Citrus variegated chlorosis

What is citrus variegated chlorosis?
Citrus variegated chlorosis (CVC) is a serious disease of citrus caused by the bacterium Xylella fastidiosa subsp. pauca. This bacterium lives in the water conducting system (xylem) of the plant and is transmitted by xylem-feeding leafhoppers known as sharpshooters. Most citrus species and hybrids are susceptible, although the severity of symptoms is variable. It can spread rapidly and results in significant economic losses.

What should I look for?
Plants infected with CVC show symptoms similar to zinc deficiency, including yellowing and loss of leaves. The yellowing occurs on the upper surface of maturing leaves, particularly between the veins. As the leaf matures, small, slightly raised lesions appear on the underside of the leaf that correspond to the yellowing on the upper side. The lesions are initially light brown in colour and transition to dark brown, and can become necrotic. Affected trees may exhibit reduced vigour and growth, and may appear stunted, with defoliation at terminal twigs as well as small leaves. However, trees do not usually die.

Fruit may exhibit sunburn damage due to defoliation at branch terminals. In addition, fruit size is significantly reduced, and fruit may change colour early, have hard rinds, lack juice and have an acidic flavour. In some cases fruit can develop in clusters, resembling grapes.

Symptoms are usually more noticeable in trees between 7 to 10 years of age and will be aggravated when plants are stressed by high temperatures or drought conditions.
**What can it be confused with?**

Foliar symptoms of CVC may be confused with zinc deficiency, anthracnose and greasy spot. Fruit symptoms can be confused with sunburn.

**How does it spread?**

CVC is transmitted through seed and grafting. It can also be spread via the movement of infected citrus nursery stock and plant material (budwood, cuttings, rootstock). CVC can also be spread by xylem-feeding vectors, such as the glassy-winged sharpshooter.

**Where is it now?**

CVC infects citrus plants in parts of Central and South America, particularly in Brazil.

**How can I protect my orchard from citrus variegated chlorosis?**

Ensure propagation material is purchased from suppliers that source their budwood from Auscitrus. Check your orchard frequently for the presence of new pests and investigate any sick citrus plants for unusual symptoms. Make sure you are familiar with common citrus pests so you can tell if you see something different. Keep records of anything unusual and ensure all staff and visitors adhere to on farm biosecurity and hygiene practices.

**If you see anything unusual, call the Exotic Plant Pest Hotline**

1800 084 881

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