

EXOTIC PESTS FACT SHEET 2

Huanglongbing (*Candidatus Liberibacter*)

What is it?

Huanglongbing (HLB), also known as citrus greening, is a bacterial disease which is transmitted by the Asian and African citrus psyllids. The disease can affect all citrus and leads to tree decline and death.

What does it look like?

The symptoms of HLB vary between citrus species and varieties but common symptoms are yellowing of leaves, blotchy mottled leaves, small lopsided fruit, and asymmetric leaf development. The disease can cause dieback of branches, unseasonal and heavy flowering on diseased branches, and out-of-phase flushing. The tree eventually goes into decline and dies.

What should I look for?

- Fruit often has an irregular, lopsided shape and the inside flesh can also be irregular. The fruit can be small, hard and bitter-tasting, and have dark, aborted seeds. The fruit can stay partially green or poorly ripen, hence the term 'citrus greening'. There can also be excessive fruit drop.



Symptoms of citrus tree dieback.

Florida Division of Plant Industry, Florida Department of Agriculture and Consumer Services, Bugwood.org

- Leaves develop yellowing, or chlorosis and mottling. They also develop asymmetrically.
- Infected trees have sparse foliage with widespread twig and limb dieback, and have small upright leaves with shorter internode distances.

How does it spread?

- Citrus greening is transmitted by Asian citrus psyllid and African citrus psyllid vectors. Movement of psyllids by wind currents can spread the bacteria over long distances.
- It can also be spread by the movement of infected citrus plants or plant material (budwood, cuttings, rootstock), and plant material (e.g. leaves) infested with psyllid eggs or nymphs that are infected with HLB.

Where is it present?

There are three strains of HLB in different parts of the world. The Asian strain is present throughout Asia, the Middle East, Central and South America, Caribbean, USA, Indonesia, East Timor and Papua New Guinea. The African strain is found in Africa and the Middle East, and the American strain is found in Brazil.



Partially ripened fruit and mottled leaves.

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Why is it important?

Citrus greening shortens the lifespan of the tree and reduces fruit quality and yield. The fruit is unsaleable. The disease affects all parts of the plant and citrus growth stages and eventually leads to tree decline and death. There are currently no crop protection measures available for citrus greening.

How can I protect my industry?

Check your citrus orchard frequently for the presence of new diseases and unusual symptoms. Make sure you are familiar with diseases common in your industry so you can recognise something different.

Where can I get more information?

For more information go to: www.citrus.co.nz

Email: info@citrus.co.nz



Asymmetric leaf with yellowing.

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If you see any unusual pests or plant symptoms, call MPI EXOTIC PEST AND DISEASE HOTLINE 0800 80 99 66