

Phytophthora species status of plants indigenous to Cardinia Shire and available at one or all of the designated nurseries in the Shire.

(Compiled by Dr Mary Cole, Agpath P/L.)

This list with the infection status to *Phytophthora* species is based on information from the literature list given below.

The degree of susceptibility/tolerance can vary to some extent on the soil conditions and health of the surrounding ecosystem.

Some families are susceptible in total. Some families are tolerant in total. Other families contain genera and species of variable susceptibility depending on local conditions.

Those genera with (?) indicate that no data could be found so a general indication would be the susceptibility or otherwise of the family in general as a guide to the genus.

In general, herbaceous perennials, annuals and geophytes are more tolerant of *Phytophthora cinnamomi* infestation than woody perennials. *Phytophthora* species, *cinnamomi*, in particular, are necrotrophic pathogens on woody perennials. The most susceptible plant families are the Proteaceae (*Grevillea* spp., *Hakea* spp. etc.), Papilionaceae/Fabaceae (peas), Dilleniaceae (*Hibbertia* spp., etc.) and Epacridaceae (heaths).

Species of genera from the families Crassulaceae, Droseraceae and Primulaceae have been found to host *P.cinnamomi*.

There are susceptible genera/species among the Asteraceae and Mimosaceae.

Heathlands and coastal communities are most at risk.

Willow trees (*Salix* spp) are susceptible and must be removed from any planting areas.

Nursery plants must be phytosanitary tested before planting into the landscape.

Phytophthora species pose a serious threat to biodiversity on private land, nursery industry, and remnant vegetation in urban environments as well as the wider Australian forests. The condition of vegetation in any environment is affected by many interrelated conditions such as climate, urban contamination and depletion of natural vegetation areas below sustainable critical area/mass.

Research shows that annual and perennial herbaceous plants are key host species that allow *P.cinnamomi* to persist in some soils. Because of lack of symptoms, these plants can be classified as 'field resistant'. Stressed trees are always more likely to become infested with *P.cinnamomi* than those that are healthy.

However, there is variable susceptibility between genera of these families as well as between species of the same genera. Variation in susceptibility has also been observed between and within populations of the same species.

"The specific objectives of managing Phytophthora cinnamomi on public land in Victoria are:

- to protect susceptible biodiversity, with a particular focus on the structure and function of vulnerable ecosystems and threatened species;*
- to protect social and economic assets on public land that are at risk;*
- to assist in reducing the potential for transmission of the pathogen from public land to other jurisdictions (interstate, industry, community), and;*
- to assist agency staff and the wider community to protect their public land by managing this significant threat. This will be achieved through improved coordination between agencies, surveillance, quarantine and hygiene, maybe aware of these species in gardens in urban areas adjoining replant land".* Department of Sustainability & Environment (2008) Victoria's Public Land *Phytophthora cinnamomi* management Strategy.

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