Fatal oak tree disease persists locally despite record drought

Despite drought conditions, sudden oak death — a fatal oak tree disease — has seen a resurgence in North Berkeley and Tilden Regional Park, according to a report recently released by a UC Berkeley researcher.

The report, known as the “Sudden Oak Death Blitz,” was produced with data from 500 citizen scientists and analyzed at the UC Berkeley Forest Pathology and Mycology Lab. The report surveyed more than 10,000 trees and collected 2,000 samples.

The annual report seeks to produce a map of infected trees for use in management and prevention. The effort is spearheaded by Matteo Garbelotto, forest pathology specialist for the UC system and campus adjunct professor, who first identified the pathogen as Phytophthora ramorum in 2004 and now monitors its spread.

He worked with David Rizzo, a professor of plant pathology at UC Davis.

Garbelotto said increased global trade has opened avenues for transmission of exotic pests into ecosystems that have not
evolved defenses. He proposed a new rapid-reaction approach to invasive pests based on the program. Rizzo warned that the problem of invasive pests will only get worse as plants and other items are more quickly transported.

“One hundred years ago, a plant would be dead after it got across the ocean,” Rizzo said. “Now, in 36 hours, (the plant) can be here.”

Garbelotto said this year presents a good opportunity to mount an aggressive campaign against the disease and the ongoing drought has diminished the species’ preferred habitat.

While the pathogen has a mechanism for protecting itself inside infected plant tissue during drought, it requires the right weather conditions and a high infection level of local bay laurels in order to infect nearby oaks.

Mark Stanley, chair of the California Oak Mortality Task Force, said a major obstacle to fighting the disease is lack of funding. Urban areas are generally responsive because small landowners can treat individual trees, but as efforts scale up, the logistics become more complicated.

The particular genus is the same one that caused the Irish potato famine, and many of its different species are responsible for crop damage worldwide.

Rizzo said the concern is not just the logistics but also cultural relationships to the trees.

While tanoaks are among the most vulnerable of species and the bay laurel is one of the worst transmission vectors, both are sacred to many Native American tribes.

“The bay laurel is kind of the Typhoid Mary of sudden oak death,” he said. “But how can you kill one sacred tree to save another?”

Stanley recounts an early training session in China Camp State Park. The park ranger there had watched the disease kill many of the park’s prized trees. Stanley said the ranger would point to a stump that had once been a live oak.

“He would bring out a picture of the tree from when his daughter got married there, and everyone was sitting on its branches,” he said. “Now it’s gone. That’s how important these trees are in peoples’ lives. It’s very moving.”

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