

Citrus Notes



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Dear Growers,

Don't forget the October OJ Break it is going to be a great opportunity to get the scope on the horticultural management of HLB by the researchers on the frontline. Lunch is included so please preregister as indicated in the article. We are also getting ever so close to our annual citrus employee safety training and tractor rodeo to be held in November, so please save the date. I'll have the registration forms out in the October issue of Citrus Notes. We also have a request for your participation in an on-line soil testing survey. With all the recent talk about an HLB-Phytophthora interaction, I provided a short review of Dr. Jim Graham's Florida Citrus Growers' Institute presentation. There are also a number of updates included in the pesticide news and information section.

Enjoy,

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October Polk County OJ Break

Our October OJ Break will be held on Thursday, October 11, 2012, here in Bartow at the Stuart Conference Center, 1710 US Highway 17 South. The OJ Break will begin at 9:00 a.m. and will be covering the topic of the horticultural management of HLB. We will have Dr. Bob Rouse from the Southwest Florida Research and Education Center in Immokalee, Drs. Ron Brlansky, Ed Etxeberria and Arnold Schumann from the Citrus Research and Education Center to make presentations at the OJ Break.



Our sponsors this month are Brad Rhoden from Farm Credit of Central Florida and Roy Morris from Bayer Crop Science. We will be providing lunch so I will need you to pre-register by emailing Gail Crawford at dorothy@c@ufl.edu or call Gail at 863-519-8677 ext. 111.



Annual Citrus Employee Safety Training and Tractor Rodeo

Our annual Citrus Employee Safety Training Program and Tractor Rodeo

will be held here in Bartow at the Stuart Conference Center, 1710 US highway 17 South on Thursday, November 8, 2012. This annual program will provide certificates of attendance to participants that can be included in the employee's file as evidence of this training. A flyer and registration form is enclosed.

CREC Field Day Scheduled for December 13, 2012

The UF/IFAS Citrus Research and Education Center will be holding another field day similar to the one held last November. Drs. Arnold Schumann and Jude Grosser will be leading the field day to their respective



research projects. Dr. Schumann's "Advanced Citrus Production" planting at Gapway Groves will be one of the stops. The other is Dr. Jude Grosser's "St. Helena" planting at Ori Lee's Grove. Advanced registration opens on August 15, 2012, and space is again as last year limited to the first 200 registered. I have once again enclosed the informational flyer for the field day at the end of the newsletter.

On-line Soil Testing Survey

Corey Hanlon asked if we could help with this project:

My name is Corey Hanlon and I am a graduate student at the University of Florida. I'm trying to conduct some research on how growers perceive soil testing, through the use of a 10-minute, anonymous online survey. The sample of respondents that I am searching for includes any growers that produce horticultural goods, including fruits, vegetables, nuts, nursery stock, sod, trees and more.

If you are willing to help me reach my goal of 200 respondents, the survey can be accessed through the following link:

<http://www.surveymonkey.com/s/WYWF3YD>

Thank you for your help!

If you have a few minutes, please consider taking the survey.



Citrus Root Health and HLB

Last month we had a couple of articles devoted to phytophthora in Florida citrus. This month I wanted to continue along that same line of logic and talk about some recent information about HLB and phytophthora in Florida citrus. This work was done by Dr. Jim Graham from the UF/IFAS Citrus Research and Education Center in Lake Alfred and presented at the 2012 Florida Citrus Growers' Institute back in April.

It is estimated that the disease incidence of HLB in Florida has been growing steadily since it was first

detected. Current information suggest that the incidence of HLB has been doubling every year and based on that assumption we should soon be approaching an 80% infection level statewide. One practice that many growers are currently employing is the coordination of area wide psyllid control through citrus health management areas or CHMA's. One observation made by myself (and documented in past citrus newsletters) and mentioned in the presentation involved the decreased tolerance of HLB infected or symptomatic trees to abiotic stress. Dramatic differences can be seen in the susceptibility to these citrus trees to cold weather and drought. HLB infection appears to significantly reduce the tolerance of citrus trees to these types of stress.

So what exactly could be the primary cause of this loss of tolerance to environmental stress? Dr. Graham indicated that HLB may be initially infecting the citrus tree root system resulting in the increased susceptibility to stress. Dr. Graham further investigated this with a study looking at the distribution of HLB in infected containerized citrus trees. In this study, potted citrus trees were infected using a HLB positive bud budded (I know bud and budded) on the main trunk above the bud union. He further divided the trees into 4 treatments, one a control using typical citrus tree care and the other 3 treatments received one of 3 different enhanced nutritional program treatments. Results indicated that there appears to be a significant amount of the HLB pathogen located in the root systems of the 3 enhanced nutritional treatments. In the control treatment, HLB was found not only in the roots, but also the above ground shoots. This was not always the case for the enhanced nutritional treatments, most of the disease was found in the root system. Dr. Graham indicated that a systemic plant pathogens like HLB moves within a tree in response to the flow of sugars and the source sink relationship. HLB will not only infect the structural roots, but also the fibrous roots of citrus trees. Unfortunately we still do not have a full understanding of how fast this occurs. Based on this information it may be possible to detect HLB in the root systems of infected trees before the onset of visual foliar symptoms. This infection of the root system could further weaken the tree resulting in a decrease tree tolerance to stress.

Dr. Graham indicated that HLB could be interacting with phytophthora resulting in the breakdown of the

tolerance or resistance to phytophthora found in citrus rootstocks. This would be similar to what we see with the diarepes-phytophthora interaction in Florida citrus. In this instance this breaking-down of tolerance or resistance by HLB to phytophthora occurs regardless of rootstock. i.e. all citrus rootstock are susceptible to this condition.

Additionally, another study was done to look at the density of roots in HLB+ and HLB- trees from groves in central, south-central and south Florida. These groves were on enhanced nutritional programs and trees had developed HLB symptoms within the past 3 to 6 months. Survey results indicated that there was a trend for higher phytophthora propagule counts/cm³ of soil in HLB- trees as compared to HLB+ trees. The HLB+ trees sampled had significantly lower (by 30 to 50%) root sample dry weights compared to HLB- trees. In comparing phytophthora densities per root dry weight, the HLB+ and HLB- trees were typically not significantly different (only one of the 6 locations was significant). This occurred even with the HLB+ trees having significantly lower sampled root densities (less roots). In conclusion, Dr. Graham indicated that the loss of citrus tree roots due to HLB was likely the cause of the reduction in citrus tree tolerance to stress and subsequent yield reductions not the phytophthora levels.

If you would like to hear and view Dr. Graham's presentation in it's entirety, it is available on the web at: http://citrusagents.ifas.ufl.edu/events/GrowersInstitute2012/Jim_Graham.htm

Pesticide News and Information

Wal-Mart Accepts GM Sweet Corn



Genetically modified sweet corn will soon be arriving on grocery store shelves of the world's largest retailer, Wal-Mart Stores, Inc., and will not be labeled as such. Wal-Mart confirmed in August that it has no objection to selling the new type of corn. "After closely looking at both sides of the debate and collaborating with a number of respected food safety experts, we see no scientifically validated safety reasons to implement restrictions on this product,"

Wal-Mart officials stated. While others have not responded, Whole Foods, Trader Joes and General Mills have all vowed to not carry or use the sweet corn.

The sweet corn is the first consumer product developed that will go straight from the farm to consumer plates, rather than first being processed into animal feed, sugars, oils, fibers and other ingredients found in a wide variety of foods. It is engineered to be resistant to glyphosate herbicide and also to produce a B.t. toxin that will kill insects that feed on the plant. It is being harvested in the Midwest, Northwest, Southeast, and Texas. (Beyond *Pesticides*, 8/7/12).

CMNP Citrus Abscission Agent

Originally intended to increase the efficiency and reach of mechanical citrus harvesting, the abscission chemical 5-chloro-3-methyl-4-nitro-1H-pyrazole (CMNP) may get wider use as an aid to hand harvesting. The EPA has indicated they would have a decision by February said a director at the Florida Department of Citrus (FDC). The FDC has spent \$14.2 million on research to develop CMNP and on the process of registering it with the EPA. The compound loosens the junction between fruit and stem, making mechanical harvesters more efficient and less expensive to use as well as extending their use for the entire season. It reduces the force the harvesters exert, thus reducing stress and damage to the trees. A University of Florida study showed savings from manual harvesting with CMNP could run from \$100 to \$330 per acre, depending upon the grove's average yield, according to Taw Richardson, CEO of New Jersey-based AgroSource Inc. The company has a contract with the Citrus Department to manage the EPA approval process and would get the exclusive right to sell CMNP if approved. (The *Ledger*, 7/23/12).

Resistance Management Guidelines for Ridomil Gold® Fungicides in Florida Citrus

The following technical recommendations were provided by John Taylor of Syngenta. It fits in well with last month's articles on phytophthora diseases in Florida citrus. Although it is geared toward Ridomil, the concepts were well written, worth reviewing and is as follows:

Ridomil Gold is in the Group 4 class of fungicides having a specific mode of action and is subject to the development of insensitive strains of fungi. Fungal pathogens can develop resistance to products with the same mode of action when used repeatedly. Because resistance development cannot be predicted, use of this product should conform to resistance management strategies developed for the crop and use area. Consult your local or state agricultural authorities for resistance management strategies that are complementary to those in the Ridomil Gold labels. Resistance management strategies may include rotating and/or tank mixing with products having different modes of action or limiting the total number of applications per season. Syngenta encourages responsible resistance management to ensure effective long-term control of fungal diseases on the Ridomil Gold labels. Ridomil Gold fungicides should not be alternated or tank mixed with any fungicide to which resistance has already developed.

- Ridomil Gold and other Group 4 fungicides must not be used in citrus nurseries. Phytophthora is easily spread within nurseries. If resistant populations of Phytophthora develop in nurseries they will be spread to commercial citrus groves at planting.
- Ridomil Gold fungicides should be integrated into a comprehensive disease and pest management program. This should include the following cultural practices;
 1. Planting of disease free nursery stock
 2. Use of resistant or tolerant rootstocks
 3. Proper planting depth
 4. Adequate soil drainage
 5. Proper irrigation practices
 6. Prevention of root wounding from root weevil larvae, nematodes and mechanical injury
- Chemical control of Phytophthora should be considered when the following conditions exist;
 1. Replanting into known disease infested sites

2. Soil tests indicate the presence of Phytophthora at populations levels that meet or exceed management thresholds
 3. Visual confirmation of disease symptoms which can include sloughing of root cortex, bark splitting above or below the bud union, vein yellowing in leaves, fruit drop and shoot dieback.
- Ridomil Gold fungicides should only be used according to label and best use guidelines specifically established for Florida citrus. This information is available directly from your local Syngenta representative. Additional information on this topic is available via the University of Florida IFAS Extension Citrus Pest Management Guide.
 - To delay or prevent the onset of resistance, Ridomil Gold fungicides should be used in a program that includes fungicides of alternate modes of action such as Group 33 fungicides (fosetyl-Al & phosphorous acid/salts). These fungicides should be used according to manufacturer labels and best use guidelines.
 - Failure to control disease should be reported promptly to Syngenta for further investigation.

Citrus Safety Training & Tractor Rodeo



Polk County Agricultural Center - Stuart Conference Center
1710 Highway 17/98 South, Bartow, Florida 33830

Thursday, November 8, 2012

Annual Citrus Employee Safety Training

Polk County Extension—UF/IFAS invites you and your employees to attend the 2012 Polk County Citrus Safety Training Program. This program is designed to help growers with regulatory compliance by providing annual safety training for their employees. Topics include proper safety measures in the grove and on the highway. Pre-registration is required. Please indicate if each participant would like to be in the English or Spanish sessions. Completed registration forms are due in the Extension Office no later than **Friday, November 2, 2012**.

Annual Tractor Rodeo Rules

In order to compete in the team competition, the completed pre-registration form must be received in the Extension Office by November 2, 2012.

This year's tractor rodeo will feature three separate competitions. Your employees can compete in the Sprayer Operator Competition, Herbicide Operator Competition and the Fertilizer Spread-Off Competition. Participants are allowed to participate as a team member or as an individual, but teams must be pre-registered to compete.



Tractor Rodeo Competitions

The **Sprayer Operator Competition** will test precession, safety awareness, and attention to detail required for safe pesticide applications using a tractor with a sprayer.

The **Herbicide Operator Competition** will test for the above mentioned skills on a tractor with a boom sprayer.

In the **Fertilizer Spread-Off**, operators will simulate fertilizer applications to resets scattered randomly through a grove. The operator will be provided with an all-terrain utility vehicle (ATV), bucket of simulated fertilizer, and cups to apply the fertilizer. Judging will be based on precision of the fertilizer application, time, and vehicle operation skills.

For more information about any competition, contact Chris Oswald at (863) 519-8677 ext. 108.



Agenda

- 8:00 Welcome
- 8:15 Equipment Maintenance
- 9:00 Grove Safety and Criminal Activity

- 9:30 Break (*Separate into English or Spanish* Sessions*)

- 10:00 Tractor Safety
- 10:15 WPS and Pesticide Safety
- 11:05 Hazards in the Field
- 11:35 Decontamination and Disease ID (Jamie Burrow)
- 11:55 Rejoin
- 12:00 Lunch

**Spanish Translators: Darren Cole and Pedro Gonzalez*



In accordance with the provisions of ADA, auxiliary aids and services will be provided upon request with a 3-day notice. Contact Gail Crawford at (863) 519-8677 ext. 111. This material is available in an alternate format upon request.

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IFAS Extension

Citrus Worker Safety Training Program Registration

This registration and a fee of \$15 per person, which includes lunch, are due by Friday, November 2, 2012.

Safety Training Program (Please print participants names)	English	Spanish
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Tractor Rodeo Team (Participants must be registered in the safety training program)	
Herbicide Operator	1.
Herbicide Operator	2.
Fertilizer Spread-Off	1.
Fertilizer Spread-Off	2.
Sprayer Operator	1.
Sprayer Operator	2.

Individual Participants (Participants must be registered in the safety training program)	
Herbicide Operator	
Herbicide Operator	
Fertilizer Spread-Off	
Fertilizer Spread-Off	
Sprayer Operator	
Sprayer Operator	

Contact Name _____ Phone Number: _____

Company Name and Address _____

Please detach and mail this form with your check made payable to: *Polk County Citrus Advisory Committee*

Gail Crawford, Polk County Extension
PO Box 9005, Drawer HS03, Bartow, Florida 33831-9005

Citrus Research Field Day

December 13, 2012

You are cordially invited to attend a field day hosted by the University of Florida-IFAS, Gapway Groves, and Oriee Lee



PROGRAM HIGHLIGHTS

New Citrus Evaluations

- Early maturing Valencia -'Valquarius'
- Controlled release fertilizer
- Huanglongbing tolerance
- Tree size control, high yields

Advanced Citrus Production Systems

- High density planting
- Rootstocks
- Fertigation options for high yields
- Narrow farm equipment, hedging
- Huanglongbing management



SCHEDULE

Meet at the UF-IFAS-Citrus Research and Education Center, BHG Citrus Hall
700 Experiment Station Road, Lake Alfred, Florida

Check-in begins at 7:30 am and buses will leave promptly at 8:15 am

A sponsored lunch will be provided at the conclusion of the field day.

Pre-
registration
required
Limited to
the first 200
people



REGISTRATION FORM (Registration opens August 15, 2012)

Please email, fax or mail the following information to : Jane Wilson, 700 Experiment Station Road, Lake Alfred, Florida 33850, wilsonmj@ufl.edu, Phone: 863-956-8643 Fax: 863-956-4631

Name: _____

Company: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Phone: _____ Fax: _____

Email: _____

Please register by Friday, December 7th. Registration will be confirmed by email.