blitzes surveying more than 14,000 trees and submitting samples to the Garbelotto lab for genetic testing for sudden oak death.

Garbelotto said knowing the location of infected trees is important for a couple of reasons. First, it can inform property owners if they need to make the investment to protect their oak trees. It is believed the pathogen generally doesn't travel through the air much farther than 10 yards. Although there is no vaccine to inoculate trees, a phosphonate fungicide will provide temporary protection.

Second, Garbelotto said the data collected during the blitzes is helping scientists to predict where the disease will move in the next 10 to 20 years.

"When I started this, I never expected the data would be so good that we would be able to produce research studies simply using data produced by volunteers," Garbelotto said. "But that is exactly what is happening."

This year's blitzes began April 8 in Monterey and continued April 14 in Santa Cruz. The Marin blitz is scheduled for May 6 with volunteers meeting at 1 p.m. in the Science Center of Dominican University of California.

The blitzes are organized locally. For the past four or five years, Wolfgang Schweigkofler, a research assistant professor at Dominican University, has been coordinating the Marin blitz.

"We had pretty good turnout two years ago with more than 30 people," Schweigkofler said. "Normally, we just have seven to 10 people, so we could do with more."

Schweigkofler said the blitzes begin with a one-hour training. Surveyors then look for bay laurels and tanoaks displaying symptoms of sudden oak death. Oaks aren't surveyed because testing them would require cutting into their bark.

Volunteers note the coordinates of the sick trees, typically using a smartphone, and collect samples, which they return to Garbelotto.

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.

For more information on the Marin blitz, contact Schweigkofler at wolfgang.schweigkofler@dominican.edu.

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