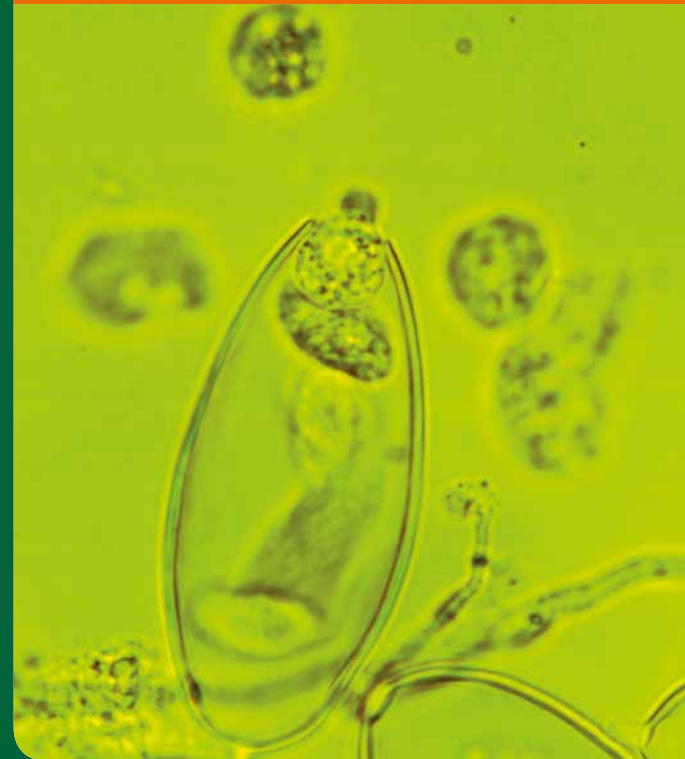


## Phytophthora ramorum



*Phytophthora ramorum* is a fungus-like pathogen which causes extensive damage and mortality to a wide range of trees and other plants. In 2009, *P. ramorum* was found infecting and killing large numbers of Japanese larch. This was the first time it had been found causing lethal infection on a commercially important conifer species anywhere in the world.

Sweet Chestnut has frequently been found to be infected with *P. ramorum* when in close association with infected larch and rhododendron. However, in 2015, infected sweet chestnut stands were found in locations not containing other known sporulating host species.

Phytophthora pathogens can be spread on footwear, vehicle tyres, tools and equipment. Movement of infected plants is also a key means of spreading it over long distances.



**Don't give**  
pests and  
diseases  
an easy ride



If you think you have spotted a new case of this disease, then report it through the Forestry Commission's online Tree Alert form: [forestry.gov.uk/trealert](http://forestry.gov.uk/trealert)

Infected trees and shrubs will need to be felled as quickly as possible after detection of the disease in order to break the life cycle of the organism. It is vital that this happens before the next spring or autumn when sporulation begins.

You can help to slow the spread of this disease by practising good biosecurity.



### Think kit

Before leaving site, all soil and organic material should be removed from footwear, outerwear and equipment, before being washed, cleaned and sprayed with an approved disinfectant.



### Think transport

Vehicles that have gone off-road or have been driven on roads that are wet, muddy or littered with organic material must be cleaned using a pressure washer before leaving the site.



### Think trees

Any movement of Phytophthora-affected wood from a forest site requires a Movement Licence. Phytophthora-affected wood may only be moved to a facility that holds a valid processing licence.

## Symptoms Guide: *Phytophthora ramorum*

### IN LARCH:

#### Crown and branch dieback

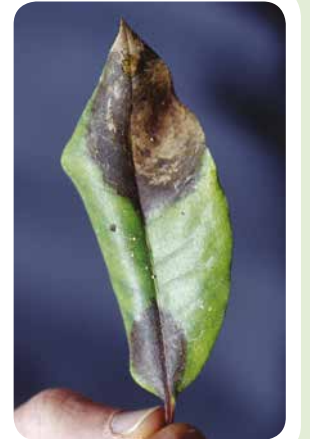
Crown and branch dieback is likely to be present with distinctive ginger colour when branches are girdled.



### IN RHODODENDRON:

#### Leaf necrosis

On Rhododendron the infection can show as either the blackening of the leaf along the mid-vein or as necrosis at the leaf tip.



(Photo: Joseph OBrien, USDA Forest Service, Bugwood.org)



#### Bleeds

The tree reacts to the pathogen by producing resin, which shows on the stem and branches as a white bleed (not seen on infected Sweet Chestnut trees).



### ON SWEET CHESTNUT: Lesions

On sweet chestnut, lesions in infected foliage can spread into shoots and eventually into the stem, causing crown dieback. Infected sweet chestnut does not exhibit stem bleeds.

### Orange and purple mottling

Removing the bark from under the bleeds will show a purple and orange mottling where healthy tissue, necrotic tissue and reaction zones are in close proximity.



### Excessive epicormic growth

Infected trees will often display excessive epicormic growth with symptomatic foliage occurring in abundance low on the stem.



For more details, please visit [www.forestry.gov.uk/pramorun](http://www.forestry.gov.uk/pramorun)