

Sudden oak death

Phytophthora ramorum

Synonyms

ramorum leaf blight
ramorum dieback

Plant Hosts

P. ramorum naturally infects more than 100 different plant species. The [USDA APHIS PPQ](#) maintains a complete list of plants on which *P. ramorum* has been detected.



Symptomatic bay laurel leaves



Stem canker on a tanoak



Pieris dieback



Symptomatic viburnum

Symptoms

On tanoaks, certain oak species, and beeches, sudden oak death is characterized by bleeding cankers that girdle the trunks of the trees, leading to tree death. Death of the tree often appears to happen very quickly, although the tree may actually have been infected for several months. On other hosts such as rhododendron, pieris and viburnum, the pathogen causes leaf blight and shoot dieback. If left unchecked, the dieback on some highly susceptible cultivars and species may become severe enough to kill the plant. *P. ramorum* symptoms on rhododendron are virtually identical to those caused by other aerial *Phytophthora* species. On other hosts such as California bay laurel, these leaf spots almost always start on the leaf tip.

Transmission

The pathogen forms deciduous sporangia (spore sacs) in response to moisture. These spore sacs then spread naturally in infested forests through rain and wind events. *P. ramorum* also forms chlamydospores (long lived environmentally resistant spores); these have been detected in the soil, including mud collected from hiker's boots, and in plant debris. The pathogen has been collected from baits placed in streams flowing through areas infested with the disease. *P. ramorum* can also spread through the movement of infected plant material, including nursery stock.

Geographic Distribution

Canada (in nurseries in British Columbia)

United States: California (Alameda, Contra Costa, Humboldt, Lake, Merin, Mendocino, Monterey, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma counties) and Oregon (see map below) in natural areas. In 2008 *P. ramorum* was detected in nursery stock in the following states: California, Florida, Georgia, Mississippi, North Carolina, Oregon, South Carolina, Texas and Washington.

Europe: Belgium, Finland, France, Germany, Ireland, Italy, Lithuania, Netherlands, Norway, Poland, Slovenia, Spain, Switzerland, Sweden and the United Kingdom.

Applicable regulations

The USDA Animal and Plant Health Inspection Service (APHIS) has adopted [federal regulations](#) requiring the inspection and certification of west coast nursery stock as free of *P. ramorum*. In addition, Oregon has adopted [regulations](#) for the quarantine area in Curry County and for nursery stock grown within the state.

SUDDEN OAK DEATH
 PROPOSED QUARANTINE AREA
 CURRY COUNTY, OR
 25 JUNE 2014



0 5 Miles

- INFECTED TREE, 2015
- INFECTED TREE, 2014
- INFECTED TREE, 2013
- GENERALLY INFESTED AREA 4
- QUARANTINE, 2015 PROPOSED
- QUARANTINE, 2013
- BLM LAND
- USFS LAND