

Citrus Notes



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Dear Growers,

In this issue we will be providing information to consider when developing your citrus summer oil spray program. There have been a number of reports of the resurgence of citrus pests that have historically been at low populations for many years. We included some additional comments on greening observations in the block in Dover relating to surveying for greening. There will be a certified "Pile Burner Course" to be held in August at the Gulf Coast Research and Education Center. There is important information on citrus compliance agreements contained in the CHRP update article. If you are interested in scheduling onsite canker & greening training, see the Pesticide News & Information Section. For the latest UF/IFAS citrus extension information, including an audio broadcast of this newsletter, go to:

<http://citrusagents.ifas.ufl.edu/>

Enjoy the issue,

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Summer Oil and the Asian Citrus Psyllid



I know that at this time of the year many of us have been out in our groves scouting for psyllids and symptoms of citrus greening. One of the problems that we would want to be cognizant of when out in the field scouting, is looking for evidence of the breakdown of our beneficial biological pest control. These beneficials for many years have been keeping some of our traditional citrus insect pests in check. A potential drawback with the use of broad spectrum pesticides to reduce psyllid populations is the corresponding reduction in the beneficial organisms.

It is important that we be familiar with those pests that we have not seen in many years. In many groves there has been a resurgence



*Colony of citrus
snow scale on
scaffold limb*

in citrus snow scale, Florida red scale and even some purple scale. A number of groves this winter had large populations of purple scale that gathered up around the calyx or the stem end of the fruit in some Hamlin blocks. In these blocks some significant fruit drop occurred due to the feeding of these scale insects at the calyx end of the fruit. We not only need to brush up on our identification of these scale insects and other pests but we need to be



*Citrus Snow
scale colony on
citrus leaf*

aware of these types of interactions when we start using broad spectrum insecticides for suppression of the Asian citrus psyllid. This is also true for a number of other spray materials, especially some of those that we know



*Florida red
scale on
Valencia fruit*

may have some interactions with citrus rust and spider mites. Knowledge of these interactions can help us in determining the selection of pesticides to use in our summer oil spray program.

This time of the year it is of utmost importance to control citrus greasy spot. Many growers are planning to make at least one, at the minimum probably two sprays, for citrus greasy spot this season and into the future as we try to get a handle on, not only citrus greasy spot, but also psyllid populations. This spray schedule affords us the opportunity to make these applications in a timely manner. When considering spray materials, remember that oil has a very short duration of psyllid control. It will suppress the eggs and the nymphs but only for a fairly short period of time. Current research is that it provides about a weeks worth of suppression and has very limited activity on the adults. Citrus

spray oil is very effective in the control of a number of citrus pests including citrus greasy spot, rust mites, spider mites, scales, whiteflies and sooty mold.

A material that you may want to consider incorporating in your summer oil spray as a miticide and insecticide for the psyllid would be Agri-mek. This seems to be very effective on citrus rust mites and psyllid eggs, nymphs and adults depending on the rate. Expectations are for about 14 days suppression of the eggs and nymphs at the 10 ounce per acre rate and 28 days of suppression of psyllid eggs, nymphs and adults using a 20 ounce per acre rate. Current recommendations for psyllid control do not include Agri-mek in the 2008 UF/IFAS citrus spray guide, but current research has indicated the positive benefits in using this material during the summer on citrus rust mites, psyllids and citrus leafminer. Agri-mek is considered to have only a moderate effect on beneficial organisms.

Sevin XLR or carbaryl would be another material that would be potentially compatible with a summer oil spray that would also help suppress psyllids. In addition to psyllids, carbaryl is currently recommended for control of the following pests: adult root weevils, orangedogs, crickets, katydids, grasshoppers and scale insects. Carbaryl, at higher rates, does have a tendency to incite spider mite populations and this is something to be aware of, but generally speaking, when the summer rains begin and humidity increases spider mites become less of a problem. Carbaryl will provide about 20 days of psyllid suppression depending on initial populations and environmental conditions. Carbaryl is considered to be a broad spectrum insecticide having a potentially high effect on beneficial organisms.

Micromite is currently recommended for citrus rust mite control and has been shown to

have some activity on psyllids as well as citrus leafminer and citrus root weevils. This material, although not recommended for psyllid suppression, does have some activity on the immature stages of this insect. Studies have shown suppression of psyllid eggs and nymphs for about a 14 day period. Current observations indicate that Micromite has few, if any, adverse affects on other citrus pest populations and has a moderate effect on beneficial organisms.

Lorsban 4E or chlorpyrifos is currently recommended for psyllid suppression and could be incorporated with a summer oil spray. Chlorpyrifos is a broad spectrum insecticide and is known to incite spider mite populations, but this may be less of an issue in the summer due to environmental conditions that are unfavorable for spider mites. Chlorpyrifos has a broad range of citrus insect pest activity and is recommended in the UF/IFAS citrus spray guide for not only psyllids, but also for the following pests: mealybugs, grasshoppers, crickets, katydids, orangedogs, aphids, Asian cockroaches, thrips and scale insects. Current research indicates that growers should expect about 20 days of psyllid control using chlorpyrifos. Chlorpyrifos has activity on all stages of the psyllid life cycle (eggs, nymphs and adults). It should be noted that Lorsban 4E is the only chlorpyrifos product that has a 2(ee) label for Asian psyllid control in Florida. Chlorpyrifos has a potentially high adverse effect on beneficial organisms.

Danitol and Mustang are broad spectrum pyrethroid compounds and Danitol is recommended for the suppression of the Asian citrus psyllid in the citrus spray guide. Additionally these materials also control adult root weevils, flower and orchid thrips. In the case of thrips, it seems interesting since the labels prohibit the use of these materials during bloom when thrips are problematic. Information gained from grove applications of Dani-

tol demonstrates an initial significant knock-down of citrus rust mites. This effect however, is short lived and subsequent rust mite populations have rapidly increased a few weeks after a spray application. Mustang has no activity on mites. Danitol and Mustang provide about 28 days of psyllid control of eggs, nymphs and adults. The pyrethroids have broad spectrum activity resulting in a high potential for adverse effects on beneficial organisms.

Provado and foliar applied imidacloprid materials provide about 28 days of control of the psyllid. This material is systemic and has activity on psyllid eggs, nymphs and adults. There are currently a number of imidacloprid compounds labeled for use in Florida citrus. For this reason care should be used not to select consecutive sprays that have different trade names but that contain the same active ingredient. In addition to psyllids, foliar applications of imidacloprid are also recommended for the control of aphids. Current observations indicate that imidacloprid has few, if any adverse effects on other citrus pest populations and has a moderate effect on beneficial organisms.

A final comment on resistance management as it relates to psyllid suppression and the summer oil spray: considerations should be made when making a final determination on pesticide selection based on what has been sprayed to date. Materials with the same mode of action should not be used in consecutive spray applications. Follow the label instructions since some materials have restrictions on the maximum amount of product that can be applied in any given year.

There are a number of effective products that can be incorporated into the summer oil spray that can control a wide range of citrus pests. Today with the intensive effort to suppress psyllid populations some of these insecticides

have disrupted the biological balance that growers have enjoyed for years. This is probably not the best situation, but it is not as bad as the alternative of uncontrolled psyllid populations and the spread of citrus greening.

Observations in the Dover Block



Over the past year we have been making observations on a block in Hillsborough County that has citrus greening. In wrapping up our observations we propose the following information related to this particular block. Fall and winter would be the best time of the year to easily identify initial greening symptoms. This not only occurred in this block, but has been an observation made in other areas where greening has been confirmed. It appears that once symptoms develop in the fall and winter the trees remain symptomatic and can still be identified during the summer. There is a tendency for symptomatic leaves and fruit to drop and blotchy mottle to disappear, but there are persistent symptoms that can be seen during the summer. If trees do not have initial greening symptom development in the fall and winter, it appears that the trees do not readily exhibit initial symptoms during the spring and summer. Observations made in this block would indicate that on healthy appearing trees initial symptoms begin to develop during the late summer and into the fall and winter.

It has become evident of the importance in the early detection of citrus greening. Our observations in this block indicate that there appears to be, not only an edge effect of the

greening introduction, but also a clustering of symptomatic trees that was mentioned in the March 2008 newsletter. This has been seen throughout the multiple inspections done over the past 2 years.



Concentrated area of greening with newly set reset trees

There have been single tree infections in the block away from the concentration of initial disease introduction. Many of the surrounding trees at these single site infections have, to date, not developed symptoms of citrus greening. Based on this information it appears increasingly important to survey the edges of blocks, adjacent trees in areas with a concentration of multiple infected trees and to conduct complete grove surveys to locate single tree infections.



Pile Burner Course

The Florida Division of Forestry and the University of Florida Extension Service will be conducting a Certified Pile Burners Course on August 20, 2008. The training will be held from 8:30 a.m. till 4:30 p.m. at the Gulf

Coastal Research and Education Center located at 14625 CR 672 in Wimauma, Florida.

Registration is required to attend and class size is limited. To attend please email/mail the following information:

1. Your full name (as wanted on your pile burning certificate).
2. Your mailing address (where you want the certificate mailed).
3. Your Division of Forestry Customer Number (It is the number that you are required to give the DOF when you call in for your burn permits. If you do not know it, please call the local DOF office and ask them).
4. Your email address (if you have one) or contact phone number.
5. A check made out to Lake County Citrus Extension for \$50.00.

The first forty individuals to provide the following five requirements will be registered: there will be a 48 hour non refundable fee limit. If you do not make the training and did not contact our office at least 48 hours before the class, you will not receive a refund. There will be a test at the end of the session. You must receive a grade of 70% or higher to become certified. Once you are certified it will be noted with your customer number, thus it is important for us to have the proper number. If you do not have a customer number, the DOF office will set one up for you. Please send checks to the Lake County Extension Office, c/o Ryan Atwood at 1951 Woodlea Rd., Tavares, FL 32778. If you have any other questions, please feel free to email Ryan Atwood at raatwood@ufl.edu or call (352) 343-4101 or email Maggie Jarrell at (mjarrell@ufl.edu).



Citrus Health Response Program

Update in CHRP Program

The following link contains information on the 2008-09 Citrus Compliance Agreement. At this time it appears that if you have a current Compliance Agreement from last year, 2007-08, you will not need to resubmit one for this year. Click the following link for more information:

http://www.doacs.state.fl.us/pi/chrp/images/chrpcompliance_2008.pdf or call the Winter Haven Office at (863) 298-7777.



Pesticide News and Information

Citrus Canker and Greening Training

Canker and greening are continual challenges faced by citrus growers. No matter the size of your grove or operation, these destructive diseases are on your mind. Many resources such

as laminated identification sheets, DVD's, CD's, field ID pocket guides and various handouts are available for growers. Two websites are also available:

<http://canker.ifas.ufl.edu> and
<http://greening.ifas.ufl.edu>.

Trainings for your scouts or grove workers are available upon request. Trainings can be held in a location convenient for you (e.g. extension office, company office, barn, etc.) and are designed for your needs. No grower is too small or too large to receive these tools or trainings. If you would like to request materials or set up a training, please contact Jamie Yates, (863) 956-1151, ext. 1302 or jd Yates@ufl.edu.

Nemacur® Cancellation

Bayer CropScience has requested cancellation of all registrations containing fenamiphos (Nemacur®). This includes special local needs (SLN) registrations. (*Federal Register*, 4/23/08).