

## Sudden oak death

### What is Sudden oak death?

Sudden oak death (*Phytophthora ramorum*) is a fungal pathogen of a wide range of tree, shrub and herbaceous species. Unlike other *Phytophthora* pathogens, *P. ramorum* is a foliar pathogen impacting on stems, trunks and leaves. It is known to devastate forests wherever it occurs and is commonly found in nurseries.

### What does it look like?

Symptoms of Sudden oak death infection vary depending on the host. In shrubs, diffuse dark brown spots or blotches with fuzzy margins develop, usually at the leaf tip. These grow to cover the entire leaf over time. Shoots also become blackened.

In trees the first symptom is generally the development of a canker on the trunk, with burgundy-red to tar-black thick sap oozing from the bark surface. Young trees can show a distinct edge between healthy and necrotic tissue. Stem necrosis leads to death of the whole crown by restricting the movement of water.

### What can it be confused with?

Bleeding stem cankers can be caused by a number of other fungal pathogens, but Sudden oak death differs from these pests because it only affects aerial parts of the plant. Foliar symptoms can also be confused with other pathogen infection or sunburn. In general, infection with Sudden oak death is characterised by irregular, necrotic lesions, instead of distinct leaf spots.

### What should I look for?

The development of bleeding stem cankers, blackened shoots or diffuse lesions on leaf tips.



Leaf lesions in rhododendrons, demonstrating the typical diffuse margins

Joseph O'Brien, USDA Forest Service, Bugwood.org



Shoot dieback symptoms developing on Douglas-fir

Joseph O'Brien, USDA Forest Service, Bugwood.org



Bleeding trunk canker resulting from *P. ramorum* infection

Joseph O'Brien, USDA Forest Service, Bugwood.org



## How does it spread?

Natural spread of the pathogen occurs through wind and waterborne movement of spores. Long distance transport overseas has previously occurred through the trade of infected ornamental plants and other nursery stock, as well as infected green waste.

## Where is it now?

Sudden oak death is currently found only in North America and Europe.

## How can I protect my production nursery from Sudden oak death?

Check your production nursery frequently for the presence of new pests and unusual symptoms. Make sure you are familiar with common pests of the nursery production industry so you can tell if you see something different.

**If you see anything unusual, call the Exotic Plant Pest Hotline**

**EXOTIC PLANT PEST HOTLINE  
1800 084 881**



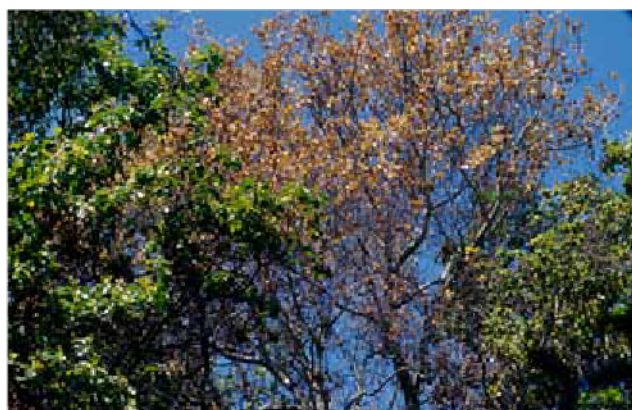
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Shoot dieback in Tanoak



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Early stage of leaf lesion development



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Complete tree death as a result of Sudden oak death infection

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