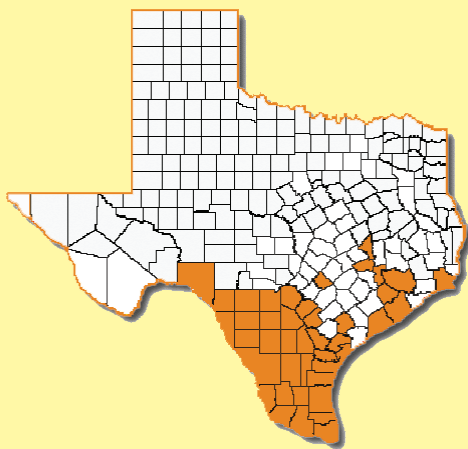




Citrus Greening

Sheila McBride, Greta Schuster,
 Ron French, and Kevin Ong*



Distribution of Asian citrus psyllid (ACP) in Texas, surveyed counties.
 Orange – ACP detected

Citrus greening (CG) is a devastating bacterial disease that affects the production, quality, and appearance of citrus trees. It is also known as huanglongbing, or yellow dragon disease.

CG is caused by the bacterium *Candidatus Liberibacter asiaticus*, which is vectored by an insect, the Asian citrus psyllid (ACP). This disease has been reported in several southeastern US states since 2005 and was confirmed in Texas on January 2012. CG is also found in Asia, Africa, the Arab peninsula, South and Central America, and the Caribbean.

DISEASE MANAGEMENT

There is no cure for CG, but it can be eradicated if detected early.

The best ways to ensure that the disease does not infect trees in Texas are prevention and early intervention. No one should bring in citrus plants from states where the disease and/or ACP have been detected. (For quarantine information, visit saveourcitrus.org.) Look for symptoms, inspect citrus trees often, and report any symptoms you see to the Texas Department of Agriculture (512-463-7476; or toll free, 800-835-5832).

SYMPTOMS FOR DETECTION

A tree that is infected by citrus greening will have two or more of the following symptoms:

INSECT



Fig. 1. Asian citrus psyllid (ACP), *Diaphorina citri* (Kuwayama). This insect is a vector of the bacterium that causes CG. ACPs are small, measuring approximately 3mm in length. Their bodies are lifted in a 45-degree angle due to the shape of their heads.



Fig. 2. ACP nymphs. In this stage, the insects measure 0.25mm–1.5mm in length and have a yellow-orange appearance. They feed on new growth (flush) and secrete a waxy substance.

*Extension Program Specialist I, Associate Professor–IPM and Extension Specialist in Plant Pathology, Assistant Professor and Extension Plant Pathologist, and Associate Professor and Extension Plant Pathologist, The Texas A&M System

LEAVES AND BRANCHES



Fig. 3. Blotchy mottling and yellowing of leaves. This is a common symptom of CG and may appear initially on a single shoot or twig.



Fig. 4. Bunched, narrow leaves, commonly referred to as "rabbit ears." Small and narrow yellowed and/or mottled leaves grow in a tight arrangement, resulting in a bunchy appearance.



Fig. 5. Twig and branch die-back. Infected trees may have leafless twigs and/or branches. Trees appear unhealthy because this portion of the tree may be dead.

FRUITS



Fig. 6. Reduced fruit size. The fruit is stunted and does not continue to enlarge; it remains green to partially green in color.



Fig. 7. Mature fruit appearance. The fruit may appear lopsided or asymmetrical.



Fig. 8. Premature fruit drop. CG can cause higher than normal fruit drop.



Fig. 9. Orange-brown discoloration of the internal flesh. This may appear inside the fruit on tissue where it attaches to the tree. The fruit tastes bitter and sour instead of sweet.

Citrus Greening Diagnosis

Because of the nature of the CG pathogen, diagnosis is confirmed by molecular testing in a laboratory.

Diagnosis can be performed at the Texas A&M Kingsville Citrus Center in Weslaco or the Texas Plant Disease Diagnostic Laboratory in College Station. (For more information, visit plantclinic.tamu.edu.)

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