

Fact Sheet:

Verticillium wilt

Verticillium albo-atrum

Chilean kiwifruit growers have suffered large losses from the soil borne pathogen, *Verticillium albo-atrum*, with some orchards losing over 80% of vines. In susceptible kiwifruit cultivars, infection always leads to plant death and this typically occurs very suddenly. There appear to be many strains of *V. albo-atrum* affecting a range of host species worldwide, however only Chile has reported the presence of a strain that is virulent against kiwifruit.

Signs and symptoms

- Sudden collapse of apparently healthy plants at any time during the growing season;
 - In the spring, flowers and leaves suddenly wilt and die
 - Later in the season, leaf necrosis, complete defoliation and die-back of canes and leaders are typical; fruit, if present, are retained on the vine
- Brown discoloration of vascular tissue (Fig. 2)
- Superficial cracking of the bark on the trunk
- A reduced root system
- Vigorous regrowth from the rootstock and lower scion
- Conspicuous, white mycelial growth from the wood of cuttings after approximately 48 hours of humid incubation is a rapid and reliable diagnostic test for the presence of the pathogen (Fig. 2).



Figure 1 Five-year-old Hort16A plants affected by *Verticillium* in Chile.

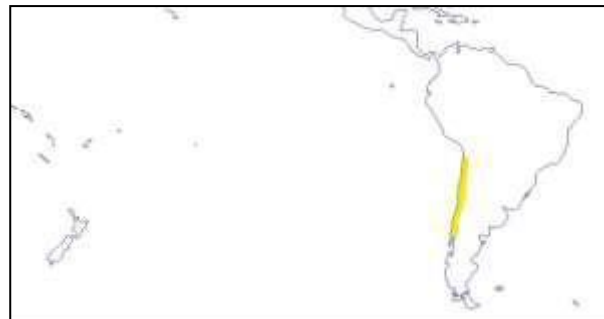


Figure 2. White mycelial growth commonly used a diagnostic indicator (left); brown discoloration of affected vascular tissue (right).

Distribution and climate range

V. albo-atrum is widely distributed across many of the world's temperate regions (including New Zealand) in a range of host species with alfalfa and hops being the most commonly infected crops.

Impacts on kiwifruit from *V. albo-atrum* have only been reported in Chile and the presence of a kiwifruit virulent strain may be confined to this region at this time.



Control

Symptoms are reported to be more severe when kiwifruit is planted in a site immediately following the removal of apple, pears, citrus or grapes.

Infected plants are to be removed with as much of the roots intact as possible. Hygiene and tool sterilisation is important in controlling spread of the pathogen.

There are no proven treatments.

What should you do if you think you have seen these symptoms?

Phone MPI on 0800 80 99 66 or KVH on 0800 665 825.