citrus research international

# CITRUS BIOSECURITY THREAT:
## Yellow Vein Clearing Disease

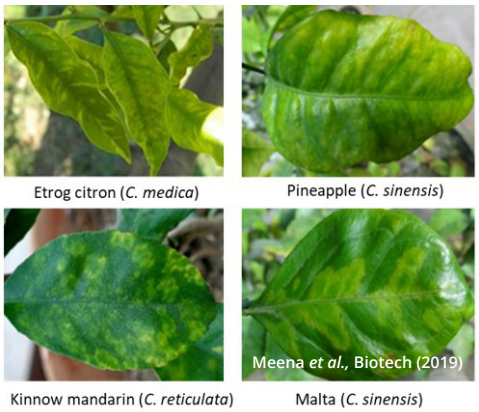
## Symptoms

Symptoms are most prominent on lemons, with foliar symptoms of vein clearing and leaf crinkling, with irregular, elongated chlorotic spots, predominantly visible on young growth. Veins on the underside of the leaf become water-soaked and turn brown. Foliar symptoms are accompanied by leaf drop.

On other citrus types, irregular ringspots may be seen on leaves, and mosaic-like patterns on fruit.

In severe infections, trees die back and fruit are malformed, causing reduced fruit quality.

Symptoms are more visible in the cooler periods of spring and autumn and less noticeable in hot environments. Yellow vein clearing disease can be asymptomatic on some citrus cultivars.




Vein clearing and flecking on 'Etrog' citron and atypical chlorotic ringspots on 'Pineapple' sweet orange, 'Malta' sweet orange and 'Kinnow' mandarin, similar to symptoms associated with ICRSV

## The disease

- Yellow vein clearing disease is caused by citrus yellow vein clearing virus (CYVCV).
- The disease is associated with poor tree vigour, reduced yields and decreased marketability of fruit.
- There is no treatment once trees become infected. Infected trees need to be eradicated


Vein clearing and flecking on 'Eureka' lemon



Fact sheet produced by CRI's Biosecurity Division, January 2024

## Possible confusion with

Atypical chlorotic ringspot, similar to those induced by Indian chlorotic ringspot virus (ICRSV), were recorded on 'Kinnow' mandarin and 'Malta' sweet orange.

Defoliation of CYVCV infected tree >

## Host range

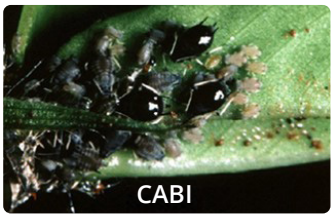
- All *Citrus* spp.
- Severe symptoms are observed on 'Eureka' lemon and sour orange
- Grapevines and a range of herbaceous plants and weed species

## Current distribution

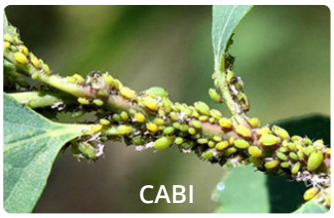
- Turkey
- China
- India
- Iran
- Pakistan
- California, U.S.A.
- Republic of Korea
- Italy

## Method of spread

- **Infected plant propagation material**
  Citrus propagation material (trees, cuttings, grafts, budwood, rootstock seedlings) and propagation material of other hosts
- **Viruliferous insect vectors**
  **Aphids:** *Aphis craccivora* on non-citrus hosts, *Aphis spiraecola* on citrus and non-citrus hosts
  **Whitefly:** *Dialeurodes citri*
- **NOT fruit or seed transmitted**




*Aphis craccivora*




*Aphis spiraecola*


*Dialeurodes citri*

## Preventative actions

- Quarantine procedures for importation of citrus propagation material 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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