

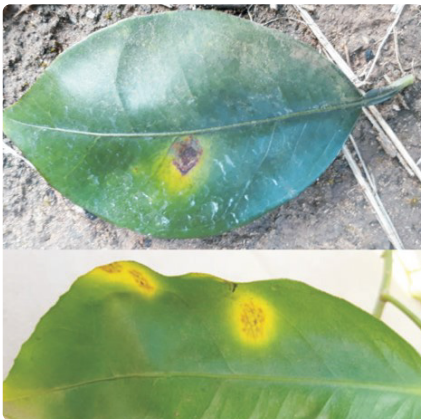
CITRUS BIOSECURITY THREAT: Citrus Leprosis (CL)

Symptoms

Round to elliptical local lesions are seen on leaves, twigs and fruit.

Leaf lesions, both on the upper and lower sides, are usually not raised, round to elliptical and pale-green to yellow with a dark-brown central spot about 2-3 mm in diameter, surrounded by a chlorotic halo, in which 1 to 3 brownish rings frequently appear surrounding the central spot. Larger lesions may form by the fusion of 2 or more adjacent lesions. Severe infections lead to premature leaf fall.

On fruit, lesions are flat to slightly depressed necrotic spots, 5-15 mm in diameter, with a yellow halo, and distributed over the whole fruit rind. Gum exudation may be seen on the lesions. On green fruit, the lesions are initially chlorotic and darken to brown or black and become slightly depressed. A yellow halo can be observed around the lesions as they mature. In severe infections, fruit drop occurs, mainly in cases where the lesions are close to the peduncle. On stems, lesions are cortical, grey or brown or sometimes dark-reddish, later turning into crusty scabs.



Leaf symptoms



Fruit symptoms



Twig symptoms

The disease

- CL is associated with at least 7 distinct viruses, belonging either to the cytoplasmic type (CL-C) or the nuclear type (CL-N).
- The more common cytoplasmic types include citrus leprosis virus C (CiLV-C) and citrus leprosis virus C2 (CiLV-C2), and the nuclear types include citrus leprosis virus N (CiLV-N), citrus chlorotic spot virus (CiCSV), citrus bright spot virus (CiBSV) and strains of the orchid fleck virus (OFV). OFV was detected on citrus in the Sundays and Gamtoos River Valleys of the Eastern Cape province of South Africa (under eradication).
- Severe losses in yield may occur, both in quantity due to fruit drop, and quality due to cosmetic damage.
- In severe cases, CL can cause 100% yield loss, mainly oranges and mandarins.

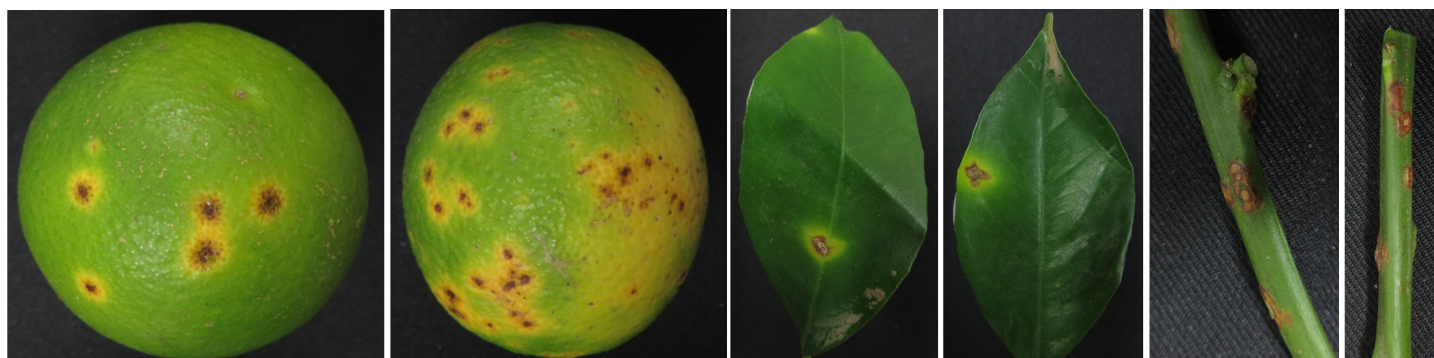


Host range

- All *Citrus* spp.
- Other non-citrus hosts, including *Cymbidium*, spp., *Solanum violaeifolium*, *Swinglea glutinosa*, *Bidens pilosa*, *Ageratum conyzoides* and *Commelina benghalensis*

Current distribution

- Some of the types of the virus are present in Mexico, Hawaii, Central and South America, and South Africa (OFV)



Method of spread

Insect vectors

Various species of false spider mites of the genus *Brevipalpus* (Tenuipalpidae)

The mites feed on the foliage, stems and fruit. All active stages of the mites can acquire and transmit the viruses. Given the non-systemic nature of the disease, mites have to feed on lesions to acquire the virus.

- **NOT** fruit or seed transmitted



Brevipalpus californicus

Preventative actions

- Quarantine procedures for importation of citrus propagation material, citrus fruit and other hosts
- Plant certified disease-free citrus trees
- Awareness and surveillance to ensure early detection and rapid implementation of control measures
- Do not bring illegal plant material into South Africa and onto your farm!



For more information on this disease, or if you find anything unusual, contact Wayne Kirkman from CRI's Biosecurity Division: waynek@cri.co.za, 084 458 0349

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