

Sudden Oak Death Information for Homeowners

Sudden Oak Death (SOD), caused by the introduced fungus-like pathogen *Phytophthora ramorum*, kills tanoak (*Notholithocarpus*) and several oak (*Quercus*) species, including coast live oak and California black oak. While SOD is primarily a forest disease, it is very common in the urban-wildland interface where it can present many problems for homeowners. Below are answers to some common homeowner questions.

How can I tell if my oak tree has Sudden Oak Death?

- Is your tree a susceptible species? Trunk cankers have only been found on the following oak species: coast live oak, Shreve's oak, California black oak, and canyon live oak; and tanoaks. Of these, tanoak is the most likely to be infected and killed.
- Are you in an infested area? Check the SOD MAP site (linked through www.suddenoakdeath.org) or contact staff in local Extension, Agricultural Commissioner, or CAL FIRE offices for the most current distribution information.
- Do known symptoms of SOD match those on your oak or tanoak tree? You can view photos and descriptions of SOD symptoms on the California Oak Mortality Task Force (COMTF) website (www.suddenoakdeath.org).
- Are there nearby California bay laurel plants with spots on their leaves? Oak and tanoak infections are especially correlated with infections on bay laurel.

How can I confirm a *Phytophthora ramorum* infection on a plant?

The probability that an oak or tanoak has Sudden Oak Death will be greatest if it is a susceptible species, exhibits typical symptoms of Sudden Oak Death, and is located in an infested area where other trees and plants are showing symptoms. However, confirmation of SOD can only be done through laboratory diagnosis. SOD Blitizes are held each year, which train citizens to sample for the disease. To learn more about the SOD Blitz program, see https://nature.berkeley.edu/matteolab/?page_id=5855. Whenever possible, sample from California bay laurel leaves as they are the easiest from which to recover the pathogen in the lab. Take samples from symptomatic bay leaves even if you are ultimately interested in the disease status of an oak as it will help to determine the presence of the pathogen on site. When collecting samples, gather at least 10 symptomatic leaves. Place them in a plastic bag and keep the bag cool and away from direct sunlight. Bring the sample to your local Agricultural Commissioner's or UC Cooperative Extension office within 24 hours. Results are usually ready in 3-4 weeks.

Are there any treatments for oaks or other plants?

The phosphonate compound Agri-Fos® is the only treatment approved by the State of California for use against *Phytophthora ramorum* infections on oaks and tanoaks. This treatment is best used as a preventative measure and is NOT a cure. Agri-Fos® may be injected directly into a tree or mixed with the surfactant Pentra-Bark® and sprayed on the trunk for absorption through the bark. It takes 3-6 weeks for the material to be fully assimilated by the plant so that it can be effective against warding off the pathogen, and must be periodically reapplied to maintain its effectiveness. The optimal treatment routine calls for the first treatment in the fall or spring (when temperatures are mild), another application

6 months later in the spring or fall, and then booster treatments in the fall every year or two thereafter, depending on the risk of infection. For more information on treatments, check the UC Berkeley Mycology and Forest Pathology website (<https://nature.berkeley.edu/matteolab>).

An additional measure to protect oaks is to reduce the pathogen population by pruning overstory California bay laurels or removing small, understory bays in close proximity to an oak or tanoak. These are preventative measures only and should not be undertaken if oaks are already infected. However, if oaks are still healthy, removing bay leaves from a 15-foot area around an oak trunk may reduce the chance that the oak will get infected.

If my oak tree has SOD, what are the chances it will die?

Tanoaks have a high probability of being killed by SOD. Coast live oaks appear to have somewhat more resistance but are still quite susceptible. In very general terms, most tanoaks seem to die 1-2 years after becoming infected, while coast live oaks may become infected at the same time but last for another 3-4 or more years. In addition to *P. ramorum*, bark and ambrosia beetles and the *Hypoxylon* fungus will attack *P. ramorum* infected trees, further weakening them and hastening their demise.

Should an oak tree with SOD be removed?

The threat of disease spread is generally not a valid reason for removing an oak tree with SOD since oaks do not readily spread the pathogen. Standing dead trees also provide important wildlife habitat, and after they fall and decay, they are a source of nutrients to be recycled into the soil. However, SOD increases the risk of tree failure by providing an opportunity for sapwood decay fungi to enter the tree. If there is a chance that the tree could fall on people or property, contact a certified arborist or other qualified professional to get an objective assessment of the hazard. Also increased fuels from dead trees may be a concern that needs to be abated for wildfire prevention.

What should be done with any infected material I cut or prune?

While local spread of the pathogen often occurs naturally, long-distance spread usually occurs with the artificial movement of infected host material. Because of this, regulations currently restrict the movement of all *P. ramorum* host plants. If you have infected trees cut down, make sure the wood and other tree parts are not moved to disease-free areas. The simplest and best way to deal with infected plant material is to use it on site, for firewood, wood chips, ground mulch, etc. If infected plant material must be removed from your property, it could be taken to a landfill site. Be sure the material is tarped or bagged so it does not blow away during transport.

What plants should I consider for my landscaping?

Many plants are susceptible to *P. ramorum*, but this should not exclude them from use in your yard since most of them do not readily spread the pathogen. This is especially true for most California native plants, with the exception of California bay laurel, and tanoak. Some native oaks (white oak group) are believed to be resistant to SOD and can be used in your yard. Researchers are searching for resistant coast live oak and tanoak stock, but nothing is available for planting at this time. However, small coast live oaks do not seem to be as susceptible to SOD as larger trees, so younger trees could be planted and survive if given the proper protection through time.