

Citrus Greening

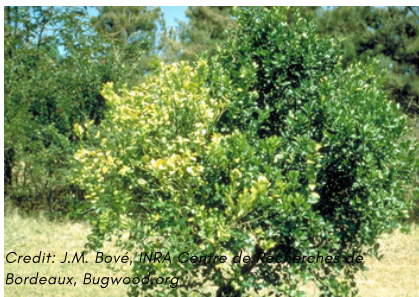
Candidatus liberibacter asiaticus

Not known to be present in Hawaii

Pathogenic bacteria that affect the vascular system and nutrient uptake in citrus.



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Credit: J.M. Bove, INRA Centre de Recherches de Bordeaux, Bugwood.org



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Asymmetrical leaf mottling is one of the key indications of the disease.



Impacts

- Reduced number and quality of fruit. Affected trees will eventually die.
- While the disease poses no threat to humans or animals, this bacterium is responsible for the loss of millions of acres of citrus in the US and beyond.
- In Florida, researchers estimated over 8,000 jobs were lost and the economic impact was \$4.5 billion. Today, Florida's citrus industry covers half the acreage it once did



Identification

- A yellow shoot is usually the first symptom of infection.
- Signs of psyllids including waxy psyllid droppings.
- Lopsided, bitter, hard fruit with small, dark seeds.
- Asymmetrical, blotchy mottling on leaves.
- Fruit that remains green even when ripe.



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Candidatus liberibacter asiaticus

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Vectors/Commodities

- Asian citrus psyllid spreads disease locally, but since the disease is not known to be in Hawaii, accidental introduction of infected citrus or budwood are the greatest risk.
- Infected citrus cultivars and relatives including oranges, tangerines, lemons, limes, kumquats, and pomelo.



Distribution

- In the U.S., the disease is found in CA, FL, GA, LA, SC, TX, Puerto Rico, and the U.S. Virgin Islands. Updated distribution/quarantine maps are available at www.aphis.usda.gov/aphis/maps/plant-health/citrus-map
- Internationally, it is found in the Pacific (Papua New Guinea, Timor-Leste) Asia, South and Central America.



Best Management Practices

- This species is not found in Hawaii. Prevention and early detection efforts protect Hawaii's nursery and agricultural industry.
- Talk to your grower about citrus greening; it is illegal to move citrus plants from quarantine areas however fruit is allowed. The USDA National Clean Plant Network produces clean citrus germplasm locally.
- BOLO: Be on the lookout! Inspect all shipments of citrus for symptoms of citrus greening disease.
- Report any suspect pests to 643pest.org or by phone 643-PEST (7378).



Selected References:

- USDA National Clean Plant Network <https://www.nationalcleanplantnetwork.org>
- USDA APHIS Citrus Greening Information <https://www.aphis.usda.gov/aphis/resources/pests-diseases/hungry-pests/the-threat/citrus-greening/citrus-greening-hp>
- Asian Citrus Psyllid Pest Advisory from Hawaii Department of Agriculture <https://hdoa.hawaii.gov/pi/files/2013/01/npa06-01-ACP.pdf>

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Additional examples of asymmetrical blotchy leaf mottling could indicate citrus greening.



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Psyllids spread the disease short distances.



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Yellowing branches are a symptom.



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