CITRUS

biosecurity threats

This is the fourth instalment in our series on citrus biosecurity threats. By CRI Biosecurity Division

Pseudocercospora leaf and fruit spot

A series of fact sheets to increase awareness around these perilous threats. The first feature was in *SAFJ* Apr/May '24.

Symptoms

Leaf symptoms initially appear as green-yellow patches. At maturity, the leaf spots are circular with a pale-brown or greyish centre. With the onset of the rainy season, the centres turn brown to blackish brown when sporulation is dense. The lesions are usually surrounded by a dark-brown margin and a prominent yellow halo. Occasionally, the centre falls out, creating a shot-hole spot. Several lesions can coalesce, causing generalised chlorosis, premature abscission, and defoliation of the affected tree. Young leaves and fruit appear to be more susceptible than older mature leaves.

Brown necrotic lesions form on young fruit. These are usually circular to irregular, with a slightly sunken brown centre, with a surrounding ring of raised tumour-like growths, surrounded by a yellow halo. During wet weather, the lesions sporulate and become black.

In young fruit, a generalised necrosis sometimes forms, resulting in premature abscission of the fruit, or diseased fruit ripen prematurely and drop or dry up and remain on the tree. Affected fruit have longitudinal and transversal cracks in the rind with the internal locules exposed.

The disease

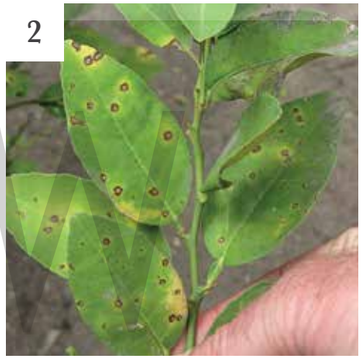
- This leaf and fruit spot disease is caused by the fungus *Pseudocercospora angolensis*.
- Severe infection of trees can result in premature abscission of young fruit and leaves.
- The juice content of diseased fruit is markedly reduced, making them unsuitable for fresh consumption or processing.
- Yield losses of 50–100% can occur and production may cease where the disease is endemic.

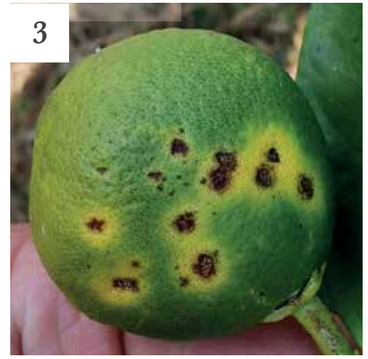
Stem symptoms are seldom found. When infection of stems occurs, the lesions are dark-brown and usually occur as extensions of petiole lesions.

Several lesions at the stem tip result in dieback. Lesions on other parts of the stem coalesce, become corky, and crack. Usually, profuse growth of secondary shoots occurs at the base of the dead stem.

Host range

- All *Citrus* spp.
- African cherry orange (*Citropsis tanakae*), round kumquat (*Fortunella japonica*).





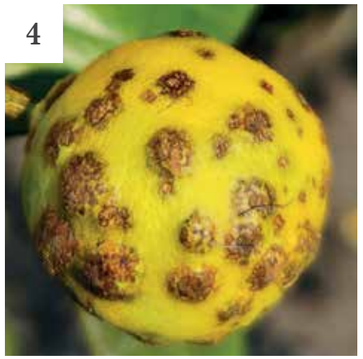


Figure 1: Leaf spots turn blackish brown with sporulation during humid conditions Figure 2: Leaf spots without sporulation Figure 3: Fruit lesions with yellow halos Figure 4: Severe fruit lesions Figure 5: Brown necrotic lesions form on young fruit

Do not bring illegal plant material into SA and onto your farm.

Current distribution

- Yemen
- Various countries in Africa, as far south as Angola, Mozambique, Zambia and Zimbabwe.

Method of spread

- Infected plant propagation material: citrus propagation material (trees, cuttings, grafts, budwood, rootstock seedlings), and propagation material of other hosts.
- Infected fruit.

Preventative actions

- Quarantine procedures for importation of citrus propagation material, 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 SA and onto your farm.

Post-bloom fruit drop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ALL PHOTOS: FUNDECITRUS

Figure 1 and 2: Peach to orange-coloured lesions on flower petals
Figure 3: Abscission of fruitlets and retention of the calyces and floral disks, leaving the "buttons" Figure 4: Affected yellowish fruitlets

Symptoms

The first symptoms of post-bloom fruit drop (PFD) may appear two to seven days after infection.

Initially, peach to orange-coloured lesions are formed on the petals of open flowers (floral rot or blossom blight), later turning reddish-brown and necrotic. Although unopened and even pinhead flower buds may be affected, petals on open flowers are more susceptible to infection.

Whole flower clusters may be infected, resulting in entire branches with orange to brown petals clinging to inflorescences.

Flowers affected by PFD start developing into yellowish fruitlets, but fruit development ceases prematurely. The fruitlets abscise, and the remaining calyces and floral disks, commonly called buttons, persist on the twigs for the life of the twig. These persistent buttons are uniquely characteristic to the disease and are not known to be produced by any other disorder. Leaves surrounding infected inflorescences are usually twisted and distorted, with twisted laminae and enlarged veins.

The disease

- *Colletotrichum abscissum*, belonging to the *Colletotrichum acutatum* complex, is the causal agent of PFD.
- PFD is a destructive disease of citrus and causes damage to blossoms (floral rot or blossom blight), which perpetuates the disease.
- The disease results in up to 80% early fruit drop in favourable climatic conditions.
- PFD is very difficult to control.

Host range

All *Citrus* spp.

Current distribution

- Brazil
- USA

Method of spread

- Infected plant propagation material: citrus propagation material (trees, cuttings, grafts, budwood, rootstocks).
- Airborne spores are wind dispersed from infected tissue.

Preventative actions

- Quarantine procedures for importation of citrus propagation material.
- 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 SA and onto your farm.

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