

Sudden Oak Death (SOD)

Phytophthora ramorum

History of SOD

Sudden oak death is a serious disease that attacks many types of plants and trees here in the Pacific Northwest. The causal agent of SOD is the pathogen *Phytophthora ramorum*. *P. ramorum* was first identified in 1993 in Germany and The Netherlands on rhododendron and viburnum. At the same time, many tanoaks (*Lithocarpus densiflorus*) and oaks (*Quercus* sp.) were dying in northern California. In June of 2000, *P. ramorum* was identified as the cause of this “sudden oak death.” Tens of thousands of California oak and tanoak trees were killed by the disease in less than eight years. Among other affected trees are the coast redwood (*Sequoia sempervirens*) and the Douglas fir (*Pseudotsuga menziesii*).

Symptoms

Trees infected with *P. ramorum* have large cankers on the trunk or main stem accompanied by the browning of leaves. The infection spreads around the trunk, preventing nutrients formed in leaves from reaching the tree’s roots. The decline in roots causes the tree to die from lack of water.

The disease could become a major problem on ornamentals (foliar hosts), although generally it does not kill them. Symptoms of infection may include leaf spots, needle and tip blight, and shoot-tip dieback. Hosts with leaf lesions can defoliate and eventually show twig dieback. (Environmental stresses, especially drought, can cause similar symptoms.) The list of host plants includes over 60 species and continues to expand. Included are: rhododendron, bay laurel, bigleaf maple, honeysuckle, virburnum, camellia, and madrone, to list just a few. Visit ncpmc.org/sod for the most current list.

How is SOD spread?

In nature, the pathogen is believed to spread through the movement of water in the form of rain, mist, dew, and runoff. Humans spread the disease through the movement of infected nursery stock, firewood, and soil on the bottoms of shoes and boots.

SOD in Washington State

Varieties of oak native to Washington do not appear to be susceptible to the disease, and the disease has not yet been detected in the natural environment here. It has been discovered in nurseries in western Washington, but there is no evidence that SOD has moved beyond these nurseries. It has also been found in four streams, all associated with nurseries where SOD was detected. It is unlikely that *P. ramorum* in streams would spread to plant material. (This has been known to happen with host plant material that comes in contact with contaminated water during a flood.) Should SOD become established in Washington, it is likely to thrive due to the abundance of susceptible hosts and our cool, wet environment.

How is SOD treated?

There is no way to control SOD other than cutting down and burning infected trees and plants.

What is being done to control the spread of SOD via nursery stock?

The Washington Department of Agriculture (WSDA) is working closely with scientists and regulators from the Oregon Department of Agriculture, the California Department of Food and Agriculture, and the USDA Animal and Plant Health Inspection Service to prevent SOD from becoming established in Washington.

Procedures have been put into place for nurseries to work with the WSDA to identify, quarantine, and destroy infected or potentially infected plants. Since *P. ramorum* was first discovered in a Puget Sound nursery in the spring of 2003, the WSDA has tested tens of thousands of plants in hundreds of nurseries as part of the national SOD survey and trace forward surveys from production nurseries found to be infected with the pathogen. *Phytophthora ramorum* was detected in 20 additional nurseries, all in western Washington. Most of the infected plants were camellias and rhododendrons shipped to Washington retail nurseries from other states. All infected plants have been destroyed.

Could you have a plant infected with *P. ramorum* in your landscape?

At the present time in the state of Washington, it is highly unlikely that this would be the case. Other *Phytophthora* pathogens can cause symptoms similar to those of *P. ramorum*. Therefore, **plant symptoms alone are not distinctive enough to pinpoint the origin of the problem. Only laboratory testing can make an accurate identification of *P. ramorum*.**

If you suspect you may have an infected plant in your landscape, follow the steps below:

1. Does the plant display disease symptoms on leaves?

If no, don't worry. This is not SOD.

If yes, go to 2.

2. Is the leaf sample a camellia?

If no, go to 3.

If yes, go to 5.

3. Is the leaf sample from a plant near a camellia?

If no, this is not SOD.

If yes, go to 4.

4. Is the plant sample on the host list for *P. ramorum*? Check **current** information on the web.*

If no, this is not SOD.

If yes, go to 5.

5. Was the camellia purchased after December 2000?

If not, this is not SOD.

If yes, submit a sample for testing.

Take the sample to a Master Gardener Plant Clinic near you (call 206-543-0943 for a list) and tell the Master Gardeners on duty that you suspect *P. ramorum*.

*An up-to-date list of host plants can be found at

http://www.suddenoakdeath.org/html/host_plant_lists.html

Washington Department of Agriculture. The current Washington State Department of Agriculture web page on SOD is agr.wa.gov/PlantsInsects/Diseases/SOD.