

Sudden Oak Death in Santa Clara County

What you should know and can do to prevent spreading

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Sudden Oak Death is a disease that is becoming very prevalent in Santa Clara County and many other coastal counties in California. Known cases of the disease range from Monterey to Humboldt Counties. The number of counties is likely to increase as more research is done. The spread of the disease is mainly found in coastal areas that receive plenty of rainfall and fog because the fungus needs a moist environment to spread its spores. This disease primarily affects tanoaks (*Lithocarpus densiflorus*), coast live oaks (*Quercus agrifolia*), and various other oak and tree species of the coastal forest.

Sudden Oak Death is caused by a fungus called *Phytophthora ramorum* which infects

the water flow system of the diseased trees. Eventually, the fungus spreads around the entire tree blocking the flow of water from the roots to the leaves which dehydrates it and causes it to die. Along with affecting the water flow system of oak trees, *P. ramorum* is also known to cause leaf infections on California bay trees (*Umbellularia californica*), rhododendron, redwood, and many other tree and plant species. In the case of leaf infection, the fungus does not kill the plants; rather it causes branch die-back and discoloration of the leaves. Bay trees are known to spread the spores of *P. ramorum* and so tanoaks and oaks near infected bay trees usually become infected as well.



Tanoak (*Lithocarpus densiflora*)



Healthy Tanoak



Coast live oak (*Quercus agrifolia*) bleeding bark canker



California bay (*Umbellularia californica*)

The symptoms of Sudden Oak Death are usually visible on the trunk or the leaves of infected trees. The main indicative symptom in oaks is oozing dark brown to reddish sap from the trunk, called a canker, when there have been no signs of injury on the tree. This is the tree's first line of defense to try and push the fungus out of its vessels. Often, these trees will have discoloration of the leaves as well. In oaks other than tanoak, the disease usually affects adult trees, causing them to die within 2-4 growing seasons.

Tanoaks, however, are extremely susceptible to Sudden Oak Death. Seedlings and saplings are often easily infected as well as adult trees. Tanoaks do not usually show the traditional bleeding canker and leaf dieback is usually one of the first signs of infection. It has been observed that tanoaks infected with the fungus can succumb within one year while other oak species may take more time to succumb to the disease. The most important thing to remember is that symptoms similar to that of Sudden Oak Death can be caused by various other fungi and tree diseases. Therefore, lab tests *must* be performed in order to determine if the diseased tree really does have Sudden Oak Death.

So what can we do to prevent the spread of Sudden Oak Death? Since there is no known cure for this disease, the most important thing to do is prevent the spread. Contaminated materials should not travel from a county with confirmed infection to an uninfected county. To find out which counties are considered infected, visit www.suddenoakdeath.org. If you are traveling to an area with known sudden oak death, it is important to disinfect your shoes, tires, dog's feet, etc., by spraying them with Lysol, 70% alcohol solution, or 10% bleach solution before returning. All of these treatments should kill any stowaway spores. If tree work is needed on an infected tree, try to limit it to dead branches and perform these activities in the hot summer months when the spores are less active. One study revealed that removing bay trees from the

vicinity of an oak can prevent its infection because bay trees are known to be the best at spreading the spores. If there is a mature oak that a homeowner is worried about preserving, removing bay trees in the area is a way to prevent the spread of spores. It is important to note that if a tree is already infected, there is no cure for the disease. To learn more about possible fungicidal treatments, visit www.californiaoaks.org/html/oak_tree_care.html or www.suddenoakdeath.org.

One of the dilemmas with this disease is that it has created a large amount of fire fuel. This is particularly concerning considering how prone California wildland is to fire. If you are concerned about the fuel load on your property, consider moving and removing downed or dead trees in the hot summer months to prevent the spread of spores. Also, try not to leave the wood for anyone to pick up since you don't know if they will be moving it to an uninfected county. It is safe to burn the infected wood since high heat will kill the spores. If chipping the debris, consider composting it. The heat produced from composting usually kills the spores as well.

To learn more about Sudden Oak Death and the California Oak Mortality Task Force, visit www.suddenoakdeath.org.

Sources:

- Storer, A. *et al.* 2002. Diagnosis and Monitoring of Sudden Oak Death. UC Cooperative Extension in Marin County.
- Lee, C. April 2007. Protecting Your Oak Trees from Sudden Oak Death. California Oak Mortality Task Force.
- Davidson, J.M. *et al.* 2003. Sudden Oak Death and Associated Diseases Caused by *Phytophthora ramorum*. Plant Management Network. 7 July 2003.

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