St. Lucie County Extension 8400 Picos Road, Suite 101, Ft. Pierce, FL 34945-3045 772.462.1660
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Treasure Coast Citrus Notes

September – 2008

International Research Conference on Huanglongbing (HLB), "Reaching Beyond Boundaries" -Orlando, FL, Dec. 1-5, 2008. Citrus Industry leaders and organizations from around the globe will assemble participants from the international research community, regulatory agencies and commercial industry to exchange the latest information on HLB (Citrus Greening). The theme for this exciting conference indicates a coordinated effort to find commercially feasible solutions for this devastating disease. For complete information on the conference, go to the conference website: http://www.doacs.state.fl.us/pi/hlb_conference/

Postharvest Events

Citrus Packinghouse Day – Thursday, September 11, 2008. Citrus Research and Education Center, Lake Alfred. Program starts at 9:30 AM. Lunch provided by DECCO. No pre-registration required.

Indian River Postharvest Workshop – Tuesday, September 16, 2008. Indian River Research and Education Center, Ft. Pierce. Program starts at 9:45 AM. Lunch provided by JBT FoodTech (formerly FMC FoodTech). No pre-registration required.

For more information on either program, contact Mark Ritenour at 772 468-3922, ext 167 or go to the Citrus Postharvest website, http://postharvest.ifas.ufl.edu/

Flooding in Citrus Groves

The 2008 hurricane season is well underway and Tropical Storm Fay delivered rainfall amounts from 12 to 24 inches along portions of the Indian River District. Excess water filled drainage canals and some groves were flooded "trunk–to-trunk" for periods of over 7 days in some instances.

Research at the University of Florida/IFAS Citrus Research and Education Center showed that there is potential for water damage to citrus trees if water stands over the crown of the tree for four days or more during frequent extended summer rains. Root injury may occur when the water table remains a few inches below the soil surface and

roots are not visibly flooded. When that happens, the grower may not be aware of the potential for root damage. During the cooler months of December through February, citrus can tolerate flooded conditions for much longer periods than during the hot summer months.

Water displaces oxygen and allows anaerobic bacteria (which grow only in the absence of oxygen) to develop rapidly in flooded soils. Toxic sulfides produced by anaerobic sulfur-reducing bacteria can build up and kill roots.

With experience, flooding injury can be diagnosed during periods when groundwater levels are high. Even before there are visible tree symptoms, auguring and digging in the root zone may give an estimate of future tree condition. Damage can be determined by digging into the soil and smelling root and soil samples. Sour odors or a rotten-egg smell (indicating hydrogen sulfide) is a sign that feeder roots are damaged.

Ironically, one of the symptoms of excess water is leaf wilting similar to drought stress. This occurs because flooding and the lack of oxygen increase root resistance to water uptake. Inadequate aeration decreases water absorption. Nevertheless, transpiration, or the loss of water vapor from leaves, continues. Hence, in hot summer weather, tree water loss can be greater than water uptake trough the roots and wilting occurs. Because of that, flooding injury occurs sooner in hot weather than in cool weather.

More subtle symptoms include reduced growth and thinner foliage. This can occur at field locations only a few inches lower in elevation than the surrounding area. Harvesting operations or other traffic in a grove after recent flooding may further damage surface roots that have been injured by the flooding.

Hot, dry conditions following flooding will hasten the onset of stress and symptom expression. The reduced root system resulting from flooding is incapable of supporting the existing tree canopy. When this occurs, irrigation management becomes critical. Irrigation must provide moisture to a depleted (shallow) root system, but excessive water could compound existing problems. Light, frequent irrigations will be required until the root zone has become re-established. If root damage is severe, frequent irrigation may even be required throughout the winter months, especially if there are dry winds.

When trying to assess flood damage, *Phytophthora* problems may also need to be considered. However, if *Phytophthora* was not a problem before the flooding, excess water will not necessarily create one (depending on rootstock tolerance). Therefore, growers should not make costly soil or foliar fungicidal application for the control of foot rot and feeder root rot unless soil propagule counts reveal such treatments are warranted.

In summary, flooding requires that tree management be intensified to minimize the effects of stress on water-damaged trees. Flooding will not always damage tree root systems, but trees should be closely monitored for symptoms. Duration of flooding conditions, rate of water table drawdown, presence of sulfur or organic matter in the soil, tree age, rootstock and root condition are all factors to be considered when trying to evaluate flooding injury and manage tree recovery. Other cultural practices should be adjusted to minimize stress on water-damaged trees. Fertilization rates and schedules may need to be adjusted for flood-damaged trees. Light fertilizer applications are preferred until the root system becomes re-established. Once the immediate drainage problem has been alleviated, the appropriate course of action is to wait, observe, and let tree response guide the course of action.

Citrus Greening Mini-Summit

Presented by the Florida Cooperative Extension Service
Citrus Extension Agents

Program Agenda

9:45 AM	Registration
10:00 AM	Psyllid control research and management update
10:25 AM	Greening bacteria research update
10:50 AM	Break
11:05 AM	Horticultural greening management research update
11:30 AM	Citrus canker research update
12:00 PM	Adjourn

Attendees will receive 2 Continuing Education Units (CEU's) for the Restricted Pesticide and Certified Crop Advisor Programs.

Speakers/Citrus Extension Agents:

Steve Futch
Lake Alfred, FL
863-956-1151

Mongi Zekri
Labelle, FL
863-674-4092

Chris Oswalt
Bartow, FL
863-519-8677 x 108

Gary England
Bushnell, FL
352-793-2728

Ryan Atwood
Tavares, FL
352-343-4101

Tim Hurner
Sebring, FL
863-402-6540

Tim Gaver
Ft. Pierce, FL
772-462-1660

Meeting dates and locations:

Sep. 30	Tavares	1951 Woodlea Rd	Lake County Extension
Oct. 2	Sebring	4509 W. George Blvd	Highlands County Extension
Oct. 7	Immokalee	2686 SR 29 N	SW Florida REC
Oct. 8	Arcadia	2250 NE Roan St.	Turner Exhibition Hall
Oct. 9	Bartow	1710 Highway 17 South	Polk Co. Ext. Stuart Center
Oct. 14	**Ft. Pierce**	**2199 S Rock Rd**	**Indian River REC**

To register for a specific location of the following locations, please contact:

(Pre-registration is not required but is requested for planning purposes)

Bartow-	Polk County Extension Service	863-519-8677 ext. 111
Arcadia-	DeSoto County Extension Service	863-993-4846
Immokalee-	Hendry County Extension Service	863-674-4092
Tavares-	Lake County Extension Service	352-343-4101
Sebring-	Highlands County Extension Service	863-402-6540
Ft. Pierce	**St. Lucie County Extension Service**	**772-462-1660**

Pesticide Label Changes

Remedy Ultra 24(c) Special Local need Registration – Control of Citrus Resprouts from Cut Stumps in Citrus Groves. With growers clipping trees for a number of reasons, this label provides detailed recommendations for sprout control.

Ridomil Gold SL label update – The updated label provides and permits specific use directions for Individual tree treatment for resets/new plantings. The label also permits growers to tank mix Ridomil Gold SL with other pesticides approved for application to Florida Citrus. See page 26 of the new label.

Pesticide Applicator Training

Agricultural Tree Crop Pest Control Training and Testing. Preparation for the Private Applicator or Commercial Applicator test or 3 CEU's for current license holders. The date is September 18, 2008 (8 – 11:30 AM) at the St. Lucie County Ag Center. Cost is $10.00 and **pre-registration is required**. Call 462-1660 for registration information.

Pesticide Applicator General Standards (Core) Training and Testing. Preparation for the General Standards (Core) Test. The date is October 1, 2008 (8:30 – 10:30 AM). Cost is $15.00 and **pre-registration is required**. Call 462-1660 for registration information.

Get on the E-Mail List

If you are receiving this newsletter via Fax, you may find it more convenient (and attractive) to get on my e-mail list and get it electronically. Just drop me a note at my e-mail address below and I'll be glad to add you to the list.

SOLUTIONS for your LIFE

St. Lucie County Cooperative Extension

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