

Citrus Notes



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Dear Growers,

Mark your calendar for Thursday December 13, 2007 for the December OJ Break. This OJ Break will be a citrus greening field day to be held in Polk County between Ft. Meade and Frostproof, additional information is included in this issue. We are continuing to follow the symptom development of greening infected trees as we find them this winter. This information is contained in the Hillsborough and Polk County citrus greening update articles. There have been a number of requests for the information on insecticides used for Asian citrus psyllid control that was presented in our series of Citrus Greening Identification and Worker Survey Training programs and this is included in the newsletter. Don't forget to register for the Winter Weather Watch which started on the 15th of November.

Enjoy the issue,



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***Polk
County OJ
Break/
Citrus
Greening
Field Day***



Mark your calendars for Thursday December 13, 2007 for our Polk County OJ Break/ Citrus Greening Field Day. Our field day will be held in a block of 4 year-old Valencia trees where there have been PCR confirmed citrus greening infected trees. The block is located on the Avon Park Cutoff road just south of US Highway 98 between Ft. Meade and Frostproof. We have included a map with the location of the grove. At the field day you will have the opportunity to see symptomatic trees in the field and associated training in looking for symptoms. After the training we will proceed through the block in an effort to find and flag additional symptomatic trees. In addition to the survey training you will have the opportunity to see and hear about one of the psyllid field research projects being conducted in this block by Dr. Michael Rogers from the Citrus Research and Education Center. The field day will begin at 10:00 am and please do not park in the grove. There is ample parking along the Avon Park Cutoff road right of way.



***Citrus
Greening
Update
Polk
County***

Since our last citrus newsletter update there has been to my knowledge one additional confirmed citrus greening positive find in the same general area as our field day. In my ob-

servations over the past month classic symptoms are becoming easier to find during this time of the year. I would strongly suggest that growers make a concerted effort to make surveys of all your grove holdings this winter, you may be surprised at what you might find.

The following pictures are some of the more common symptoms we are now finding in infected citrus trees.

*Yellow veins
and small fruit
associated with
citrus greening*



*Blotchy mottle
more commonly
seen on interior
canopy of citrus
trees*

*Yellow shoots of
citrus greening
beginning to
develop during
the last 4 weeks
(Oct/Nov)*



I have also been made aware of some additional information regarding declining trees and citrus greening. There have been some trees that have exhibited advance stages of decline similar to citrus blight in these areas where greening has been confirmed. These trees do not appear to exhibit any of the typical symptoms we associate with citrus greening. In an effort to diagnose the cause of the

decline, field tests for citrus blight (injection of the trunk with water) were done. In most all of these cases, trees accepted water. Some of these trees were subsequently tested for citrus greening prior to removal. Test results confirmed that these trees were PCR positive for citrus greening. This new twist may make the correct infield identification of the decline very difficult. This leads us back to the philosophy “if in doubt pull it out” in regards to mature declining citrus trees.

***Citrus
Greening
Update
Hillsbor-
ough
County***



In following greening symptoms in the Hillsborough County grove we can classify these symptoms into 2 distinct groups. The first, previously infected trees with symptoms present for the past year and second, additional trees beginning to exhibit symptoms of citrus greening starting in late summer and early fall.

First we will make some comments on the tree that first exhibited symptoms last winter. Initial symptoms consisted of a single yellow shoot and some blotchy mottle leaves on the lower interior canopy of the tree which I estimated to be affecting only maybe about 25% of the tree. During the past 9 months this tree has become severely infected, exhibiting symptoms on nearly 100% of the tree. This demonstrates the speed a which this disease can progress through a tree once it becomes symptomatic. Fruit yield last year was excellent with only a small percentage of the fruit being affected by the bacterium. This year there is little fruit set and the fruit that have remained have been adversely affected. These

fruit have typical greening symptoms, misshapen and undersized. Symptoms of yellow veins persisted throughout the summer although the blotchy mottle leaves from this past winter appeared to drop off or disappear during the summer months. There was a significant amount of defoliation that occurred during this past summer. This coupled with the observation that affected trees slow or cease any significant vegetative growth make it rather obvious as to which trees maybe infected. Since these comments and observations are made on one variety and rootstock combination it should be mention that there maybe significant differences in symptom development depending on the tree location and variety/rootstock combination. In this case it does appear that once symptoms begin to develop the future productivity of the tree will be severely limited.



Tree that has exhibited symptoms for the past year on November 7, 2007

Blotchy mottle leaves on interior canopy of severely infected tree on November 7, 2007



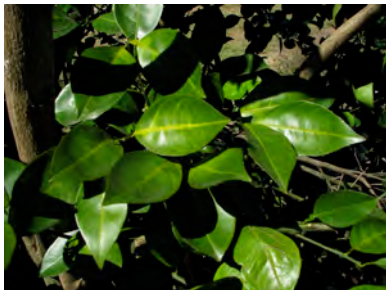
Persistent yellow veined leaves and small size fruit on severely infected tree on November 7, 2007

In the grove last winter we identified symptomatic trees which were subsequently removed. During the past 2 months (October and November) we have identified new additional trees that have begun to exhibit greening symptoms. These symptoms initially include blotchy mottle leaves generally on the interior canopy of trees, the appearance of thickened yellow veins, small misshapen fruit and the appearance of yellow shoots. If the progression of the disease this year is similar to that which occurred last year we would expect that these newly found symptomatic trees will continue to develop the type of persistent symptoms we have seen since last spring and summer. Time will tell and we will continue to follow symptom development until these trees are removed.



Appearance of tree with the following symptoms on November 7, 2007

Newly developed symptoms of blotchy mottle on interior canopy of infected tree.



Newly developed symptoms of yellow veins appearing this fall

Newly developed blotchy mottled leaves and small misshapen fruit from this fall



Yellow shoots that have appeared in the last month on this symptomatic tree



Evaluations of Insecticides for Asian Citrus Psyllid Control

The following information was presented at our Citrus Greening Identification and Worker Survey Training meetings held throughout the state during October 2007. I have had a number of requests for this information and thought it would be good information for all growers to have when developing a Asian citrus psyllid management program. Now for a few disclaimers related to the information. This data has been generated from a number of field studies conducted by Dr. Michael Rogers, Extension Entomologist, UF/IFAS Citrus Research and Education Center in Lake Alfred. The days of control indicated for each of the insecticides is based on an average and is not a statistically valid comparison since the studies were done under varying locations and environmental conditions. Your results may vary depending on these environmental conditions, pest populations and application methodology. Some of the insect-

ticides mention in the study do not at this time appear in the 2007 Citrus Spray Guide, but based on field data have shown varying degrees of efficacy on the psyllid. Remember that the pesticide label is the law and this information is not meant to be an endorsement for tested insecticides that may not be labeled for use in Florida citrus.

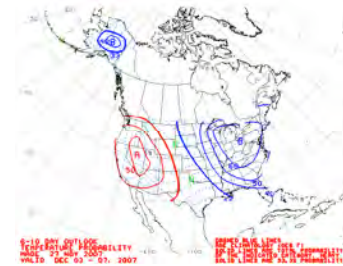
I have also included the life cycle stage of the psyllid that the insecticides generally control. Now after all of that I'll provide you with the following information.

Product	Days of Suppression	Life Cycle Stage
Temik	60	Adult/ Nymphs
Admire Pro	56	Adult/ Nymphs
Danitol	28	Adult/ Nymphs
Provado	28	Adult/ Nymphs
Agri-mek (20 oz)	28	Adult/ Nymphs
Lorsban	21	Adult/ Nymphs
Dimethoate	21	Adult/ Nymphs
Carbaryl	21	Adult/ Nymphs
Agri-mek (10 oz)	14	Nymphs
Micromite	14	Nymphs
Portal	14	Nymphs

Product	Days of Suppression	Life Cycle Stage
Oil	7	Nymphs
Assail	3	Nymphs

Temik has significant application site restrictions and is recommended for mature citrus trees. Admire Pro is recommended only for young citrus trees. As a general rule materials that have longer residual control work on both the adult and nymphal life cycles of the psyllid. The materials with shorter control only have efficacy on the nymphal stage of the psyllid. An additional significant bit of information on selecting insecticides for psyllid control this time of the year would be the restricted reentry interval and the days to harvest interval.

Winter Weather Watch 2007- 2008



The 2007-08
Winter Weather

Watch program is scheduled to kickoff on November 15, 2007, and last through March 15, 2008. The program provides daily agricultural weather forecasts for locations from West Central Florida to South Florida. We will be providing daily zone or county forecasts along with the 6-10 day, 8-14 day and the weekly outlook. Leaf freezing temperatures will also be available weekly during the winter. This year citrus leaf freezing point temperatures will only be available for locations within the Southwest Florida Water Management District. Our ability to provide citrus leaf freezing temperature information statewide was due to grant funds provided by

the Florida Department of Agriculture and Consumer Services, Office of Agricultural Water Policy. Unfortunately, funds were not available for this years statewide citrus leaf freezing point temperatures. We do have support from the Southwest Florida Water Management District and thus we will be providing citrus leaf freezing temperature data for locations in Polk and Hillsborough Counties. A special thanks goes out to the district for their continuing support of this water management tool.

Fred Crosby (retired meteorologist in-charge NWS Ruskin) will be providing the weekly outlooks for our forecast area. In addition, Fred will be providing special weather narratives during freeze events for our forecast area. One more feature available only from the Winter Weather Watch program is the use of the “modified Brunt equation” for prediction of minimum temperatures based on sunset air temperature.

If you are interested in participating just fill out the enclosed registration form along with a \$100.00 subscription fee (that averages out to only \$25.00 per month). You will receive an updated Winter Weather Watch manual and an unlisted phone number to receive the weather forecast products.

Pesticide News and Information



Delegate™ WG Insecticide

Delegate is an essential, innovative insect control solution for **citrus**, fruit and nut growers:

- Labeled for use in pome fruit, stone fruit, **citrus** and avocados,

grapes, tree nuts, cane and **bushberries (eg blueberries)**

- A new mode of action for excellent **leafminer control in citrus.**
- Outstanding, broad-spectrum control of **fruitworms, leaf-miners**, fruit flies and more
- Has a class-leading environmental profile
- Short re-entry and preharvest intervals, along with minimal personal protective equipment requirements; minimal impact on most beneficial insects
- Accepted for registration under the EPA Reduced Risk Pesticide Initiative

(Information provided by DowAgroSciences)

Polk County OJ Break/Citrus Greening Field Day Map

From Ft. Meade take US 98 South to Avon Park Cutoff Rd. proceed south about 1/2 mile to grove east side of road. From US 27 take US 98 North to Avon Park Cutoff Rd proceed south about a 1/2 mile. We will have signs out on US 98 and Avon Park Cutoff Rd.

