

BIOSECURITY SA – Plant Health

Exotic Plant Pest Hotline: **1800 084 881** (available 24 hours)

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BIOSECURITY SA  
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## HUANGLONGBING (HLB)

Huanglongbing (yellow dragon disease), previously known as citrus greening disease, is one of the worst diseases of citrus trees worldwide. It is caused by the bacterial disease *Candidatus Liberibacter asiaticus* that spreads through the tree canopy, causing decline and then death of the tree.

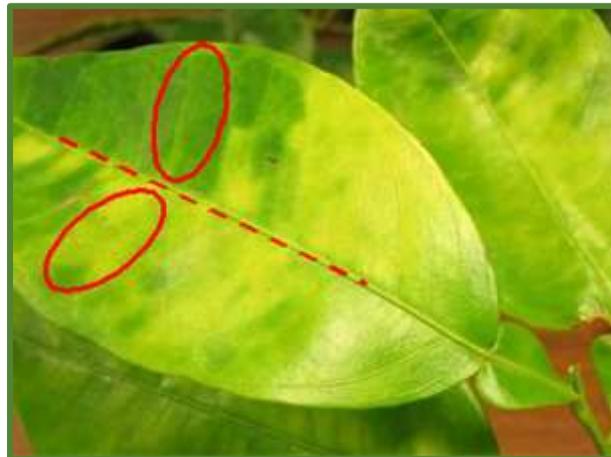
All commercial citrus are affected as well as Australian native citrus and some ornamentals in the Rutaceae family including orange jasmine (*Murraya*). The disease affects all plant parts and growth stages of citrus and there is currently no cure – the only way to stop the disease is to destroy all infected trees and replace them.

The disease Huanglongbing originated from China, with its vectors from Asia (Asiatic citrus psyllid) and Africa (African citrus psyllid). Depending on the species, the disease and its vectors can now be found throughout:

- North, Central and South America
- South East Asia, including Indonesia and East Timor
- Papua New Guinea.

### SYMPTOMS

The first symptom of Huanglongbing is usually the appearance of a yellow shoot on a tree (hence the name Huanglongbing, which literally means 'yellow dragon disease'). Progressive yellowing of the entire canopy follows: leaves turn pale yellow, show symptoms of zinc or manganese deficiency, or display blotchy mottling, and are reduced in size. Blotchy mottle is the most characteristic symptom, but is not specific to Huanglongbing. Stubborn disease (*Spiroplasma citri*), severe forms of *Citrus tristeza virus* (CTV), species of



A symptom of Huanglongbing is yellow discoloration on leaves that is asymmetrical

Source: UF/IFAS Citrus Extension University of Florida



In fruits, there may be there may be deformities and asymmetry,

Source: National Pest Surveillance & Monitoring Systems  
SENASA (Health & Quality Agrifood National Service).

*Phytophthora*, waterlogging, and the use of marcots can produce similar blotchy mottle patterns. Symptoms of zinc deficiency are also associated with the early stages of citrus blight (a disease of unconfirmed aetiology). However, Huanglongbing bacteria do not induce the xylem dysfunction and wilting observed in blighted trees.

Chronically infected trees are sparsely foliated and show extensive twig dieback. The fruits are often small, lopsided, can have a sour or bitter taste and are poorly coloured (hence the origin of the name greening). They often contain aborted seeds. Similar fruit symptoms are also observed with CTV infection. The lifespan of infected trees is shortened.



Adult Asian Citrus Psyllid showing characteristic feeding position.

Source: David Hall, USDA Agricultural Research Service.

Be vigilant for signs of Huanglongbing  
and report suspect symptoms  
immediately by calling  
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