

## Tips for Identifying Citrus Canker Disease



Early symptoms on leaves will appear as tiny blister-like lesions.

Lesions will be raised on both sides of the leaf.



Older lesions will turn tan to brown and have a yellow halo surrounding the raised margin.

Lesions on stems and fruit appear dark brown to black with yellow halos.



Citrus canker infects leaves, fruit and stems.

Leaves infected by citrus leafminer are more susceptible to infection by the canker bacterium.



## When a sample is brought into the extension office:

- ⇒ If a sample received at the office is suspected of having citrus greening or canker and it is not double bagged, then immediately double bag it.
- ⇒ If a diagnosis cannot be made at the plant clinic send digital photos to any of the UF/IFAS citrus extension agents listed on the insert.
- ⇒ After diagnosis, ask to keep the sample so that it can be disposed of properly. You can dispose of the sample in the waste if it is double bagged.
- ⇒ Sanitize counters and other equipment that may have been in contact with suspected citrus canker samples using a spray sanitizer, e.g. Lysol®, and wash hands thoroughly using antibacterial soap.
- ⇒ Thoroughly wash hands with antibacterial soap.

## Things to remember:

- ⇒ Citrus canker and citrus greening are both bacterial diseases.
- ⇒ Citrus canker can be spread by contact with clothes, tools, and equipment, and these items should be sanitized after contact. Citrus canker is primarily spread by high winds (20+ mph) and rain.
- ⇒ Citrus greening is spread by a vector called the Asian Citrus Psyllid (ACP), **not** by physical contact, thus no sanitizing is required. The ACP is currently found throughout the state of Florida.
- ⇒ The Florida citrus industry adds \$9 billion annually to Florida's economy. These diseases are direct threats to Florida's economy and the future of citrus production in Florida. Controlling the source of inoculum (infected trees) is extremely important.

## 2007 Citrus Canker & Greening Handling Protocols for Master Gardener Plant Clinics



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# If called on the telephone regarding a citrus disease:

Ask the homeowner to take a digital picture of the symptoms and email it to the plant clinic for identification. They may store the sample in the refrigerator in a plastic bag in case it is needed for further identification

If necessary, ask the homeowners to double bag the sample in a clear zip top bag and bring it to the local extension office. DO NOT open a bag containing psyllids. Place the bagged sample in the freezer for 20-30 minutes to slow psyllid movement. The slowed psyllids can then be smashed with a fingertip prior to opening the bag.

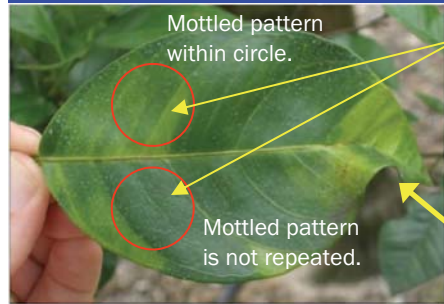
If you are unable to positively diagnose the sample as citrus canker please consult the local county horticulture agent or contact one of the state citrus extension team members listed in this brochure.

If a homeowner's sample is thought to have citrus greening, have the homeowner call the Division of Plant Industry helpline at 1-800-282-5153 to schedule a time to examine the tree.

Provide the homeowner IFAS literature for further information and management recommendations.

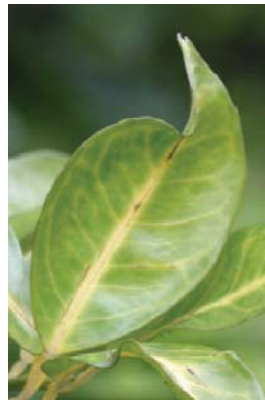
If the tree tested positive for citrus greening, immediate removal is recommended.

## Tips for Identifying Citrus Greening Disease



Mottled pattern within circle.  
Mottled pattern is not repeated.  
Blotchy mottle does not match on both sides of the leaf mid-vein.  
Leaf notching from psyllid feeding.

Yellow mid-vein with corky texture.



Adult psyllid  
The Asian citrus psyllid is the vector of the greening bacterium.

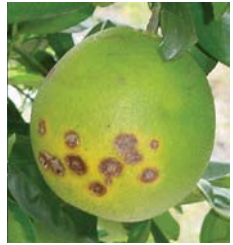


Psyllid nymphs



Green islands on a yellow leaf are a typical symptom on new foliage.

Small misshapen fruit that is lopsided and has a bitter salty taste. Fruit may not color properly.



## UF/IFAS Cooperative Extension Team

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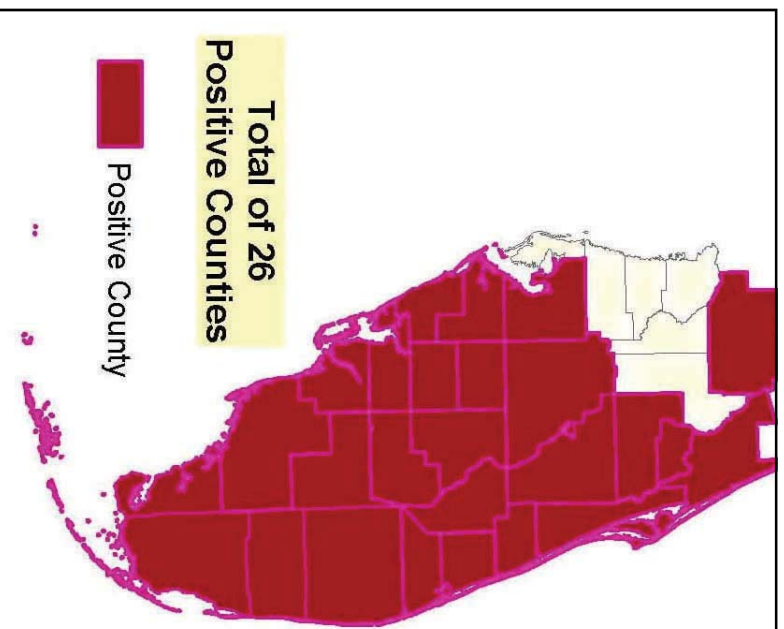
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## Other Useful Phone Numbers

Florida Division of Plant Industry  
Citrus Canker & Citrus Greening Helpline  
1-800-282-5153

\* Brochure authors.

## Counties with Greening Positive Trees as of August 24, 2007



## Counties with Canker Positive Trees as of July 3, 2007

- Brevard\*
  - Broward\*
  - Charlotte\*
  - Clay
  - Collier\*
  - Desoto\*
  - Glades\*
  - Hardee\*
  - Hendry\*
  - Highlands\*
  - Hillsborough\*
  - Indian River\*\*
  - Lake
  - Lee\*
  - Manatee\*
  - Martin \*
  - Miami-Dade\*
  - Monroe\*
  - Okeechobee\*
  - Orange\*
  - Osceola\*
  - Palm Beach\*
  - Polk\*\*
  - Sarasota\*
  - St. Lucie\*
- \*Canker and greening present in county.