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Citrus Greening and Asian Citrus Psyllid

Last Modified:



Citrus greening, also called Huanglongbing (HLB), is a bacterial infection of citrus plants. It is one of the most serious citrus diseases in the world. Once infected, most trees die within a few years. There is no cure. While the disease poses no health threat to people or animals, it has devastated millions of acres of citrus crops throughout the United States and abroad.

In the United States, citrus greening is spread by a tiny insect called the Asian citrus psyllid *(Diaphorina citri* Kuwayama). Infected trees produce fruits that are poorly colored, possibly lopsided, and bitter. This fruit can only be sold for juicing. Citrus greening is currently found throughout Georgia, Florida, Mississippi, Puerto Rico, and the U.S. Virgin Islands. It is also found in portions of Alabama, Arizona, California, Louisiana, South Carolina, and Texas.

What To Look For

Asian Citrus Psyllid

- Eggs are yellow-orange and almond-shaped. They are often tucked inside crevices and leaf folds.
- Nymphs are difficult to see, but leave behind waxy, white excretions on plants.
- Adult psyllids are gnat-sized, only about 1/8-inch long. When approached, they jump or fly.
- Adults have three abdominal colors: blue-green, gray-brown, or orange-yellow.
- Adults have mottled brown wings, and the last two segments of their antennae are black.

Citrus Greening

- Once infected, a tree can remain asymptomatic, serving as a source of bacteria that infects other trees.
- Over time, an infected tree will start producing fewer fruit that are partially green, smaller, shaped irregularly, and taste bitter.
- Leaves may show asymmetrical, blotchy mottling.
- Trees may show twig dieback and premature fruit drop.

View images of Asian citrus psyllid and citrus greening.

How To Prevent This Disease

To help prevent this pest from spreading, here's what you can do:

- Know the quarantines in your area.
- Buy only USDA-certified citrus plants.
- Don't move branches, green waste, dead trees, or other regulated items out of a quarantined area.
- Don't mail or transport home-grown citrus fruit or plants out of a quarantined area.
- Commercial nurseries must follow strict protocols for moving citrus nursery stock (219.75 KB) out of quarantined areas.

How It Is Treated

There is no treatment or cure for citrus greening. Infected trees eventually die.

The best way to prevent the introduction of citrus greening is to prevent the introduction of the Asian citrus psyllid. Currently, intensive chemical control is the primary management tool to reduce populations, but this strategy is costly and increasingly ineffective. The scientific community is searching aggressively for solutions and, with USDA support, has made advances toward that goal.

Report Signs of Citrus Disease

If you think you've seen signs of this disease or pest, immediately report your findings to a State Plant Health Director.

- Select a State - ▼

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All Contacts

Controlling Citrus Greening and Asian Citrus Psyllid

Expand All

Quarantine Boundaries

APHIS publishes the legal description of current quarantine areas. Users can search by State and pest to determine quarantine area(s).

- Interactive Citrus Federal Quarantine Map
- Table of Citrus Quarantine Descriptions
- Stakeholder Notification of Quarantine Boundary Changes
  - Citrus Greening
  - Asian Citrus Psyllid

Regulatory Information

- Citrus Greening and Asian Citrus Psyllid Federal Regulations (7 CFR 301.76)
- Additional Conditions of Movement (Federal Orders)
  - Citrus Greening
  - Asian Citrus Psyllid
- Citrus Greening and Asian Citrus Psyllid Regulated Articles (168.74 KB)

Huanglongbing Multi-Agency Coordination

In 2013, USDA implemented a unified emergency response framework to help address the citrus industry’s immediate and long-term needs in dealing with citrus greening. APHIS leads the group, which includes representatives from USDA’s Agricultural Research Service (ARS) and National Institute of Food and Agriculture (NIFA); the U.S. Environmental Protection Agency; State departments of agriculture in Arizona, California, Florida, and Texas; and citrus industry organizations in California, Florida, and Texas. The multi-agency group helps to coordinate and prioritize federally funded research with industry's efforts to bridge the gap between research and implementation, reduce unnecessary duplication, and more quickly provide practical tools for citrus growers to use.

[Learn more about the coordinated response to citrus disease]

Potentially Actionable Suspect Sample Policy

A potentially actionable suspect sample (PASS) is a **regulatory sample[1] from the environment or an APHIS-approved exclusionary facility[2]** where preliminary diagnostics indicate that *Candidatus* Liberibacter asiaticus, a USDA-regulated pathogen, is present and must be confirmed by APHIS' Plant Pathogen Confirmatory Diagnostics Laboratory (PPCDL).

Samples Collected From a Non-Regulated Area

Any regulatory sample collected from a non-regulated area[3] or APHIS-approved exclusionary facility that tests positive using APHIS-approved tests for the presence of *Candidatus* Liberibacter asiaticus by a **National Plant Protection Laboratory Accreditation Program (NPPLAP)-accredited lab[4]** using an APHIS-approved screening test is considered a PASS and must be forwarded to PPCDL for final determination. A **sample[5]** should consist of symptomatic plant material.

Sample Diagnostics

USDA APHIS PPQ Science & Technology
Plant Pathogen Confirmatory Diagnostics Laboratory
9901 Powder Mill Rd., Bldg. 580
Laurel, MD 20708
Phone: 301-313-9208 or 301-313-9271

When forwarding materials, notify the lab by email (APHIS-PPQCPHSTBeltsvilleSampleDiagnostics@usda.gov). Include the number of samples, screening diagnostic results, and tracking information in this communication. Do not ship samples on Fridays or the day before a Federal holiday.

[See additional information for preparing and submitting samples]

Samples Collected From a Regulated Area

A **regulatory sample** collected in a **regulated area**[6] where preliminary diagnostics indicate *Candidatus* Liberibacter asiaticus by a **NPPLAP-accredited lab** using the APHIS-approved screening test is considered a PASS and must be forwarded to PPCDL **only** under the following conditions:

- The sample is an unusual detection (novel symptoms or new host), and/or
- The sample will result in the expansion of a previously established regulated area.

A NPPLAP-certified analyst at a **NPPLAP-accredited laboratory** is authorized to make the final determination on a regulatory sample collected from a regulated area (previously confirmed positive by APHIS) if the laboratory notifies the APHIS national or regional program manager of the positive within 24 hours of the diagnostic result.

Definitions

[1] **Regulatory Sample:** This is a sample of regulatory concern to APHIS for citrus greening/huanglongbing collected by regulatory officials.

[2] **APHIS-approved exclusionary facility:** A greenhouse structure designed to exclude quarantine pests that is approved by APHIS to produce citrus nursery stock for interstate movement.

[3] **Non-Regulated Area:** Any area where citrus canker is not known to occur in the United States.

[4] **NPPLAP-Accredited Lab:** A laboratory recognized by APHIS through the National Plant Protection Laboratory Accreditation Program (NPPLAP) as possessing all the necessary equipment and certified personnel to perform citrus greening screening tests using current APHIS work instructions.

[5] **Sample:** A sample refers to a single bag of leaves or a twig with attached leaves. Each sample is to contain a minimum of 12 symptomatic (unhealthy) leaves, 12–16 leaves if possible. It is strongly encouraged that each sample is from one plant.

[6] **Regulated Area:** Any APHIS-recognized area where citrus greening/huanglongbing has been federally confirmed.

Spread the Word

Save Our Citrus Videos

- Save Our Citrus: Put the Squeeze on Citrus Disease (Spanish)
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