



Phytophthora pluvialis



Please note, for more details on the symptoms described for the organisms, scan the QR code to access the accompanying poster.



Background

Phytophthora pluvialis is a recently described fungus-like pathogen damaging a range of trees including western hemlock, pines and Douglas fir. It was originally reported as causing damage on tanoaks and Douglas fir in Oregon in 2002 and scientifically named *P. pluvialis* in 2013; but has also been confirmed in California and Washington. There have been further reports of the pathogen in New Zealand in 2008 on pines and Douglas fir, where it causes a disease called ‘red needle cast’ and is considered to have been introduced from the USA. The pathogen was most recently found on western hemlock and Douglas fir trees initially in Cornwall, UK (but has since been found sporadically in GB, but not Northern Ireland) since 2021.

Hosts

Primary hosts of concern: *Pseudotsuga mensiezii* (Douglas fir), *Tsuga heterophylla* (western hemlock), *Pinus radiata* (radiata pine). Other reported hosts: *Notholithocarpus densiflorus* (tanoak), *Larix sp* (larch), *Pinus patula* (patula pine), *Pinus pinea* (stone pine), *Pinus strobus* (Weymouth pine).

Biology/description

P. pluvialis is a fungal-like organism or oomycete that produces persistent resting spores (oogonia) and short-lived dispersal spores (zoospores from sporangia).

Based on research from New Zealand about red needle cast disease, the pathogen may produce several infection cycles a year and sporangia are released from infected foliage during cooler periods closely associated with rainfall events. Infection is thought to occur between autumn and spring on lower branches leading to needle cast. The pathogen can spread in water courses as well as dispersed in rain, mists and fog.

All *Phytophthora* species are easily spread in infected plant material and debris, water and soil, so good biosecurity measures to prevent introduction and spread must be employed.

Symptoms

See accompanying *P. pluvialis* poster via the QR code at the top.

More information and how to report

[UK Plant Health Risk Register and Pest Risk Assessment \(PRA\)](#)

<https://www.gov.uk/guidance/phytophthora-pluvialis>

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