

Citrus tristeza virus

What is citrus tristeza virus?

Citrus tristeza virus (*Closterovirus*) (CTV) is an economically important and destructive viral pathogen of citrus. There are many different strains which vary in severity and citrus species and cultivar-susceptibility. Several strains already occur in Australia, including sweet orange stem-pitting found in Queensland and grapefruit stem-pitting widely distributed in Australia. The mandarin stem-pitting strain is not present in Australia and has a severe impact on mandarins. CTV is spread by the brown citrus aphid (*Toxoptera citricida*) and black citrus aphid (*Toxoptera aurantii*), both of which are present in Australia.



Infected tree (right) beside healthy tree (left)



Chlorosis and flecking of leaves

What does it look like?

Infected plants show pitting and gumming of the wood and as a result, twigs and branches become brittle. Leaves may show chlorotic flecking, vein clearing, leaf cupping and corking of veins. Limbs and trunks of chronically infected or larger trees may be bumpy or ropy in appearance. In severe cases trees show stunted growth and have fewer fruit of smaller size. In addition, numerous fine pits in severely affected trees may lead to a honeycomb appearance. The severity of stem-pitting symptoms varies from a few small pits, to many fine sandpaper-like pits overlaid by abnormally thickened bark. Early stages of stem-pitting are only visible if the bark is removed. If these symptoms are observed on any citrus other than grapefruit outside of Queensland, they should be reported to the state/territory department of agriculture.



Pitting on branch

What can it be confused with?

The symptoms of CTV are similar to root injury, particularly when looking at the condition of a whole tree. However, if the bark of a branch or stem is stripped back, the pitted appearance of the wood will clearly distinguish CTV from typical root injury.



How does it spread?

CTV is spread via local and wind-assisted movement of aphid vectors, through graft-transmission, and the movement of infected budwood or plant material infested with aphid vectors.

Where is it now?

CTV is distributed worldwide, and some strains already occur in Australia, including the grapefruit stem-pitting and sweet orange stem-pitting strains. The mandarin stem-pitting strain occurs in Indonesia, Japan, Malaysia and Thailand.



Reduced fruit size caused by CTV



Bumpy and ropey trunk caused by CTV

How can I protect my orchard from citrus tristeza virus?

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 trees 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

**EXOTIC PLANT PEST HOTLINE
1800 084 881**

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