Biosecurity New Zealand
Tiakitanga Pūtaiao Aotearoa

Ceratocystis wilt

Ceratocystis wilt is a fungal pathogen that is causing significant damage to kiwifruit orchards in Brazil, with some growers reporting 50 percent vine loss over the past five years.

The taxonomy of Ceratocystis wilt is complex and there is still much to learn about which strains could impact the kiwifruit sector. Vine death can occur rapidly following infection and all cultivars tested to date are susceptible.

Recent research has shown that Gold3 and Hayward are susceptible to infection. Some genotypes of Bruno show greater tolerance.

Identification

Wilting is the first symptom, with complete vine collapse occurring as quickly as three days after infection. Dead vines are often adjacent to each other creating a circle of dead vines as the disease moves through soil and root systems. Browning of the xylem can be seen in infected vines moving from canes to leaders, trunks and even down to roots. Some Psa-like leaf spotting can be present.

Distribution and climate range

Ceratocystis wilt has world-wide distribution, including New Zealand where it was first identified in 1907 causing black rot on kumara. The New Zealand strain is not pathogenic to kiwifruit, pathogenicity to kiwifruit has only been reported in Brazil.

The Farroupilha region in Brazil (where infection on kiwifruit has been observed) is 700 metres above sea level, has 1500mm average annual rainfall, and reaches temperatures of 30°C in summer and 0°C in winter. This is a similar temperature range and average annual rainfall to many kiwifruit growing regions of New Zealand.

Control

No treatments have been effective to date with fungicides and phosphoric acids being trialled by many growers. KVH, Zespri, and Plant and Food staff have made several visits to Brazil to observe the effects of this pathogen first hand.

The pathogen is typically spread through movement of infected plant material, soil, and contaminated orchard equipment; therefore hygiene and sourcing clean plant material are the best preventative measures. Combined with early reporting of unusual symptoms, this will provide our best line of defence against Ceratocystis wilt. KVH and Zespri are working together with the Ministry for Primary Industries (MPI) on readiness projects to refine response strategies and diagnostic tools.

For more information on this biosecurity threat to the kiwifruit industry please visit
https://kvh.org.nz/biosecurity/kiwifruits-most-unwanted/ceratocystis-fimbriata

What should you do if you think you have seen signs of infection?

Take a photo and phone MPI on 0800 80 99 66 or KVH on 0800 665 825.

Do not prune your vines or move any plant material, soil, or orchard equipment.

Symptoms of Brazilian wilt infection in kiwifruit (Brazil). From left: leaf wilt and curl, cane shrivelling and vine discoloration.