GREENING MANAGEMENT

- Restricted propagation and movement of *Murraya paniculata* and *Severinia buxifolia*, plants known to harbor the bacterium
- Routine scouting (minimum of 4 times a year)
- Removal of infected trees
- Integrated pest management
- Use of disease-free nursery trees
- Reduction of the inoculum by frequent disease surveys and removal of symptomatic trees
- Suppression of Asian citrus psyllid populations through chemical, biological and cultural controls

DIAGNOSTICS

- PCR (Polymerase Chain Reaction) is the only way to positively identify citrus greening
- Three testing sites are available:
  - Southern Gardens Diagnostic Laboratory
    111 Ponce de Leon Avenue
    Clewiston, FL 33440
    (863) 902-2249
  - UF/IFAS Southwest Florida REC
    2686 SR 29 N
    Immokalee, FL 34142
    (239) 658-3400
    http://swfrec.ifas.ufl.edu/hlb/
- Florida Division of Plant Industry
  1-800-282-5153

RESOURCES

- Citrus Research and Education Center
  website www.crec.ifas.ufl.edu
- Greening Symptoms Laminated Sheet
- Greening Symptoms versus Nutritional Deficiencies Laminated Sheet
- Greening Symptoms versus Blight and Tristeza Laminated Sheet
- Greening Field ID Pocket Guide
- Greening Training DVD
- Greening Screensaver
- 2008 Florida Citrus Pest Management Guide

CONTACTS

**Citrus Research and Education Center**

Jamie Yates
Canker & Greening Extension Education
863-956-1151 ext. 1302

Michael Rogers, Ph.D.
Entomologist
863-956-1151 ext. 1224

Ron Brllansky, Ph.D.
Plant Pathologist
863-956-1151 ext. 1300

Megan Dewdney, Ph.D.
Plant Pathologist
863-956-1151 ext. 1267

Tim Spann, Ph.D.
Horticulturist
863-956-1151 ext. 1417

**Citrus Extension Agents**

Ryan Atwood
Marion, Lake, Volusia, Orange, Seminole, Brevard & Osceola
352-343-4101

Gary England
Citrus, Hernando, Sumter & Pasco
352-793-2728

Steve Futch, Ph.D.
DeSoto, Hardee, Manatee & Sarasota
863-956-1151

Tim Gaver
St. Lucie, Martin, Okeechobee & Indian River
772-462-1660

Tim Hurner
Highlands
863-402-6540

Chris Oswalt
Polk & Hillsborough
863-519-8677

Mongi Zekri, Ph.D.
Hendry, Glades, Lee, Charlotte & Collier
863-674-4092
**GREENING HISTORY**

- The vector, Asian citrus psyllid, was first found in Florida in 1998.
- Citrus greening disease was first detected in south Florida in August 2005.
- As of October 2006, greening infected trees had been found in twelve counties.
- By October 2007, infected trees had been discovered in twenty-eight counties.
- Symptoms can be found year round, but are more prominent September through March.

*Counties in dark blue have confirmed greening finds as of July 2008.*

**GREENING VECTOR**

- Asian citrus psyllid (*Diaphorina citri*).
- Five nymphal stages.
- Numerous generations per year.
- Egg to adult in 2 weeks at 75° to 85° F.
- The egg stage lasts an average of 3 to 4 days.
- The duration of the nymphal stages is about 12 to 14 days at 82°F.
- Adult psyllids may live for several months.
- Psyllids can acquire the greening pathogen from infected trees, regardless of whether symptoms are present on the tree.

*Vein corking, yellow shoots, yellow veins, reduced fruit size, blotchy mottle – key diagnostic symptoms.*

**GREENING SYMPTOMS**

- Fruit remain green at the blossom end.

For more information, please contact the University of Florida, IFAS, Citrus Research and Education Center, Lake Alfred 863-956-1151.