

Citrus canker

Have you seen this citrus disease?

What is citrus canker?

Citrus canker is a damaging bacterial disease of citrus and some other plant species in the family Rutaceae. Citrus canker can have a serious impact on citrus production and Australia's valuable citrus export industry.

Outbreaks of this disease have previously occurred in Australia in Queensland and the Northern Territory. The last outbreak at Emerald was successfully eradicated, but at great cost to growers, associated industries and government. We need your help to detect any future outbreaks.

What causes citrus canker?

Citrus canker is caused by the bacterium *Xanthomonas citri* subsp. *citri*. Infected plants can develop unsightly lesions on leaves, fruit and stems. Trees infected with the disease may be unthrifty with low yields and poor quality fruit.

Citrus canker is a plant disease and is not harmful to people or animals.



Scab-like or corky lesions on fruit and leaves

Photo courtesy of C. Pearce



Scab-like lesion on fruit

Photo courtesy of DEEDI

Which hosts are affected?

All citrus cultivars can be affected (e.g. orange, lemon, lime, grapefruit, mandarin, kumquat, tangelo, pomelo and citrus rootstock). However, some cultivars of citrus more readily develop canker lesions than others.

Citrus canker can also affect some native Australian Rutaceae species, such as *Citrus glauca* (desert lime), *Acronychia acidula* (lemon aspen), *Micromelum minutum* (lime berry) and *Murraya paniculata* var. *ovatifoliolata* (native mock orange).

Other plants such as wampee (*Clausena lansium*), white sapote (*Casimiroa edulis*) and elephant apple (*Feronia limonia*) are also known hosts.

Tomorrow's Queensland:

strong, green, smart, healthy and fair

What does citrus canker look like?

The bacterium enters plant tissue through the stomata or wounds (mechanical or insect wounds such as leaf miner channels), causing the development of blister-like lesions on leaves, fruit and stems.

- Lesions are usually raised and coloured tan to brown.
- Lesions are surrounded by an oily, water-soaked margin that can become a yellow ring or halo as the lesions age.
- Large or older lesions may have a crater-like centre, which can fall out to create a 'shot-hole' appearance.

Citrus canker lesions often occur in clusters where water pools on the leaf (such as along leaf margins or tips) or can follow the feeding tracks of citrus leaf miners, where the wound provides an entry point for the bacteria. Multiple lesions on fruit or stems are typically only seen in cases where the foliage is severely affected.



Photo courtesy of DEEDI



Citrus canker lesion on a leaf showing the yellow ring or halo

Photo courtesy of DEEDI



Citrus canker on leaves and stem

Photo courtesy of A. Miles, DEEDI

Where does citrus canker occur?

The disease is widespread in many tropical and subtropical citrus-growing areas of the world. Australia is currently free of citrus canker. Outbreaks in Australia are rare, with the last detection in Emerald, Queensland, in May 2005. This area was declared free of citrus canker in 2009.

How is citrus canker spread?

The canker lesions ooze bacteria when wet. Over short distances this bacterial ooze can be spread by rain splash or overhead irrigation systems. Citrus canker can be spread over longer distances on equipment (vehicles, tools, mechanical hedgers, sprayers, gardening equipment) and people (hands, shoes and clothing).

Movement of infected plant material, or airborne movement of bacteria as an aerosol or debris during severe weather events (where strong winds and rain are present), can also spread the disease further.

Illegal importation of infected plant material poses the greatest risk of introducing this disease into Australia. The Australian Quarantine and Inspection Service closely monitors for illegal plant movements and regulates approved host plant imports.



Citrus canker lesions on upper and lower leaf surfaces

Photo courtesy of C. Pearce, DEEDI

How can I protect my farm from citrus canker?

There are simple steps you can take to protect your farm:

- To avoid introducing citrus canker on to your property, establish new plantings with healthy plant material from reputable nurseries that use Auscitrus seed and budwood, which is routinely tested for a range of diseases. On receipt of any new plants, check that they are pest and disease free. If citrus canker is detected, isolate suspect nursery stock from healthy plants until official checks are completed.
- Keep your farm clean. Use good sanitation and hygiene practices. Remember – workers, visitors, vehicles and equipment can spread diseases. Make sure equipment is clean before it enters your farm.
- If you have been to an overseas country that has citrus canker, do not wear your travel clothes into your orchard until after they have been washed in hot soapy water.
- Make sure that you and your farm workers are familiar with the symptoms of citrus canker. Regularly check your orchard and report any unusual or unfamiliar symptoms.



Have you seen citrus canker?

In Queensland, citrus canker is declared as a notifiable pest regulated under the *Plant Protection Act 1989*. This means that property owners are obliged to report suspect cases of the disease.

Watch out for citrus canker-like lesions on leaves, fruit, and twigs and immediately report them to Biosecurity Queensland.

Call Biosecurity Queensland on 13 25 23 or the National Exotic Plant Pest Hotline on 1800 084 881.

Further information

Call Biosecurity Queensland on **13 25 23** or visit our website at **www.biosecurity.qld.gov.au**

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