

# Pythium spp

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## Introduction

Pythium spp can potentially attack a wide range of turf grass species. This includes many of the widely used cool and warm season turf species utilised in sports turf and home lawns. There is considerable variation in susceptibility to these pathogens with perennial ryegrass (*Lolium*) and bent grass species (*Agrostis* spp) being particularly susceptible.



When different parts of the plant are attacked, different names are given to the condition caused. When foliage is affected the condition is sometimes termed 'cottony blight' or 'grease spot'. When the crown and root areas are affected terms such as 'Pythium crown rot' or 'Pythium root rot' are used respectively.

When optimal environmental conditions prevail, infection can be rapid with significant resultant damage to above and below ground vegetative structures.

## Biology

This fungus is classed as a water mold. It survives (overwinters) using a resilient spore structure (oospore). Once suitable conditions prevail, spore germination occurs and infection is perpetuated using mycelial growth which is the fine white webbing seen on moist morning conditions. The organism is very easily moved in surface water and by mechanical means (equipment and footwear).

## Conditions favouring disease expression

The following conditions heighten the risk of Pythium infection.

1. Daily minimum temperature above 17-20°C
2. Daily maximum temperature exceeding 28°C
3. Relative humidity exceeding 90% for more than 9 hours in the same period that conditions 1 and 2 are met.

Other factors that encourage infection are soil pH > 7.0, soft growth from high nitrogen fertilisers and poor draining soils.

## Visual symptoms

Earliest signs are often small greasy irregularly shaped areas that are slimy to touch. When dry, these patches will have a straw coloured appearance and possibly a reddish tinge. These small spots may join together to form larger irregularly shaped areas and will often follow drainage lines.